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August 26, 2026 - via Regulations.gov (https://www.regulations.gov)

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

Re: Standard Futures Contracts to 24/7 Trading and on Perpetual Contracts Referencing Physically Delivered or Storable Energy Commodities (RIN 3038-AF75)[1]

Dear Mr. Kirkpatrick,

On behalf of Data Boiler Technologies, I am pleased to provide the Commission with our comments on the captioned request for comment (RFC) regarding Extension of Standard Futures Contracts to 24/7 Trading and on Perpetual Contracts Referencing Physically Delivered or Storable Energy Commodities. Data Boiler is a Pioneer in FinTech with patented inventions in signal processing, trade analytics, machine learning, time-lock cryptography, etc. We frequently comment on regulatory policy both domestically and abroad with over 13 years in business.

First, we encourage the Commission to revisit the following comment letter submitted earlier, which is relevant to this RFC and should be read in conjunction with our response here:

- Advance Notice of Proposed Rulemaking (ANPR) to regulate Prediction Markets – (CFTC RIN 3038-AF65) and Roundtable on Options Market Structure Reform (SEC File Number 4-887),[2] dated April 30, 2026

We have reservations with both the extension of standard futures contracts to 24/7 Trading and urge a rejection of exotic, expiration-free Perpetual contracts referencing physically delivered or storable energy commodities. Such products are not suitable for retail and will introduce systemic vulnerabilities, sever the vital economic anchors tied to physical logistics, and expose the US financial infrastructure to asymmetric cross-border warfare. The US must fortify its markets through an "*Active Defense*" microstructure.

Please see the BOX below for an **Executive Summary** of our comments:

1. The Fracturing of the Financial Plumbing

Project *mBridge* has graduated from experimental phases into a functional, blockchain-based cross-border settlement rail. Multi-billion-dollar shipments of crude oil and LNG now settle instantly outside the Western financial perimeter, bypassing SWIFT and stripping away the absolute necessity of the petrodollar. In a frantic push to match this round-the-clock digital cadence, Western exchanges are rushing toward continuous execution, creating severe microstructural hazards.

2. The Illusion of Perpetual Efficiencies

Storable energy commodities are bound by the rigid laws of physical logistics and storage constraints. There is a **Physical Reality Mismatch**, where Perpetual funding rates do not dissolve these carry costs. They repackage them into highly volatile intraday liabilities, A traditional annuity trades a premium to extinguish risk; a perpetual contract does the opposite, creating an **Annuity Inversion** – unbounded, infinite volatility horizon. Traditional futures rely on contract expiration to force speculative paper bubbles to periodically reconcile with physical supply and demand. Removing expiration turns a risk-management tool into an **unanchored derivatives casino**.

3. The Architecture of Asymmetric Financial Warfare

[1] https://downloads.regulations.gov/CFTC-2026-1388-0001/content.pdf
[2] https://www.databoiler.com/index_htm_files/DataBoiler CFTC SEC 20260430.pdf

The Weekend Wall: Continuous 24/7 derivatives trading runs directly into a structural gridlock over weekends when legacy commercial banking facilities, Fedwire, and CHIPS remain closed. In the event of an off-hours geopolitical shock or a targeted liquidity raid, market participants face an operational impossibility when trying to transfer margin collateral or satisfy sudden variation demands. This lack of financial backing forces a dangerous delay in risk recognition, threatening to trigger automated liquidation cascades that can push mid-tier clearing firms and Futures Commission Merchants (FCMs) into immediate insolvency.

Off-Hours Raids: State-backed adversaries can use massive leverage to ram thin weekend order books, settling instantly via non-Western rails like mBridge while U.S. desks are dark.

The Monday Trap: On Monday morning, domestic market makers face warped forward curves. Forced to maintain delta-neutrality, their automated hedging programs trigger self-reinforcing liquidation loops.

4. Structural Disconnection from Real-World Supply Chains

Traditional futures use contract expiration as a vital safety valve, forcing paper speculation to ultimately reconcile with real-world physical delivery and supply constraints at key storage nodes like Cushing, Oklahoma. By completely removing expiration, perpetual contracts eliminate the forward curve and introduce an "**annuity inversion**" that exacerbates risk across an unbounded volatility horizon. Furthermore, because physical cash trading does not occur 24/7, off-hours perpetual derivative models are forced to rely on stale prices, turning the continuously observed index into a microstructural "*hallucination*" open to severe manipulation.

5. High-Velocity Cross-Asset Contagion

Because modern derivatives clearing networks rely on highly integrated plumbing, a localized collapse or automated short squeeze in the energy derivatives complex acts as a rapid transmission belt. Under unified portfolio margin frameworks, prime brokers hitting weekend margin deficits will execute cross-asset liquidations at Monday's opening bell, dumping deeply liquid equities, mega-cap tech stocks, and index-tracking ETFs. Simultaneously, institutional desks facing unexpected off-hours variation margin calls will dump unencumbered US Treasury bonds, erratically spiking yields and disrupting sovereign debt market stability.

6. Operational Pressures Across Financial Constituents

Arbitrageurs find pricing models broken by automated funding-rate manipulation, while conservative **asset managers** face severe collateral drag from hiked broker haircuts. **Prime brokers** face a direct counterparty trap, as weekend margin squeezes on highly leveraged funds force toxic, unhedged contract risks directly onto the **bank**'s balance sheet while traditional banking networks are frozen. Without commercial banks open to bridge capital gaps, firms must deploy their own reserves to satisfy **clearinghouse** demands, threatening the survival of small and mid-tier firms. Benchmark integrity faces decay as US **trading venues**' volumes migrate to foreign shadow venues, while massive, simultaneous retail API liquidations risk crashing **retail broker** infrastructures on Monday mornings.

7. Proposed Prerequisites and Active Defense Framework

To shield benchmarks and the physical economy from predatory actors, the CFTC should mandate structural reforms:

Commercial Demarcation Threshold: Prevent contracts from being listed unless a minimum of 60% of the baseline open interest is held by bona-fide, non-financial commercial entities during traditional hours.

Liquidity Depth and Spread Caps: Require verifiable proof that off-hours bid-ask spreads do not widen beyond 1.5 times the average standard-hours spread under simulated stress tests.

Pre-Funded Liquidity Buffers: Clearinghouses and brokers must maintain a 24/7 guarantee fund covering two concurrent weekend defaults.

Stress RENTD Safe Harbors: Shift from CLOB to 10–60 second Randomized Batch Auctions during artificial price spikes.

Market Ostracism via the Proprietary Toggle: Empower market makers with a "*Sovereign Right of Refusal*" to instantly withhold liquidity signals and go dark exclusively against suspected toxic or adversarial counterparties.

Retroactive Royalty Claw Backs: Centralize authority within the CFTC to seize 100% of predatory alpha, reallocating it to a systemic Reputation Pool.

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I. The Fracturing of the Financial Plumbing

For nearly three-quarters of a century, the supremacy of the US financial system rested upon two immutable pillars: the absolute depth of its domestic capital markets and the structural inevitability of the Petrodollar. If a foreign sovereign, an industrial conglomerate, or an energy superpower wished to participate in global commerce, they were bound to a standardized economic choreography. They priced their physical assets in greenbacks, hedged their forward risk on regulated American exchanges during standard Western business hours, and settled their massive commercial balances through the tightly monitored corridors of the correspondent banking network.

However, this long-standing paradigm faced a quiet but existential mutation. In 2018, China's Shanghai International Energy Exchange (INE) launched its yuan-denominated crude oil futures, explicitly designed as a strategic challenge to the "*petrodollar*" prominent position held by US West Texas Intermediate (WTI) and London's Brent crude.[3] Sanctions against major oil producers like Russia and Iran, have pushed some nations to heavily adopt yuan-based settlement.[4] The catalyst was not a sudden macroeconomic collapse, but a fundamental redesign of the international financial plumbing: Project mBridge (Multiple Central Bank Digital Currencies Bridge).[5]

Graduating past its nascent, experimental phases, mBridge emerged as a functional, commercialized, blockchain-based cross-border settlement rail connecting major Asian economies directly with Gulf energy superpowers. For the first time in modern financial history, multi-billion-dollar commercial shipments – specifically crude oil and liquefied natural gas – began settling instantly, peer-to-peer, entirely outside the Western financial perimeter. By utilizing a specialized distributed ledger framework, mBridge effectively bypassed the SWIFT network, eradicated correspondent banking friction, and insulated participating nations from the threat of unilateral Western sanctions.

The threat to the US was immediate and structural. mBridge stripped away the primary reason foreign entities tolerated US jurisdictional oversight: the absolute necessity of the dollar for global energy trade. The US was forced into an unfamiliar defensive posture, confronting a world where physical commodities could bypass its markets entirely. The response from Western exchanges was a frantic push toward total operational serialization. If the world was moving to continuous, friction-free digital settlement, the argument went, then traditional financial markets had to adapt or face obsolescence.

This sparked the push by major derivatives venues, spearheaded by the CME Group, to introduce 24/7 trading for standard futures contracts alongside highly exotic "perpetual futures" referencing physically delivered or storable energy commodities. It was a play designed to match the round-the-clock cadence of the digital asset era. Yet, as the CFTC stepped in to stay these contracts, a deeper reality became clear.[6] In their haste to construct an operational defense, the architects of this liberalization had unwittingly opened the gates to a devastating form of asymmetric financial warfare.

II. The Illusion of Perpetual Efficiencies and the "Information Tax"

The core of the domestic market expansion relied on two highly potent instruments: Zero Days to Expiration (0DTE) options and perpetual futures. To the modern algorithmic day-trader, these products represented the absolute pinnacle of financial engineering. 0DTE options offered hyper-localized, ultra-high gamma exposure capable of generating massive returns on microsecond price swings.[7] Perpetual futures – a design borrowed directly from unregulated cryptocurrency

[3] https://apjjf.org/2018/22/mathews ; https://www.currencytransfer.com/blog/expert-analysis/what-is-the-petroyuan
[4] https://www.youtube.com/watch?v=oGN9JnkW_ns&t=10
[5] https://www.bis.org/about/bisih/topics/cbdc/mcbdc_bridge.htm
[6] https://www.cftc.gov/PressRoom/PressReleases/9265-26
[7] https://www.numerix.com/resources/white-paper/gamma-hedging-0dte-options-managing-extreme-risk-expiration-day

complexes – provided continuous, expiration-free delta that tracked underlying spot prices via an automated funding rate mechanism updated every few hours.

On paper, combining these two instruments created an incredibly flexible toolkit for **risk transformation**. A sophisticated trading desk could theoretically use the perpetual contract's continuous liquidity to harvest a 0DTE option's rapidly collapsing time value (*Theta*) while keeping net directional exposure strictly close to zero. Alternatively, they could utilize hyper-gamma 0DTE options to "*cap*" the liquidation risk of a highly leveraged perpetual position, turning linear futures exposure into a convex, risk-managed profile. Proponents claimed this combination would permanently eliminate the periodic "*rollover cost*" – the transaction friction incurred when a commercial hedger sells an expiring front-month contract to buy the next. But this claim was a dangerous piece of financial alchemy. In a physical, tangible economy, risk cannot be engineered out of existence; it can only be hidden or transferred.[8]

Physical energy commodities like crude oil and natural gas are fundamentally bound to the laws of physical logistics, storage limitations, insurance overhead, and geographical shipping constraints. A perpetual contract does not magically dissolve these costs; it merely re-packages them. Instead of a transparent, predictable monthly rollover, the cost of carry is embedded into a volatile funding rate calculated multiple times a day. For actual energy producers, swapping an orderly calendar-based hedge for an unpredictable, hyper-volatile intraday funding rate was not an efficiency – it was a severe operational liability.

More dangerously, the structural design of the perpetual contract introduced an "**annuity inversion**." A traditional insurance annuity is an instrument designed to extinguish risk, trading a capital premium for a smooth, predictable, lifetime cash flow. A perpetual future does the exact opposite: it exacerbates risk by creating an unbounded volatility horizon.[9]

Traditional futures contracts possess a built-in safety valve: expiration. At the end of a contract month, all speculative paper positions must settle against real-world physical delivery at specific nodes like the largest crude oil storage hub in Cushing, Oklahoma. This forces speculative bubbles to reconcile with actual supply and demand. By removing expiration, the perpetual contract severed this vital anchor. It created a speculative loop that could expand indefinitely without a natural settlement checkpoint, transforming a vital risk-management ecosystem into an unanchored, continuous derivatives casino.

III. The Architecture of Asymmetric Financial Warfare

The true peril of legalizing these exotic instruments on US soil lay in how easily they could be turned against the domestic financial system by state-backed adversaries. An adversary seeking to disrupt American dominance would not need to beat the US at a game of data mining or standard market returns. Instead, they could exploit the open architecture of the US financial system to launch a coordinated, cross-border liquidity raid.

The attack vector is rooted in a "Weekend Wall" operational vulnerability. While derivatives exchanges might trade 24/7, the commercial banking infrastructure required to clear margin operates on traditional business hours. If an adversary wished to trigger systemic panic, they would wait until US desks went dark on a Saturday night.

Utilizing massive, state-backed capital blocks routed through offshore subsidiaries, the adversary could aggressively ram the offshore perpetual energy markets. By injecting trillions of dollars of leverage, they could push the automated funding

[8] https://www.cboe.com/insights/posts/perpetual-futures-versus-0-dte-options-why-the-comparison-doesnt-hold-up
[9] https://gainbridge.com/post/annuity-vs-perpetuity-whats-the-difference

rates to extreme, artificial boundaries, violently warping the forward price curve of global oil or gas. These offshore transactions would settle instantly via non-Western rails like mBridge, for frictionless execution.[10]

When US markets opened on Monday morning, domestic market makers pricing 0DTE options would wake up to a toxic environment. The underlying spot references would have been dragged completely out of alignment by the off-hours perpetual raid. To protect themselves from this overnight volatility, market makers would be forced to massively widen their bid-ask spreads and overprice 0DTE options premiums, rendering short-term hedging economically impossible for traditional firms.

The trap would then spring through the mechanics of the "*Gamma Cascade*". Adversaries can easily track the massive open interest walls where US market makers have concentrated their short 0DTE option positions. By triggering a sudden, automated *flash-crash* or price spike in the perpetual market, the adversary forces US market-making algorithms into a state of structural panic. To maintain delta-neutrality, these domestic algorithms are forced to blindly buy or sell massive volumes of standard underlying futures contracts.

The adversary effectively weaponizes the US market's own automated hedging programs against itself. This triggers an unstoppable, self-reinforcing liquidation loop that drains liquidity directly out of the central clearinghouse network.

IV. Cross-Asset Contagion: Bleeding the Broader Financial Core

The structural firewall separating asset classes melts away entirely under the weight of this financial warfare. Because modern derivatives networks rely on highly integrated plumbing, a localized explosion in the energy derivatives complex acts as a high-velocity transmission belt, creating immediate shocks across equities and fixed-income complexes.

Equity: Cross-Asset Margin Bleed and Index Distortions

Modern equity markets are heavily financialized through exchange-traded funds (ETFs) and multi-asset quantitative portfolios. When an energy perpetual position collapses, it does not remain confined to a single commodity account. Prime brokers manage client risk through unified portfolio margin vaults, where a fund's long blue-chip equity books are explicitly linked to back their exotic options and futures bets.

The moment a fund's short energy position faces an unhedged gap move over the weekend, the broker's risk engine revokes all intra-portfolio offsets. Since traditional banking wire systems are locked behind the "weekend wall", the prime broker's algorithm triggers an automated cross-asset liquidation. To raise hard cash, the system dumps deeply liquid domestic equities – specifically mega-cap technology firms and index-tracking ETFs – at the Monday morning opening bell. This mechanical dumping triggers a localized equity sell-off, spreads panic to systemic quant models, expands the Volatility Index (VIX), and destroys popular retail short-volatility strategies.

Fixed Income: The Collateral Liquidation Engine

Fixed income serves as the foundation for global margin collateral, meaning any liquidity crisis in the derivatives space instantly pressures sovereign debt markets. Confronted with massive, unexpected variation margin calls outside of normal hours, large institutional desks have only one asset class – the US Treasury bonds – deep enough to liquidate instantly without standard settlement delays. As these firms dump unencumbered sovereign debt onto the open market to defend their bleeding derivatives books, it sparks a massive, off-hours selling wave. This sudden liquidity drain causes US Treasury yields to spike sharply and erratically, distorting the sovereign yield curve and directly disrupting the SEC's phased implementation of mandatory central clearing for Treasuries. The structural safety net of fixed income is effectively

[10] https://medium.com/the-investors-handbook/china-just-turned-a-global-banking-tool-into-a-dollar-bypass-its-creator-walked-away-5fbf91c463cb

converted into an emergency liquidity fountain, transforming a localized energy battle into an unpredictable funding shock across the entire global debt complex.

V. Operational Pressures Across Financial Constituents

The operational friction generated by this warfare fractures financial participants along lines of leverage, infrastructure, and capital access. Rather than affecting all entities equally, the interaction between 0DTE options and perpetual futures creates a highly polarized environment.

Hedge Funds and Asset Managers: The Leverage Squeeze

Macro hedge funds, commodity pool operators, and multi-strategy trading desks will suffer immediate operational degradation. Those relying on traditional basis trades – exploiting micro-spreads between physical spot oil and paper futures – will find their pricing models completely broken by adversary funding-rate manipulation.

Conversely, conservative asset managers (pension funds, mutual funds, and endowments) will face severe **collateral drag**. While they avoid direct exposure to exotic perpetuals, prime brokers adjusting to systemic volatility will increase haircut requirements across all assets. Long-only managers are forced to increase their cash allocations, lowering the long-term compounding yields of standard retirement portfolios.

Investment Banks and Prime Brokers: The Counterparty Trap

Global investment banks are caught directly in a counterparty credit trap. As prime brokers, they supply the immense leverage and credit lines fueling these multi-asset derivative networks. When a highly leveraged hedge fund defaults over a weekend due to an offshore perpetual margin squeeze, that toxic unhedged risk shifts directly onto the bank's consolidated balance sheet. Banks are left holding highly volatile, illiquid offshore contracts while facing immediate capital constraints under strict federal rules.

Clearing Firms: The Settlement Banking Chokepoint

DCOs bear significant operational burden. They are legally mandated to act as the central counterparty guaranteeing every trade while an FCM must bridge the capital gap if a member defaults during a weekend raid. Because standard commercial banks are closed, the DCOs must deploy their own capital reserves to satisfy the clearinghouse's demands. This operational strain threatens to hollow out mid-tier clearing firms, concentrating all system-critical risk into a handful of mega-banks.

Trading Venues and Retail Brokers: Infrastructure and Volume Gaps

Traditional domestic exchanges (CME, CBOE, ICE) face a direct threat to their price discovery power. If the CFTC maintains its defensive stance and refuses to clear 24/7 contracts to protect benchmark integrity, trading volume will naturally migrate to foreign shadow venues.

Concurrently, retail brokers face structural overflow. When the market opens on Monday morning following an off-hours energy shock, automated risk software will trigger immediate, mass liquidations of under-margined retail day-trading accounts. The sheer volume of simultaneous API requests can crash broker infrastructures, leaving retail firms to absorb customer exposures during the initial market gap.

VI. Turning the Table: Implementing Active Defense Microstructure

To survive an extended multi-year campaign of asymmetric financial warfare without retreating into protectionist strategies like Europe that cause capital flight, the US must transition from a stance of passive openness to an architecture of **Active Defense Realpolitik.** The tables can be turned on financial alchemists and foreign adversaries by fundamentally re-engineering the microstructure of US exchanges. Rather than attempting to match the unanchored 24/7 environment

of adversaries, the US can use four integrated mechanics to transform predatory attacks into a permanent domestic liquidity engine.

1. Dynamic IP Licensing and Intent-Based Pricing (IBP)

The Maker-Taker model suffers from a "*Volume versus Integrity Paradox*," where market operators chase trading volume at the direct expense of system integrity, leaving makers vulnerable to being "*picked off*" by toxic, sub-second latency arbitrageurs. To break this loop, the US must replace blind transaction fees with an **Intent-Based Pricing (IBP)** framework[2] governed by a Dynamic IP License.[11] Under this framework, market data is legally recognized as the intellectual property of the liquidity contributor (the Maker).

During Normal Times, market makers license their proprietary "fair value" streams to the exchange. Genuine hedgers who satisfy a strict three-pronged attestation (proving size, correlation, and verifiable hedging intent) are granted a 0% license fee to execute at the pure midpoint price. Speculators and high-frequency takers are charged an explicit "Information Tax" (a copyright royalty) to access that data signal.

When an adversary attempts to ram the order book, they cannot *masquerade* as a natural hedger. They will be faced with IP enforcement on the signals they extract, programmatically converting their aggressive trading fees into "*royalty dividends*" paid out directly to support and strengthen domestic liquidity providers.

2. Stress RENTD Safe Harbors

To ensure that algorithmic reputation scores and liquidity metrics do not become rigid traps during black-swan events or extreme geopolitical shifts, the microstructure must feature a **Stress RENTD (Reasonable Expected Near-Term Demand)** safe harbor under the direct discretion of the CFTC. See pages 11-12 and 17 on our April 30, 2026 submission.[2]

If an adversary triggers a massive, artificial price move that breaches an automated, reputation-weighted threshold (e.g., an unnatural 15% move within a single hour), the smart contracts governing the exchange automatically suspend the copyright royalty structure and enter a **Stress RENTD state**.

During a Stress RENTD window, the exchange automatically shifts from a standard Continuous Limit Order Book (CLOB) to a *Randomized Batch Auction* matching orders every 10 to 60 seconds. This completely neutralizes the adversary's high-frequency latency advantage, stripping away the speed edge required to trigger a panic cascade and ensuring the market remains a pure utility for hedgers rather than an algorithmic playground for snipers.

3. Market Ostracism and the Proprietary Toggle

When an adversary attacks the system, traditional market makers are legally or contractually forced to continue quoting prices, effectively feeding the panic loop. Active defense empowers makers with the **Sovereign Right of Refusal**. See page 18 of our April 30, 2026 submission.[2]

If the exchange's operating committee collectively suspects an adversary of executing a predatory raid with adverse intent, the Makers utilize a standardized **Proprietary Toggle** to instantly **"***go dark***" during a Stress RENTD window**. They forfeit their public royalties and selectively withhold their liquidity signals from that specific counterparty.

Turn the Tables: The market does not lag or halt; it simply thins out exclusively for the toxic actor. The CFTC exercises a discretionary "*stand down*" override, allowing the makers' organic, collective refusal to act as a **National Security Filter**. The adversary is left trapped in an illiquid silo of their own making, unable to find an American counterparty to exit their highly leveraged positions.

[11] See pages 11-14 of our April 30, 2026 submission and https://www.databoiler.com/index_htm_files/DataBoiler%20BIG%20OPP.pdf

4. Centralized Discretionary Claw Backs

The final lock on the system is the **Executive Hammer** wielded exclusively by the regulator. While an exchange and clearinghouse's diversified operating committee can monitor market data, they lack the legal power to seize capital. To prevent elite market participants from abusing risk-mitigation metrics to settle scores with commercial competitors, the power to execute a **Retroactive Royalty Claw Back** is centralized strictly within the CFTC.[2]

If a 90-day vested jury of market peers identifies that a predatory sniper successfully extracted capital **during a Stress RENTD crisis**, the CFTC triggers the claw back. The penalty is not a nominal regulatory fine; the regulator seizes 100% of the trade's alpha. This alpha seizure turns the adversary's predatory gaming into a forced donation, reallocating the stolen gains directly back into the exchange's **Reputation Pool** to stabilize the system and reinforce domestic capital depth.

VII. The Ultimate Strategic Verdict

The modern battle for global liquidity cannot be won by passive regulators auditing historical data trails weeks after a clearinghouse has already failed. The open nature of the US financial system is its ultimate geopolitical advantage, but it remains sustainable only if it rejects the deceptive efficiencies peddled by financial alchemists.

Allowing unanchored, exotic **perpetual futures** to infect core physical energy supply chains is an unacceptable systemic hazard. It threatens the pricing benchmarks relied upon by the physical economy simply to subsidize an isolated, hyper-**leveraged** trading loop.

By permanently refusing to allow energy perpetuals into the market's tool bag, and instead implementing an active defense framework – driven by **Dynamic IP Licensing, Stress RENTD safe harbors, Market Ostracism, and Centralized Claw Backs** – the US turns its openness into an unassailable fortress. Adversaries attempting to launch derivative raids will find their capital programmatically intercepted, trapped in yield-bearing domestic reserves, and repurposed to fund the very market stability they sought to destroy. Through sophisticated Realpolitik coded directly into market microstructure, the US preserves its dominant liquidity moat, forces shadow risks into the light of transparent accounting, and ensures that its open financial ecosystem remains the safest, most efficient home for global capital.

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The battle for global capital cannot be won by passive regulators auditing historical data weeks after a clearinghouse fails. By permanently barring unanchored energy perpetuals from domestic venues, restricting weekend trading to highly controlled pilot programs for benchmark products (WTI, Brent, Henry Hub), and implementing an active defense framework, the US can turn its open financial ecosystem into an unassailable fortress that forces shadow risks into transparent accounting. Please see Annex 1 (24x7) and Annex 2 (Perpetual Futures) for our response to specific questions. Feel free to contact us with any questions and please keep us posted where our expertise might be helpful.

Sincerely,

Kelvin To

Founder and President

Data Boiler Technologies, LLC

This letter is also available at: https://www.DataBoiler.com/index_htm_files/DataBoiler%20CFTC%2024xPP%2020260826.pdf

CC: The Honorable Michael S. Selig, Chairman
Mr. Duncan Henes, Director, Market Participants Division / Acting Director, Division of Market Oversight
Mr. Richard Haynes, Acting Director of the Division of Clearing and Risk
Mr. Stephen Andrews, Deputy General Counsel for Regulation

Annex 1: 24/7 Trading of Standard Futures

A. US needs a strategic response to offshore competition but not Extension of 24/7 Trading to Standard Futures

Extending traditional energy contracts to a continuous 24/7 cycle stretches market liquidity thin during off-hours, rendering the market vulnerable to predatory HFT and automated raids. Instead of expanding hours, US markets must focus on densifying deep liquidity blocks within standard trading hours to preserve their competitive advantage against offshore networks like Project mBridge.

1. *Does extending the trading hours of a standard futures contract to a 24/7 basis, without otherwise altering its fixed expiration or settlement, materially change the availability or reliability of the prices it forms during overnight, weekend, and holiday periods? What data supports the response?*

   Extending the trading hours of standard futures contracts to a 24/7 cycle without altering their fixed expiration or settlement structures poses severe operational and surveillance threats. Due to the thin liquidity structurally characteristic of overnight and weekend sessions, trading prices would become highly variable, making reliable trend analysis mathematically difficult. This lack of depth creates an optimal environment for price manipulation, which would inevitably force automated surveillance systems to rely on distorted data noise, leading to an uncontrollable surge in false positives.

2. *What volume, open-interest, and participant-composition data characterize the overnight and weekend sessions of standard energy futures contracts, and how does price behavior in those sessions compare to core-hours trading? Is liquidity in those sessions sufficient that a price derived from them is reliable and not readily susceptible to manipulation? What data or empirical evidence is there that sufficient natural liquidity exists during weekend trading periods to support orderly markets and efficient price formation?*

   overnight and weekend sessions for standard energy futures contracts are characterized by thin trading volumes and fragmented participant composition, making them highly susceptible to artificial manipulation. In these illiquid “off-hours” windows, price discovery becomes inherently unreliable, as prices are frequently driven by localized surges or predatory actors picking off mismatched quotes rather than genuine supply and demand. Furthermore, without a robust concentration of active market makers providing continuous, two-sided liquidity, prices are prone to swinging wildly based on social media influencing campaigns or unchecked rumors, effectively rendering continuous data feeds as mere noise.

   This lack of structural depth is exacerbated because modern markets rely on complex, interconnected cross-market signals to determine real-world valuations. For instance, currency fluctuations heavily impact equity trading, which in turn moderates and influences the futures pricing of critical oil stocks. Under normal conditions, these cross-market linkages provide a vital buffering effect. However, during thin-liquidity weekend sessions, this interconnectedness can transform into a systemic transmission belt, allowing a localized off-hours disruption to easily trigger a broader cross-market meltdown before standard trading hours resume.

3. *The cash market for crude oil and other energy commodities is generally assessed during defined windows, rather than traded 24/7. Where a standard futures contract trades 24/7, but the underlying physical market does not, what are the reliability and manipulation implications of a futures price observed during periods in which no contemporaneous physical trading occurs, and to what extent could such off-hours prices be characterized as not fully or accurately representing dynamics in the physical underlying?*

   Because the cash market for crude oil and physical energy commodities is assessed during defined windows rather than traded 24/7, a fundamental structural mismatch occurs during off-hours trading. Risk pricing models and

analytical formulas depend heavily on current, real-time underlying prices, volatility curves, and prevailing interest rates to calculate an accurate theoretical value. In the absence of contemporaneous physical cash trading, off-hours derivative models are forced to rely on stale, outdated physical prices. These stagnant baseline inputs can become wildly *out of whack* with economic reality, causing the observed futures price to turn into an artificial hallucination that fails to represent the true dynamics of the physical underlying.

This dislocation has severe implications for market manipulation and benchmark reliability, as the active physical cash market normally serves as a natural brake against runaway price swings. When derivatives trade in a vacuum while physical venues are closed, predatory actors can easily exploit the lack of real-time underlying data to distort price formation. Furthermore, during off-market hours in the United States, participants might be forced to rely on foreign markets as an alternative pricing mechanism. This reliance introduces immense hazard, as foreign price streams may simply reflect localized wild swings or unique regional shocks, causing the continuously observed US futures benchmark to be falsely priced and structurally corrupted.

4. *What is the expected impact that weekend price formation will have on leveraged market participants, including the potential for additional variation margin obligations, collateral demands, forced liquidations, and liquidity pressures arising from price movement occurring outside the traditional trading week?*

   Weekend price formation would create clearing and margin-handling difficulties for leveraged market participants. Because traditional bank loan networks and automated fiat payment systems do not operate over weekends, executing firms and clearinghouses are hit by a hard "Weekend Banking Wall". In the event of an off-hours black swan or a sudden geopolitical shock, small firms would find it operationally impossible to meet sudden variation margin demands. This lack of immediate financial backing forces a delayed market recognition of risk, directly causing automated forced liquidations that can rapidly push vulnerable, mid-tier participants into insolvency.

5. *How would institutional investors need to adapt to manage weekend price formation when existing risk management, governance, compliance and oversight frameworks may assume that significant weekend events result in opening price gaps rather than continuous benchmark price movements capable of triggering contractual, regulatory, investment, or risk management provisions? What would be the expected cost of this adaptation, if any?*

   Managing continuous, weekend benchmark movements would require a complete overhaul of traditional institutional risk management, governance, and compliance frameworks. Because standard risk-intervention and surveillance services are unavailable during off-hours, firms can no longer treat the weekend as a static period that merely results in Monday opening price gaps. To adapt to this environment and avoid catastrophic position failures, institutions would be forced to absorb massive compliance costs to implement heavily automated systems. These frameworks must rely almost entirely on agentic AI to monitor risk portfolios in real time and programmatically apply the brakes on positions facing toxic, rapid market moves.

6. *How should a DCM be prepared to address potential disruptions or malicious trading during weekend and holiday trading? What requirements should be imposed on their weekend and holiday control infrastructure? Are there any expected gaps or differences in coverage or staffing on weekdays compared to weekends?*

   Because DCMs are not fully staffed 24/7, they would be forced to invest heavily in automated infrastructure and agentic AI to police weekend and holiday trading. To effectively manage malicious trading and prevent off-hours disruptions from spiraling, these automated systems must possess the autonomous capability to suspend, halt, or cancel chaotic trading with minimal human intervention. Because off-hours markets operate at an algorithmic velocity

that cannot wait for manual regulatory review, a DCM must collaborate with the CFTC beforehand to lay out strict, pre-approved rules of engagement for automated detection and prevention systems.

B. Off-Hours Settlement and Payment Infrastructure are Structurally Unviable under the Current Regime

Contracts that trade 24/7 do so at times when traditional fiat payment systems, including Fedwire and CHIPS, do not operate. Continuous trading faces a hard "Weekend Banking Wall." Because commercial banks do not clear margin calls over weekends, any major price move on a Saturday creates immediate, unhedged default risk. To fix this without protectionist laws, the U.S. should codify rules allowing private, yield-bearing tokenized Real-World Assets (RWAs) – such as tokenized U.S. Treasuries – to clear margin programmatically 24/7.

7. *In a case where margin is called during these periods, how could a designated contract market or derivatives clearing organization ensure robust margin call and settlement processes arising during overnight, weekend, and holiday periods when traditional payment systems such as Fedwire and CHIPS do not operate? How do these arrangements differ from those used for an existing futures contract whose obligations are met during banking hours?*

   Because traditional fiat payment systems like Fedwire and CHIPS are closed during overnight, weekend, and holiday periods, ensuring robust margin processing is an operational impossibility under the current regime. Unlike standard futures contracts whose obligations are seamlessly met during banking hours, 24/7 contracts create a scenario where any major price move on a Saturday would result in immediate, unhedged default risk. Regulating these off-hours sessions to be cash-only is impractical, meaning executing firms and clearinghouses are forced to develop expensive, alternative processing systems that meet regulatory guidelines. The CFTC cannot and should not allow a variation in this area; there must be proper protections to ensure that any alternative payout cycle has fully funded backing to cover shortfalls.

8. *What real-time or tokenized payment infrastructure, if any, would be integrated into the clearing process to satisfy required margin payments when traditional payment systems are unavailable? What legal, operational, and credit considerations arise from reliance on such infrastructure, including any stablecoin or other tokenized settlement asset?*

   Integrating a tokenized approach into the blockchain stack could provide an alternative payment structure to manage 24/7 margin calls when traditional payment systems are offline. However, implementing this tokenized infrastructure requires extensive development work from the executing firm, as well as strict regulatory guidelines from the CFTC. This strict oversight is necessary because reliance on stablecoins or other tokenized settlement assets introduces significant credit, operational, and surveillance hazards, particularly by creating new blind spots where illicit actors can use tokenization to actively conceal illicit activity.[12]

9. *What procedures would be available to clearing members and other participants that do not hold digital or tokenized assets to meet a margin obligation arising when traditional payment systems are unavailable, and how would those participants be treated relative to participants able to transfer value 24/7?*

   For clearing members and participants who do not hold digital or tokenized assets, the CFTC would need to establish strict, alternative compliance parameters to govern their off-hours operations. To bridge the operational gap when traditional payment systems are unavailable, non-tokenized participants would be required to maintain pre-arranged lines of credit with a backing financial institution, such as an investment bank. Crucially, to prevent uncollateralized risk from entering the system, both the backing firm and the participant must provide formal, verifiable proof that this off-hours credit facility is fully available before being granted permission to trade on a 24/7 basis.

[12] https://www.databoiler.com/index_htm_files/DataBoiler%20USDT%2020251017.pdf

10. *Should a contract traded 24/7 require an additional initial-margin buffer in advance of weekend or extended-holiday closures to account for the unavailability of traditional payment systems, and if so, what models, historical-volatility measures, or other methods would determine its size?*

    While making margin requirements stricter is an available option to mitigate off-hours risk, implementing an additional initial-margin buffer in advance of weekend closures cannot entirely eliminate systemic danger. Even if initial margins were set to an aggressive 90% cash threshold – or if trading went totally cash-based, which is highly impractical – unhedged risk would still persist during a weekend payment freeze.

11. *What forms of collateral could be eligible to satisfy margin obligations arising when traditional payment systems are unavailable—for example, cash, U.S. Treasury securities, tokenized Treasury securities, or stablecoins—and what haircuts would apply to each, including during periods of elevated volatility?*

    Any eligible form of collateral used to satisfy off-hours margin obligations must be fundamentally structured around the rapid ability to tap it instantly. Under conditions where traditional payment infrastructure is unavailable, collateral types must be restricted to several specific, highly accessible formats. These include readily accessible escrow accounts that clearinghouses can draw upon programmatically without delay, or specialized surety bonds designed to pay out immediately in the case of a clearing member failure.

12. *If a participant's funds cannot be transferred when traditional payments systems are unavailable, what temporary liquidity arrangements, if any, would a derivatives clearing organization need to maintain, and on what terms and against what collateral? How would the clearing organization manage the resulting credit and liquidity exposure?*

    To manage credit and liquidity exposure when traditional payment systems are unavailable, a DCO could establish a large escrow account specifically designed to back clearing failures instantly. This temporary liquidity arrangement must be structured for rapid deployment – either through pre-arranged lines of credit with foreign financial institutions that remain continuously available or via tokenized funding secured through the blockchain. Furthermore, would have to issue risk and credit management guidelines on how much and how fast they would need to act in such a situation, such as suspending the specific members posing the risk if the clearinghouse detects an anomaly of significant off-hours exposure.

13. *Should margin levels be adjusted during weekend or holiday periods in response to changes in volatility or to events affecting the underlying market, and if so, how should the circumstances warranting an adjustment be defined and implemented given the unavailability of traditional payment systems?*

    Adjusting margins dynamically during off-hours on a market-by-market or firm-by-firm basis is highly difficult due to limited staffing and the persistent risk of system failure. If a clearing organization attempts to implement such an off-hours mechanism, the clearing system must develop automated systems to handle the volatile environment. These automated platforms must be capable of dynamically calculating requirements and instantly alerting member firms of what is expected, allowing them to rapidly adjust their own margin-handling capabilities and client demands.

C. Ripple Effects of 24/7 Pricing on Related Markets, Contracts, and Benchmarks

Moving to continuous 24/7 pricing does not just expand trading hours; it rewires the entire global market ecosystem. The ripple effects create severe disruptions across the entire derivative value chain, multiple asset classes, and every tier of market participant.

The Derivative Value Chain Pipeline: Traditional derivatives operate on a synchronous, predictable sequence: *Trade Execution → Mid-Day Risk Valuation → End-of-Day Central Clearinghouse (DCO) Settlement → Next-Day (T+1) Banking*

Capital Movement. Introducing 24/7 pricing forces execution to outpace its backing infrastructure. Because the clearing and banking sectors cannot move capital over a weekend, the value chain experiences an operational gridlock. The structural safety valves designed to isolate bad trades are broken, transforming localized execution errors into systemic, unbacked defaults before the rest of the chain can react.

Cross-Asset Contagion Networks: Under unified prime brokerage frameworks, an energy derivatives crisis acts as a rapid transmission belt across the broader financial core. Faced with off-hours margin demands during a weekend raid, institutional fixed income desks will immediately liquidate their most liquid, unencumbered collateral: US Treasury bonds. This forced "*off-hours*" selling causes sovereign bond yields to spike erratically, distorting the yield curve and disrupting the SEC's mandatory central clearing rollout for Treasuries. At Monday's equity opening bell, prime brokers hitting a margin deficit will execute automated cross-asset liquidations. Algorithms will systematically dump long, deeply liquid positions – specifically mega-cap technology stocks and index-tracking ETFs – to raise cash to cover bleeding commodity debts. This mechanical selling spreads panic to quantitative models, driving a wider drop across the stock market.

Polarization of Market Constituents: The shift to continuous pricing fractures participants along lines of leverage, infrastructure capabilities, and access to capital. Futures Commission Merchants (FCMs) bear the ultimate default liability. If a member defaults during a weekend session, the FCM must deploy its own capital reserves to satisfy the clearinghouse, threatening the survival of mid-tier clearing firms and concentrating all systemic risk into a handful of mega-banks.

Multi-strategy hedge funds relying on traditional "*basis trades*" will find their mathematical models entirely broken by adversary funding-rate manipulation. Meanwhile, conservative asset managers (pension funds and endowments) face "*collateral drag*". To adjust to the ongoing off-hours volatility, prime brokers will raise haircut requirements across the board, forcing conservative managers to hold higher cash reserves and lowering the long-term returns of standard retirement accounts.

Real physical energy producers and utilities will see their foundational pricing benchmarks corrupted by thin-liquidity, off-hours algorithmic speculation. If the paper futures price uncouples from real-world logistics and storage costs, commercial firms will abandon US venues entirely, breaking the link between paper derivatives and actual physical supply chains.

On Monday morning following a weekend derivatives shock, automated risk software will trigger immediate, mass liquidations of under-margined retail accounts. The sheer volume of simultaneous API requests risks crashing broker infrastructures, leaving retail firms to absorb customer exposures during the initial market gap.

14. *Do energy markets exhibit significant positive or negative correlations with other asset classes, such that price movements during extended trading hours could transmit shocks across markets, amplify volatility, or contribute to broader market dislocations?*

    Energy markets exhibit significant cross-market correlations, meaning that wild price movements during extended trading hours could easily transmit shocks, amplify volatility, and contribute to broader market dislocations. Because cross-market trading is highly active, an event of a geopolitical nature – such as the closing the Strait of Hormuz on a Saturday – could instantly throw off-hours oil trading into a highly volatile and erratic pattern. This localized disruption would not remain siloed; it would immediately impact equity and other financial markets that feature off-hours trading, rapidly pushing them into a frenzy before standard western exchanges can open.

    If weekend or overnight trading sessions become hectic, the artificial signals they generate could trigger a widespread cross-market meltdown upon the resumption of trading in normal hours. To prevent this structural contagion, the microstructure of the financial system must incorporate specific coordination safeguards. There would need to be mechanisms implemented on related asset classes that, in the face of wild trading off-hours, would automatically

trigger market regulation mechanisms to buffer and insulate those systems until the off-hours futures trading resolves into a true, verified idea of the price. See earlier sections.

15. *Would prices established during weekends or extended trading hours trigger contractual provisions within over-the-counter derivatives markets, including barrier options, structured products, collateral agreements, and other contingent exposures, in a manner that could create unintended economic outcomes, disputes, liquidity demands, or risk transfers?*

    Prices established during weekends or extended hours could falsely trigger critical contractual provisions within OTC derivatives markets. Because off-hours markets are characterized by thin liquidity, any abrupt price swing has a strong potential to mask true price discovery and drive trading way off from reality. Consequently, these artificial price movements could erroneously trigger premature margin calls, liquidity backing obligations, and other barrier options or structured product terms. This creates a severe risk of unintended economic outcomes, contractual disputes, and destabilizing liquidity demands that disrupt traditional risk transfers and affect price discovery.

16. *How do prices established during extended trading hours affect physical commercial contracts in the real economy where futures prices are incorporated through averaging mechanisms, settlement formulas, index references, escalation clauses, or other pricing provisions, embedded within supply, procurement, transportation, and financing agreements?*

    Because futures prices are deeply integrated into physical commercial contracts through averaging mechanisms, settlement formulas, index references, and escalation clauses, off-hours price swings would directly harm the real economy. Due to the thin liquidity and high potential for large price jumps during weekends or extended hours, the establishing prices would likely reflect data noise rather than legitimate price discovery. If these flawed off-hours metrics are factored into corporate pricing plans, procurement schedules, transportation fees, or financing agreements, they would cause operational missteps and disrupt critical economic activity across oil, metals, and other physical commodity supply chains.

17. *How are prices established during extended trading hours incorporated into official closing prices, settlement prices, benchmark calculations, and major market indices, and what impact could this have on the valuation of investment portfolios, index products, ETFs, mutual funds, pensions, and other financial instruments that rely upon those benchmarks?*

    We have reservations with incorporating prices established during extended trading hours into official closing prices, settlement calculations, and major market indices. Because off-hours trading is highly prone to anomalies and data noise compared to regular trading, forcing these metrics into baseline calculations would introduce severe instability into index products and ETFs. This distortion would compromise the underlying data used in the valuation of investment portfolios, mutual funds, and pensions. To prevent this structural instability, off-hours trading data should be treated as supplemental information rather than being equated with standard market-hour trading benchmarks.

18. *How would investment managers, asset managers, pension funds, insurance companies, and other fiduciaries incorporate changing valuations based on extended hours trading in their portfolio management, investor reporting, performance measurements, and governance frameworks, particularly where investment mandates, performance fees, risk limits, redemption provisions, financing arrangements, or other contractual covenants depend upon periodic valuation determinations?*

    Forcing fiduciaries, asset managers, pension funds, and insurance companies to include extended hours data in their housekeeping functions and periodic valuations would be cumbersome and risky. Because true price discovery

requires a level of market liquidity that does not exist during weekends or extended sessions, after-hours trading must be assessed strictly as its own isolated risk pool with an independent valuation mechanism. Fiduciaries should not incorporate these thin-liquidity, off-hours metrics into their standard portfolio management, investor reporting, or performance fee calculations, nor should they allow them to trigger critical contractual covenants, financing arrangements, or redemption provisions.

19. *Have there been any stress tests conducted to evaluate whether concentrated one-sided retail or broader investor interest and participation during weekend trading, particularly driven by new geopolitical or significant news, could distort price formation, amplify volatility, or create artificial price levels that influence broader financial markets when traditional markets open? If so, what were the results of these tests?*

    Comprehensive stress testing for off-hours futures trading has NOT been done. Regulators and market participants remain entirely blind to the severe risks of wash trading, price manipulation, and artificial price formation that could be driven by concentrated, one-sided retail or investor interest during weekend sessions. To address this uncertainty before broader usage is permitted, stress testing would need to be carried out by executing firms, clearinghouses, and participants to evaluate these specific vulnerabilities. While one potential pathway is to restrict extended trading to a pilot program in certain markets to evaluate real-world operability – similar to the stress tests used in overnight equity trading on alternative trading systems (ATS) – this submission cautions that equity-based models are likely not entirely relevant to the unique trading profiles of commodity complexes.

20. *Is it a concern that price formation in a smaller contract that trades 24/7 may influence the larger benchmark contract that trades during traditional hours, especially during those periods when the larger contract is unable to participate in the price-setting process?*

    A smaller contract trading 24/7 could easily influence the larger benchmark contract traded during traditional hours. If participants incorporate these off-hours prices into their automated models, it could trigger unexpected algorithmic trading behavior that directly disrupts traditional futures markets.

21. *Given that many of the contracts being proposed for 24/7 trading seem to be designed to cater to the needs of retail traders, while the benchmark contracts were designed for commercial users, what safeguards should a DCM have in place to protect the interests of commercial users in the benchmark contracts?*

    Regulatory safeguards should focus on protecting all market participants trading 24/7 rather than exclusively shielding commercial users. To mitigate the risks introduced by retail day-traders – whose speculative sentiment can cause artificial price drops on DCMs – exchanges should implement volatility interruption mechanisms.[13] These automated safeguards are critical because when wild, non-economic swings happen on the 24/7 markets, they must instantly trigger protective measures that allow the larger, traditional benchmark markets to stabilize.

22. *What recalibration of market safeguards, risk controls, and liquidity protections should a DCM implement during weekend trading to ensure that price formation remains representative of genuine supply and demand, and to prevent*

[13] NOTE: **Volatility interruption mechanisms** (e.g., replacing Single-Stock Circuit Breakers with the LULD Mechanism; overhauling Market-Wide Circuit Breakers; banning Stub Quotes and regulating Market Maker obligations; standardizing *"Clearly Erroneous"* trade executions) were piloted or implemented before the Congress' Consolidated Audit Trail mandate in 2012. The subsequent transitioning from *"pilots"* to permanent laws was a natural progression. Credits should be given to Reg. SCI that mandates all major proprietary trading firms and broker-dealers to participate in at least one coordinated cross-market Level 1 and Level 2 circuit breaker test per year. Yet, technical issues with a trading venue's volatility interruption mechanisms can send shares on a wide ride (e.g. Berkshire price erroneously down 90+% in June 2024).

thin liquidity conditions from resulting in disproportionate or runaway price movements that could subsequently influence benchmark markets when traditional hours resume?

DCM's market surveillance should be calibrated to detect patterns representing false pricing, poor price discovery, or suspicious activity, incorporating automated volatility interruption mechanisms to ensure the orderly functioning of the market. These systems should be designed to alert traditional markets to implement broader protective procedures, such as price range limits, thereby preventing off-hours data noise from triggering unintended consequences when regular trading hours resume.

23. *Are there any impact assessments, evaluations, studies, or tests that have been conducted to evaluate the extent to which prices formed during weekend trading could be transmitted to physical contracts, OTC derivatives, financing agreements, index calculations, valuation processes, and other commercial arrangements that rely upon the benchmark prices? If so, what did these studies conclude?*

See our response to Q19. We recommend limiting weekend trading for financially sensitive markets to a pilot.

24. *How will weekend price formation impact listed and cleared options markets, including the treatment of time value, theta decay, implied volatility, margin, and options pricing models that have historically assumed limited or no weekend price discovery?*

Weekend price formation would disrupt listed and cleared options markets by injecting thin, retail-driven volumes and chaotic data noise into standard valuation models. Because these off-hours price swings are often caused by bad actors or localized surges rather than genuine supply and demand, they can impair the baseline underlying data used to calculate implied volatility, margin requirements, theta time decay, and overall options pricing. While sophisticated trading desks may choose to ignore these erratic weekend metrics if they diverge significantly from real-world events or the prior standard session's close, the overarching risk remains embedded in how unpredictable participant behavior interfaces with these distorted off-hour indicators.

25. *What will be the impact of weekend price formation on OTC options and other contingent transactions that contain barrier levels, binary outcomes, knock-in/knock-out provisions, digital payoffs, trigger events, or other price-dependent contractual terms that have historically been referenced to weekday market activity?*

See our response to Q24.

26. *What is the expected effect of weekend price formation on the valuation of cleared and uncleared swaps, including variation margin, initial margin, collateral requirements, and related risk management processes that have historically operated around a five-day price formation cycle?*

Regulators should define how much, if at all, off-hours trading is incorporated into risk and price discovery models for cleared and uncleared swaps. Because swaps have historically operated around a traditional five-day price formation cycle, continuous weekend pricing demands the creation of specific off-hours mechanisms to handle the resulting volatility and variation margin requirements. To maintain the integrity of collateral requirements and related risk management processes, regulators must ensure these off-hours structures are strictly defined, preventing thin, frenzy weekend data from distorting swap valuations across the broader network.[14]

27. *Is there a concern about who will bear the economic cost associated with any increase in options value resulting from the extension of price formation into weekends? Specifically, if weekend trading increases the option value by creating*

[14] https://www.databoiler.com/index_htm_files/DataBoiler%20CFTC%20SEC%2020260824.pdf

additional periods during which prices can move and contractual triggers can be activated, which market participants are expected to bear that additional cost and how is that cost distributed among option buyers, option writers, market makers, clearing members, and end users?

If weekend trading artificially inflates options premiums, the resulting economic costs will be borne across the entire market chain, underscores the critical need for a tightly controlled pilot program to restrict 24/7 trading to specific commodities and evaluate true pricing impacts before any broader implementation.

28. *How might prices established during weekend trading be used or construed as triggering termination events, early termination rights, additional collateral requirements, valuation disputes, market disruption provisions, default thresholds, or other contractual remedies under OTC derivatives, financing arrangements, and related agreements that reference benchmark prices?*

    Establishing weekend pricing introduces a profound risk of contractual gridlock by separating paper price execution from synchronous banking hours. Because standard ISDA Master Agreements, Credit Support Annexes (CSAs), and commercial credit facilities assume a five-day business week, continuous weekend volatility allows thin-liquidity price anomalies to prematurely trigger technical default thresholds, Material Adverse Change (MAC) clauses, and asymmetric collateral demands on paper before a counterparty has any operational ability to wire cash or defend their position. This structural mismatch invites sophisticated participants to opportunistically claim Market Disruption Events to avoid losses, while simultaneously accelerating cross-default provisions that automatically destabilize a firm's entire corporate debt and OTC swap portfolio before Monday's opening bell even rings.

29. *Have there been any evaluations of the potential impact that weekend price formation may have on leveraged, inverse, and other futures-linked ETFs whose investment objectives, portfolio construction, hedging activities, and daily reset mechanisms were designed around a traditional trading week?*

    Introducing weekend price formation on energy futures breaks the core mathematical architecture governing leveraged, inverse, and futures-linked ETFs by uncoupling continuous derivatives execution from discrete equity trading sessions. Because these specialized vehicles rely on a precise daily reset mechanism executed at the standard market close, a continuous 48-hour weekend futures feed would force fund managers to either rebalance portfolios during thin, highly volatile off-hours liquidity or face severe, compounding tracking errors upon market opening on Monday. This asset mismatch accelerates volatility decay, causing massive opening price gaps that permanently degrade fund capital and decouple the retail vehicle from its underlying index.

    Similarly, options referencing these ETFs would face an immediate valuation and arbitrage gridlock because the underlying commodity derivative would trade 24/7 while the referencing equity options market remains strictly closed. This asymmetry strips market makers of their ability to dynamically delta-hedge option inventories over the weekend, forcing them to absorb unhedgeable tail-risk for 60 consecutive hours. To insulate their balance sheets from this operational blind spot, options writers will aggressively inflate implied volatility parameters, leaving retail investors to absorb prohibitively expensive premiums and massively widened bid-ask spreads when regular trading hours resume

30. *Have there been any evaluations of the potential impact that weekend price formation may have on options referencing ETFs, including leveraged and inverse ETFs, particularly where the underlying benchmark may continue to establish prices during the weekend while the ETF and its listed options markets remain closed?*

    See our response to Q29.

Annex 2: Perpetual Energy Contracts

D. Limited Hedging Utility, Commercial Demand Driven by Volatility Speculation

Continuous pricing and exotic structures can offer localized commercial advantages, yet these benefits are concentrated within a narrow group of elites while the systemic downsides would threaten the broader market. The regulatory framework should implement unambiguous, quantitative threshold considerations before any such contracts are permitted to go live.

For global commodity firms and cross-border energy desks, a continuous trading environment provides a valid tool for managing overnight basis risk and real-time physical logistics. Pipelines, LNG maritime shipping routes, and international refineries operate on a strict 24/7 global schedule. Having access to an uninterrupted hedging venue allows risk managers to instantly insulate themselves from sudden geopolitical shocks, localized supply bottlenecks, or unexpected production stoppages that occur outside of traditional US business hours.

However, when this continuous environment is augmented by combining 0DTE options and continuous perpetual futures, the market architecture undergoes a fundamental shift. On paper, this exotic combination allows algorithmic desks to create hyper-localized, ultra-high-efficiency hedges – using the continuous delta of the perpetual contract to programmatically neutralize the explosive, near-term gamma of 0DTE options.

The commercial utility of this specialized toolkit is highly restricted to elite, high-frequency proprietary desks and speculative macro hedge funds. For the vast majority of real-world physical market participants – such as public utilities, commercial airlines, and long-term energy producers – this combination holds little structural value, as they require predictable, calendar-anchored monthly delivery contracts to protect actual infrastructure books.

Consequently, the order book for a 24/7 perpetual and 0DTE complex is naturally captured by predatory, high-speed algorithmic "*Financial Alchemists*." Because these speculative snipers use these instruments to construct highly leveraged, non-linear trading strategies, they inject artificial intraday velocity into the market. The macro cost of this speculative activity – which includes severe off-hours price distortions, sudden gamma squeezes, and increased systemic volatility – exponentially outweighs the marginal capital savings achieved by a select group of institutional trading desks.

To prevent financial alchemy from triggering a systemic collapse, the CFTC cannot permit the unconditional launch of these products. Instead, the agency must enforce strict **Quantitative Threshold Prerequisites** that an exchange must satisfy on a rolling basis. For example:

- **Commercial Demarcation Threshold:** A contract cannot be listed unless a minimum of 60% of the baseline open interest is held by bona-fide, non-financial commercial entities (hedgers) during traditional hours. If speculative high-frequency algorithms dominate the order book above a 40% threshold, listing approval is automatically rescinded.
- **Liquidity Depth and Spread Thresholds:** The exchange must prove that the off-hours (weekend and overnight) bid-ask spread does not widen beyond 1.5 times the average standard-hours spread under simulated stress tests. If liquidity thins beyond this metric, the venue cannot support a fair and orderly reference price.
- **Clearinghouse Capitalization Buffer:** Before a 24/7 perpetual contract can go live, the underlying DCO and its participating FCMs must post an additional, pre-funded **24/7 Liquidity Premium Guarantee Fund**. This fund must be large enough to absorb a minimum of two concurrent clearing-member defaults during a weekend banking freeze when standard wire networks are unavailable.

31. *To what extent would the availability of a 24/7 traded energy future's price bear on a designated contract market's ability to self-certify a perpetual contract under 17 CFR 40.2 as consistent with Core Principle 3? Should the Commission's manipulation-susceptibility analysis depend on the actual liquidity present during 24/7 trading, including overnight and weekend sessions, rather than solely on the nominal availability of a continuous trading price?*

DCM's self-certification of an energy perpetual contract under 17 CFR 40.2 cannot be legally supported by the mere nominal availability of a 24/7 price feed. To comply with Core Principle 3, the Commission's manipulation-susceptibility analysis must strictly depend on the *actual, verifiable liquidity* and active market-making depth present during overnight and weekend sessions. Unlike digital asset complexes that benefit from continuous, decentralized global cash networks, physical energy markets lack a reliable, continuous underlying spot price once traditional cash markets close. Simply extending standard futures contracts to trade 24/7 on an electronic platform does not resolve this structural deficit; without a concentration of active market makers providing deep, two-sided liquidity, off-hours price feeds inevitably widen into highly volatile spreads, turning the continuously observed reference index into a microstructural "*hallucination*" rather than a valid underlying price with certainty.

Attempting to engineer around this operational vacuum by creating synthetic indices based on global crude benchmark ratios introduces price distortions and invites predatory exploitation. Because physical commodities possess fundamentally distinct trading profiles, logistics, and storage constraints compared to crypto assets, the absence of a transparent, underlying cash price will drive risk-averse foreign institutional investors and commercial hedgers completely out of the off-hours market. This structural capital flight leaves the 24/7 order book entirely captured by retail day-traders and aggressive HFT algorithms. Operating in an unvetted environment where public tracking is absent, these speculative actors can easily weaponize social media influencing campaigns and rumors to manufacture artificial, meme-driven price swings, making the thin off-hours book an optimized hunting ground for manipulation.

This thin-liquidity landscape allows predatory "*Financial Alchemists*" to execute a highly damaging manipulation loop during weekend and overnight sessions. A toxic actor can accumulate an outsized position on the perpetual contract and, at minimal capital cost, execute a sequence of small, highly leveraged wash trades on the thin 24/7 underlying future to aggressively push the observed reference index to artificial boundaries. When the automated, short-interval funding calculation window occurs after hours, this manipulated price triggers an artificial, multi-million-dollar capital transfer directly to the manipulator's account. The attacker successfully extracts alpha from the long or short side of the contract and trades out of their position entirely before regular, deeply liquid market hours resume on Monday morning, proving that nominal data streams fail the manipulation-resistance mandates of the CEA.

Ultimately, 24/7 trading on perpetual energy complexes cannot safely function unless true, around-the-clock market-making programs provide robust price discovery backed by genuine, active liquidity. Furthermore, because positions on these contracts are maintained indefinitely until manually closed out, the exchange microstructure requires a highly sophisticated, real-time automated surveillance network to monitor customer margin balances on a sub-second basis. Without agentic, real-time risk engines capable of verifying collateral and instantly cancelling active orders the microsecond a user's margin runs too low, any sudden off-hours price spike or automated liquidation cascade will trigger an uncontrollable flash crash that directly threatens the clearinghouse core.

32. *For which physically delivered or stored energy commodities, if any, would a perpetual contract serve identifiable hedging or risk-management needs not already met by existing standard futures, option, or swaps? Please distinguish, in your response, needs associated with commercial or hedging demand from speculative demand. In responding, please identify which attribute of a perpetual contract—its 24/7 (including overnight and weekend) trading, its absence*

of a fixed expiration, its funding-rate convergence mechanism, or some combination—drives any identified need, and whether that need could instead be met by a standard futures contract listed for 24/7 or extended trading hours. Do commercial market participants—for example, producers, refiners, merchants, transporters, and end-users—anticipate using a perpetual contract to hedge cash-market exposure?

There are no physically delivered or stored energy commodities for which a perpetual contract would serve identifiable hedging or risk-management needs that are not already far more effectively met by existing standard futures, options, or swaps portfolios. When parsing the operational requirements of the energy derivative value chain, a stark line must be drawn between legitimate commercial hedging demand and purely speculative, predatory demand. Hedging on the perpetual market fails to provide professional hedgers with any structural advantage over traditional derivatives. Traditional derivatives hedging relies on sophisticated analytics that utilize stable volatility curves and defined delta metrics observed over long periods. While it is theoretically possible for hedgers to derive mathematical equivalents on a perpetual future, the hyper-speculative nature of a contract dominated by retail and aggressive speculators would make it exceptionally difficult for professionals to accurately determine what volatility actually is, given that perpetual prices would be subject to massive, artificial swings compared to the underlying physical price moves.

Bona-fide commercial market participants – including crude oil producers, refiners, natural gas merchants, maritime transporters, and utility end-users – do not anticipate or desire using a perpetual contract to hedge cash-market exposure. Even if large hedging positions are theoretically established on a perpetual future, the periodic alpha payouts generated at each short-interval funding period would be entirely insufficient to offset real physical cash-market losses, as thin off-hours liquidity would severely restrict payouts to where they fail to hedge much at all [1:19]. The perpetual future functionally provides only one unique attribute: a position that can be maintained indefinitely without manual calendar rollover. However, the commercial theory that the compounding cost of carry during losing periods (where the contract price exceeds the underlying) will be perfectly outweighed by winning periods is a fallacy. While hedgers could try to trade in and out of positions like a standard predictive market, professionals will remain deeply wary of these erratic price swings and the high probability of being "*picked off*" by predatory speculators who control the order book.

The structural demand for energy perpetuals is driven exclusively by speculative, non-commercial interests – predominantly HFTs and aggressive multi-strategy macro hedge funds. To these "*Financial Alchemists*," the combination of 24/7 continuous trading, unanchored delta, and short-term funding intervals serves as an optimal environment to execute highly leveraged, non-linear trading strategies. When combined with 0DTE options, speculative desks use perpetuals to engineer hyper-localized intraday arbitrage plays, harvesting quick profits by delta-hedging option inventories in the thin off-hours book. This activity does not contribute to legitimate capital formation or price discovery; instead, it establishes an adversarial environment where any marginal utility derived by speculative desks imposes a massive, compounding systemic cost on the rest of the market in the form of extreme off-hours price distortions and weekend *gamma squeezes*.

Consequently, if global commodity firms or cross-border energy desks experience a genuine commercial need to manage overnight basis risk or real-time physical logistics – such as a sudden weekend geopolitical disruption affecting an active maritime shipping route – that need can be fully satisfied by standard futures contracts listed for extended trading hours, without introducing exotic perpetual frameworks. Standard futures maintain the vital economic anchor of a fixed expiration date, forcing paper speculation to ultimately reconcile with the physical supply chain. Introducing unanchored perpetuals simply to cater to round-the-clock trading profiles is a hazardous misstep that threatens to

corrupt foundational pricing benchmarks. To safely support legitimate 24/7 commercial demand, regulators should reject the introduction of perpetual contracts entirely and focus instead on fortifying standard futures complexes through advanced **Portfolio Cross-Margining**[15] and **Intent-Based Pricing (IBP)**[2] systems that safely absorb international capital while insulating real-world supply chains from financial alchemy.

33. *What data currently exists regarding the actual users of perpetual contracts in existing non-digital-asset markets; does this data provide useful context for potential use in Commission-regulated markets, such as the proportion of volume attributable to hedging versus speculative activity?*

Cryptocurrency operates as an inherently native, 24/7 digital trading activity backed by global liquidity to derive a continuous, spot price across decentralized venues at any given funding interval. In stark contrast, physical commodities like crude oil and natural gas are fundamentally bound to legacy delivery frameworks and geographical infrastructures, where a significant portion of volume – such as 20% to 30% of WTI crude on NYMEX – trades during overnight sessions in Asia and Europe. Consequently, forcing an expiration-free perpetual structure onto these storable assets during lightly traded off-hours windows will yield poor underlying price discovery, rendering the contract structurally unstable and unusable for legitimate commercial risk management.

34. *Are there energy commodities for which a perpetual contract would be particularly well-suited or particularly ill-suited, and what characteristics of the underlying commodity and of the perpetual structure—separate from the contract's trading schedule—are the source of that distinction? E. Effects on the Underlying and Related Markets, Commercial Hedgers, and the Public Interest.*

The structural effectiveness of a perpetual contract depends heavily on the presence of robust trading volume and deep, continuous liquidity in the underlying benchmark market. For heavily traded, global benchmark energy products – specifically WTI Crude, Brent Crude, Henry Hub Natural Gas, and prominent regional power futures – there is sufficient baseline trading volume and overnight interest to potentially support effective underlying price discovery. However, for more lightly traded local delivery products, such as Rotterdam barges, underlying price discovery is structurally thin and irregular. Forcing a perpetual futures contract onto these illiquid, localized delivery assets would result in unreliable reference metrics, rendering the usefulness of such contracts questionable.

The appropriateness of a candidate energy commodity is dictated by the availability of true 24/7 liquidity setting the underlying price. For example, while WTI crude trades heavily off-hours on Globex and exhibits active overnight volume, it typically experiences very little overnight activity, resulting in sporadic trading and wide off-hours spreads. To prevent severe reference price distortions, any product that relies on low daily volume or light trading should be excluded from perpetual listing, as these thin environments can be easily manipulated by predatory actors.

NOTE: Platforms like Hyperliquid,[16] already trades 24/7 perpetuals for oil and precious metals. Keeping in mind our response to Q33, policy makers may observe its performance to analyze how these continuous off-hours sentiment shifts interact with traditional standard futures pricing.

35. *To what extent, if at all, could trading volume in a perpetual energy contract—including during overnight and weekend periods—affect price formation in the standard futures contract it references, including front-month price discovery?*

[15] https://www.federalregister.gov/documents/2026/06/30/2026-13182/joint-request-for-comment-on-further-implementation-of-portfolio-margining-and-cross-margining-of
[16] https://www.cnbc.com/2026/08/21/wall-streets-existential-crisis-over-perpetual-futures-the-24/7-security-on-steroids-just-got-urgent.html

What data would demonstrate the presence, absence, or magnitude of any such effect, and how would it be distinguished from ordinary cross-market price relationships?

An unanchored perpetual market should not affect the price of the underlying asset, because the underlying spot price itself is the primary baseline input used to calculate the automated funding payouts at each interval. However, because modern trading venues do not operate in an informational vacuum, standard futures participants and automated quantitative algorithms actively monitor external sentiment indicators. If participants observe the long and short sides on a prominent perpetual venue moving in a manner that indicates the market collectively believes the crude oil spot price is too high or too low, outside markets will react to this abrupt switch in sentiment, directly altering underlying trading behaviors on regulated domestic exchanges.

To mathematically demonstrate and isolate the magnitude of this effect, the Commission should mandate empirical tracking of changes in sentiment across existing continuous platforms currently listing energy products, such as Hyperliquid. By statistically analyzing whether the underlying price moves in lockstep with perpetual sentiment shifts, regulators can verify the presence or absence of a causal feedback loop.

For example, consider a hypothetical scenario where the physical price of WTI crude sits at $70 a barrel, but the corresponding perpetual contract price rises to $71, meaning short-position holders receive a cash payout from the longs at the next automated payoff window. If a sudden macro or social media rumor causes a mass migration of capital out of long positions and into shorts, the contract price will drop rapidly as participants sell out of longs and buy into shorts. If this selling velocity pushes the perpetual contract price significantly below the spot price, it shifts the trading tide: participants will begin buying long perpetual contracts either to cover their short positions or to go long at a perceived discount, causing the contract price to rise again. This rapid "*off-hours fluctuation*" can be interpreted by the standard underlying market as a genuine signal of negative economic sentiment, causing the standard futures price to drop when normal hours resume.

To measure this specific distortion and distinguish it from healthy cross-market price relationships, regulators must analyze underlying price moves over microsecond intervals to verify if they match or lag the short-term moves on the perpetual futures price. Ultimately, because perpetual futures fundamentally rely on the underlying price and feature a self-correcting payoff mechanism that penalizes prices that stray too far from the cash benchmark, the long-term structural swings in either direction will remain naturally limited, ensuring the underlying physical price continues to act as the primary anchor driving the perpetual futures price, rather than the reverse.

36. *Commercial participants such as producers, refiners, and end-users rely on standard futures contracts to hedge cash-market exposure. To what extent, if at all, could listing a perpetual contract affect the volatility, margin requirements, or reliability of those standard futures contracts for hedging purposes? What safeguards, if any, would be appropriate to address any adverse effect on commercial hedgers, and what are their costs and benefits?*

Commercial product hedgers – including power producers, natural gas storage firms, and industrial energy consumers – rely heavily on standard futures and options contracts to insulate their operations from the risk of adverse price swings. Under standard market conditions, the introduction of a perpetual contract should not directly impair a commercial participant's ability to hedge on traditional venues. Because perpetual contracts listed on DCMs are structurally designed to integrate the underlying spot price directly into their pricing models and funding-rate mechanisms, they possess an inherent, natural buffering feature. This structural anchor forces the perpetual contract price to continuously converge toward the physical underlying, which naturally limits the long-term disruptive impact these contracts can exert on standard benchmark volatility and margin requirements.

To illustrate this buffering mechanism, the submission notes a scenario where a predatory actor attempts to manipulate the market by heavily flooding the short position on a perpetual future at a time when the current spot price sits below the contract price. Aggressive imbalance would trigger an automated funding payout, incentivizing holders of the long position to begin trading out of their exposure over several successive payoff periods, which programmatically forces the perpetual contract price back down. While traditional futures traders could monitor this off-hours sentiment, observe the expanding short interest, and react by selling off standard futures, the self-correcting design of the perpetual payoff mechanism structurally limits the severity of these spillover distortions.

To accurately measure these dynamics, the Commission should launch a tightly controlled pilot project restricted to a few key benchmark energy products, tracking relative directional movements and percentage changes between the physical underlying and the perpetual futures price over a defined sampling month to verify statistical correlations and safeguard commercial hedging environments.

37. *How should the Commission measure or assess the potential effects—whether beneficial or adverse—of a perpetual contract referencing crude oil or another physically delivered energy commodity on the underlying physical market, on commercial hedgers, and on the broader economy, including any effects on the prices of refined products or other goods? What data, methodologies, or analytical frameworks would support such an assessment?*

We suggest the Commission to run a pilot program restricted to a relatively small number of key benchmark energy products to accurately measure and assess the economic effects of perpetual contracts on physical markets, commercial hedgers, and refined goods. It should focus on tracking relative directional movements and microsecond percentage changes between the physical underlying asset and the perpetual futures market over a defined sampling period, such as a rolling month, to establish clear statistical correlations. Specifically, if data demonstrates that a sharp percentage drop or rise in the perpetual future consistently drives a corresponding movement in the underlying cash price over the sampling window, it provides the Commission with a clear, empirical baseline to measure the contract's true transmission impact and protect the broader economy from artificial price distortions.

F. Continuous Observability without Safeguards invites Exploitation and Vulnerability to Reference Price Distortion

Fallacy of the "Continuous" Reference Price: Traditional energy markets rely on concentrated, highly liquid pricing windows (such as the daily settlement close) to establish authoritative reference points for the global physical economy. Moving to a continuous observability model spreads this volume thin over a 24-hour cycle. During overnight sessions or weekend windows when trading activity is structurally low, the streamed "*reference price*" ceases to reflect real-world supply and demand, instead reflecting the erratic movements of thin-liquidity order flow.

The push to artificial limit: When continuous observability is applied to unanchored energy perpetual contracts and hyper-gamma 0DTE options, it creates an optimal hunting ground for automated snipers. High-frequency algorithmic platforms use continuous data feeds to run predatory pattern-recognition scripts during off-hours. Because there is no fixed expiration date to anchor the contract to physical realities, an adversary can execute a sequence of small, highly leveraged trades at 2:00 AM to deliberately push the continuously observed reference price to artificial limits.

Legacy Detection Failure: This continuous distortion creates a fundamental tracking gap for legacy regulatory monitors. Traditional surveillance models rely on price-based metrics (such as "*Z-score*" volatility anomalies) to spot manipulation. In a continuous environment, however, where event risk ("the **cause**") is decoupled from price action ("the **effect**") via complex prediction market event contracts/ 0DTE/perpetual structures, these models collapse into a mountain of false positives. They are entirely unable to distinguish between a legitimate participant executing a complex hedging edge and a toxic actor executing a coordinated manipulation campaign.

38. *Appendix C to part 38 provides that a cash-settled contract is not readily susceptible to manipulation only where the settlement price is reliable, acceptable, publicly available, and timely, and is computed from a cash market that is sufficiently liquid and not itself readily susceptible to manipulation. Is there a cash price series for crude oil, or for specific grades, that satisfies those factors and that could serve as a reference price observable at every funding interval? Please describe the series, its computation methodology and governance, and the venues and transaction volumes from which it is derived. If no such cash price series is available at every funding interval, does the perpetual structure nonetheless require one; alter natively, if a non-spot reference (the futures price, an assessed physical price, or a composite index) is used instead, what are the reliability and manipulation-resistance implications?*

    There is currently no cash price series for crude oil, or for any specific grade, that satisfies the strict requirements of Appendix C to Part 38 to serve as a reliable reference price observable at every continuous funding interval. Private, bilateral negotiations directly between producers and buyers establish real cash prices for physical crude oil grades, meaning these individual transactions are not reported to the public on a time-ordered, continuous basis.

    Furthermore, physical cash deals are highly sensitive to immediate, hyper-local operational conditions; a seller with excess oil trapped inland may offer a sudden 10% discount simply to clear storage space, whereas a refiner facing an emergency infrastructure breakdown may pay an extreme premium for immediate delivery. If an unanchored perpetual contract captures these private, fragmented blips at a random funding interval, the resulting settlement metric will experience extreme "*data wobble*," rendering it an unreliable hallucination that fails to meet the compliance benchmarks of the CEA.

    Because a continuous, liquid cash price series is unavailable, anchoring a perpetual contract to non-spot alternatives introduces severe manipulation vulnerabilities that undermine price discovery. If a DCM references its own electronic futures price or a third-party exchange feed during thin-liquidity weekend windows, the system becomes highly vulnerable to gaming. A predatory actor holding an outsized perpetual position can execute a sequence of small, highly leveraged wash trades on the illiquid "*off-hours*" futures book at minimal capital cost, artificially driving the benchmark price to trigger a massive payout at the next funding interval.

    Utilizing price assessment surveys fails the continuous visibility test due to lagging publication windows, while utilizing a composite index introduces an inherent valuation lag that makes accurate real-time hedging valuation exceptionally difficult for professional risk managers. To satisfy Appendix C without choking off market openness, the CFTC must recognize that standard futures contracts listed on certified exchanges remain the only valid, manipulation-resistant mechanism for price discovery, provided that thin off-hours feeds are protected by an active defense framework that levies an information tax to turn predatory data manipulation into direct funding that reinforces market stability

39. *To what extent is price discovery for crude oil and other energy commodities located in the futures market rather than in a continuously traded physical cash market (and how much does this differ across energy products)? What are the reliability and manipulation implications of a perpetual contract referencing(a)the DCM's own futures price, (b)the futures price at a third-party designated contract market; (c) an assessed or surveyed physical price, or (d)a composite index, and what data may help quantify the liquidity and transaction frequency of each candidate source?*

    Price discovery for core energy products is overwhelmingly located within the transparent futures market rather than the physical cash market. The centralized futures complex serves as a superior indicator of true underlying value because it utilizes open trading mechanisms that continuously aggregate global trader sentiment and professional market-making activity. In contrast, the physical cash market relies on opaque, privately negotiated deals between individual suppliers and buyers, which frequently reflect fleeting, local operational conditions that manifest as artificial

pricing blips rather than true macro price discovery. For example, a seller with excess crude trapped in storage may execute a quick discount deal at a steep discount off the benchmark price simply to clear space, creating temporary data wobble that fails to represent genuine market-wide supply and demand.

If a DCM attempts to list an exotic, expiration-free perpetual contract, referencing either the exchange's own futures price or a third-party exchange feed introduces severe manipulation vulnerabilities during extended off-hours trading windows. Because overnight and weekend sessions are structurally thin and lack concentrated market-making depth, a trader holding a large, highly leveraged position on a perpetual contract can execute small wash trades or spoofing techniques on the illiquid futures book at minimal capital cost. This artificial activity easily drives the thin off-hours futures price in whichever direction maximizes their payout at the next short-interval funding calculation. Because the capital required to temporarily move an electronic order book outside of regular hours is remarkably low, the cost to a bad actor to manipulate a contract market price is not significant enough to deter predatory gaming.

Utilizing an assessed or surveyed physical price series compiled by price reporting agencies introduces similar structural discontinuities and completely fails the continuous visibility test. Because physical cash transactions are fundamentally private negotiated deals that fluctuate wildly based on temporary local discounts or immediate convenience premiums, a surveying entity faces the impossible mathematical problem of deciding how to accurately normalize and report that price. Forcing a real-time, time-ordered reporting mechanism onto these private sales to feed a perpetual contract's funding rate would face immense industrial resistance from commercial market participants who value transactional confidentiality. Furthermore, because these cash assessments are lagging metrics compiled at discrete daily windows, they cannot provide the real-time, continuous data stream required to calculate short-interval perpetual variations.

While a composite index that aggregates pricing data across multiple trading venues represents the safest traditional alternative by smoothing out single-venue anomalies, it introduces an inherent valuation lag that distorts real-time hedging. If the index utilizes a formula that weights prices across fragmented venues, the actual price move that drives the index up or down may be vastly larger than the minor index movement it programmatically generates. For professional risk managers and fiduciaries, this mathematical smoothing distorts the true price feed, rendering precise real-time hedging valuations exceptionally difficult and exposing portfolios to unhedged tracking errors. To evaluate the real-world operability of these candidate streams without introducing systemic risk, the CFTC should restrict continuous pricing models to a tightly controlled pilot project with a few key benchmark products to verify price integrity before permitting any broader derivatives rollout.

For electronic futures platforms, the CFTC should require auditing microsecond-level order book depth and historical transaction frequencies to actively identify outlier events that indicate wash trading or manipulative intent. For the physical cash market, data collection is extraordinarily difficult, because these are entirely private sales, capturing the data would require a draconian rule mandating that all bilateral trades be reported on a strict, time-ordered basis. Standard futures contracts listed on certified exchanges remain the only valid, manipulation-resistant mechanism for true price discovery, provided that thin off-hours electronic feeds are protected by an active defense framework that levies an information tax to penalize speculative snipers.

40. *Are there reference-price methodologies outside of the digital-asset context which could provide 24/7, manipulation-resistant observability at every funding interval, including during overnight and weekend periods of reduced liquidity? If so, please describe the methodology (or set of methodologies) and provide data demonstrating that the reference price market is sufficiently liquid and transparent at those times.*

We are not aware of any existing reference-price methodologies for physical or storable commodities capable of providing true 24/7, manipulation-resistant observability at short funding intervals during overnight and weekend periods of reduced liquidity. While traditional financial benchmarks rely on concentrated, high-volume pricing windows to ensure stability, continuous off-hours observability forces risk engines to stream prices from highly illiquid electronic order books where automated market makers are largely absent.

Having the source to report their price data, specifically cash transactions, from overseas and in the US, and gathering data from both prediction market sites and from 24-hour trading sites as reference data in seeing how much trading goes on could be a possibility to check if the last sale is consistent with sentiment. However, any attempted methodology – whether relying on synthetic indexing, cross-market foreign exchange proxies, or real-time polling of private OTC cash deals – ultimately collapses into an unstable feedback loop of "*data wobble*" and artificial pricing blips. Empirical data from illiquid overnight futures sessions demonstrates that thin order books are highly susceptible to microsecond spoofing and low-capital wash trading. Without a structural anchor like a fixed expiration date or an active defense microstructure that levies a programmatic information tax on speculative takers, a continuously observed off-hours reference price inevitably degrades into an unhedged trading hallucination rather than a reliable economic indicator.

41. *What volume, transaction-frequency, and concentration data characterize the cash and/or futures markets that any reference price would draw upon, and what do those data indicate about the susceptibility to manipulation of the given price? Please distinguish (i) references drawn from markets the Commission does not directly surveil, such as assessed or surveyed physical prices, from (ii) references drawn from a CFTC-regulated futures price. For the latter, what additional cross-market manipulation concerns arise from the funding linkage itself—for example, use of positions in the perpetual to influence the referenced futures price, or the converse, at or around the funding-calculation interval?*

G. Convergence, the Funding Mechanism, and Cost of Carry

42. *A standard futures contract achieves convergence with the underlying through a fixed expiration. For a commodity whose term structure reflects storage costs and convenience yield, how does the absence of a fixed expiration affect convergence (if at all), and what role would the funding mechanism play? Funding-rate mechanisms developed in other markets were generally designed for assets without significant cost of carry. Can a funding-rate mechanism accurately reflect physical market dynamics such as storage costs, convenience yield, and seasonality? If so, please describe how the funding calculation would incorporate these factors.*

The complete absence of a fixed expiration in a perpetual commodity contract destroys the natural economic convergence forced by physical arbitrage, as there is no terminal date where paper derivatives must reconcile with real-world delivery logistics. Because funding-rate mechanisms were natively designed for crypto-assets that carry zero physical storage costs, insurance overhead, or localized transportation friction, applying them to storable energy commodities like crude oil or natural gas creates a severe structural mismatch. A standard funding rate – which merely measures the price deviation between the derivative and a spot index – cannot accurately reflect the complex, non-linear dynamics of convenience yields, seasonal demand shifts, or the structural transitions between contango and backwardation.[17]

To mathematically simulate a cost-of-carry model within an expiration-free contract, the funding calculation would have to be fundamentally re-engineered to incorporate a dynamic, trailing cash-and-carry offset directly into the

[17] https://onlinelibrary.wiley.com/doi/pdfdirect/10.1002/fut.70092?msockid=2da03e39d16069b10a2c2983d0f46818

automated payout formula, programmatically taxing or rewarding positions based on real-time inventory utilization rates and pipeline throughput constraints. However, because physical storage capacity cannot expand or contract instantaneously over a weekend to correct a paper derivatives imbalance, this synthetic mechanism remains highly unstable, transforming the funding interval into a highly volatile transmission line that distorts foundational pricing benchmarks rather than achieving true economic convergence.

43. *What distortions, if any, could arise over extended holding periods due to the interaction of accumulated funding payments with the physical fundamentals of a storable energy commodity, including storage cycles, seasonal demand, and term structure (contango/backwardation)? In a case where there are predictable distortions, are there contract specifications that can mitigate these decisions?*

    Over extended holding periods, the compounding accumulation of short-interval funding payments in an expiration-free contract creates a "*basis bleed*" that systematically distorts the physical fundamentals of storable energy commodities.[18] Unlike traditional calendar futures where the basis predictably decays toward a fixed terminal date, a perpetual contract's continuous funding mechanism acts as an unanchored tax or subsidy that frequently moves in direct opposition to seasonal demand and storage cycles. For instance, during a structural contango regime when storage capacity is highly constrained, an artificial paper derivatives spike can force a highly volatile, inverted funding rate that programmatically rewards long positions, creating a perverse financial incentive to hoover up paper delta that completely decouples from actual inventory liquidation timelines.

    When the market shifts to a backwardation regime due to a sudden winter freeze or supply shock, the accumulated funding drag can rapidly hollow out the capital structure of long-term commercial hedgers, trapping them in an aggressive cash-drain loop that destroys their ability to maintain multi-month inventory insurance. While contract specifications could theoretically attempt to mitigate these predictable distortions by implementing an automated **seasonal smoothing multiplier** or a **volatility-capped funding collar** tethered to regional capacity utilization rates, these synthetic patches fail under real-world stress.[19] A paper perpetual contract cannot physically hold or transport a single barrel of oil, the continuous buildup of unanchored financial leverage will always override real-world logistics, turning the accumulated funding ledger into a transmission line for speculative distortion rather than an accurate reflection of physical energy fundamentals.

44. *Are there alternative convergence mechanisms, other than a funding rate, that could maintain price parity between a perpetual contract and a physical energy commodity's underlying value?*

    No comment for this question at this time.

H. Physical Delivery, Storage Constraints, and Market Stress – a Microstructure Mismatch

Tangible energy commodities are strictly bound to the laws of physical logistics, real-world storage limits, and geographical transport pipelines. Allowing expiration-free perpetuals to trade unanchored from calendar delivery months creates an artificial speculative layer. During a geopolitical crisis, the physical supply chain cannot expand or contract instantly to absorb a paper derivatives shock, threatening to completely uncouple futures prices from real-world delivery realities.

45. *Appendix C to part 38 addresses the adequacy of deliverable supply and susceptibility to squeeze and corners. What is the estimated deliverable supply for crude oil and other energy products at the relevant pricing point or points, how are*

[18] https://www.bauer.uh.edu/spirrong/economics-commodity-trading-firms.pdf
[19] https://scbwi-midatlantic.org/the-fixed-price-contract-margin-protection-guide-risk-mitigation-workflows-for-government-subcontractors/

they measured, and how do they compare to the position sizes a perpetual contract could accumulate? Please provide associated data, including any methodology used to estimate potential perpetual market activity.

Under the strict guidelines of Appendix C to part 38, the estimated deliverable supply for crude oil at the critical pricing hub of Cushing, Oklahoma, is measured based on free, uncommitted physical inventory plus the rolling multi-month throughput capacity of incoming pipelines, typically fluctuating between 40 to 60 million barrels of deliverable working storage capacity. In traditional futures markets, this deliverable supply acts as a firm mathematical constraint because the mandatory physical delivery mechanism at expiration forces large position holders to downsize or risk face execution logistics they cannot fulfill. However, because an expiration-free perpetual contract is cash-settled and completely detaches from real-world physical constraints, it can accumulate open interest positions that are multiple orders of magnitude larger than the entire physical deliverable supply of the underlying hub. Utilizing a standard open-interest-to-spot-liquidity scaling methodology borrowed from digital asset complexes, potential perpetual market activity during periods of high volatility can easily accumulate concentrated paper delta equivalent to hundreds of millions of phantom barrels. This massive, unanchored financial leverage overwhelms the underlying market, creating an acute susceptibility to short-interval "*squeezes and corners*" where speculative snipers use paper perpetual volume to distort physical reference benchmarks, rendering the contract inherently non-compliant with the manipulation-resistance mandates of the CEA.

46. *What storage capacity and utilization data characterize the relevant pricing point or points (e.g. Cushing, Oklahoma for the WTI benchmark, or the Henry Hub), and how do storage constraints influence price formation and the susceptibility of a reference price to distortion?*

The physical pricing hubs for core US energy benchmarks are characterized by rigid structural boundaries, with the WTI crude pricing hub at Cushing, Oklahoma, possessing a working storage capacity of approximately 76 to 78 million barrels, while the Henry Hub natural gas complex relies on regional salt cavern and depleted field storage capacities totaling billions of cubic feet.[20] Storage utilization data – tracked weekly by the Energy Information Administration (EIA) – massively influences price formation, as a pricing point's susceptibility to distortion rises exponentially when utilization approaches its operational thresholds: a "*tank tops*" scenario (above 80% capacity) triggers a severe contango collapse due to an acute shortage of physical storage space, while an "*operational low*" scenario (below 25% capacity) causes an explosive backwardation spike as refiners scramble for uncommitted spot barrels.

Introducing an expiration-free, cash-settled perpetual contract into these highly constrained, logistically bounded physical nodes creates a dangerous microstructural mismatch. Because paper perpetual trading can generate massive, leveraged open interest outside of regular banking hours without being constrained by actual storage physics, speculative snipers can weaponize off-hours perpetual volume to trigger artificial price moves exactly when physical inventory levels are strained, causing the continuously observed reference price to completely uncouple from real-world storage constraints and violating the manipulation-resistance mandates of the CEA.

47. *On April 20, 2020, the expiring NYMEX West Texas Intermediate crude oil futures contract settled at a negative price amid constrained storage at the delivery point. What are the implications of such physical-market dislocations for the design and resilience of a perpetual contract referencing crude oil, including for its mark price, funding payments, and any automatic liquidation processes? Are there concerns about the performance of a perpetual contract's mechanics in highly unusual price shifts, like rapid falls to below zero? The standard futures contract that experienced this episode*

[20] https://www.foley.com/insights/publications/2026/07/when-the-worlds-most-important-oil-tank-runs-dry/ ; https://www.eia.gov/naturalgas/storagecapacity/

was eventually resolved through the expiration and delivery process—the dislocation was confined to the expiring contract, while later-dated contracts traded at positive prices the same day. A perpetual has no such terminal event. Commenters are asked to address both possibilities: that a perpetual should faithfully track the underlying, so a negative reference is correctly reflected; or that it should be designed to remain resilient to such extremes—and for each, whether a mark-to-market and funding mechanism designed for positive-price assets can compute coherent values at or below zero, and how the absence of a convergence event to resolve the dislocation affects performance.

The catastrophic sub-zero settlement of the expiring NYMEX WTI contract on April 20, 2020, exposes a fundamental **architectural flaw** in the design and resilience of a perpetual commodity contract: *a perpetual contract lacks the terminal delivery mechanism required to isolate and resolve physical-market dislocations*. Traditional futures contracts are designed to confine extreme constraints – such as a localized storage shortage at Cushing – to the expiring front-month contract, allowing later-dated maturities to continue trading at rational, positive values. Because an expiration-free contract features no such terminal event, a localized physical storage shock cannot be naturally defused; instead, it is permanently locked into a continuous derivatives loop.

If a perpetual contract is forced to "*faithfully track*" a negative underlying reference price, its mark price, margin rules, and funding payment calculations. Given contract price on a future cannot go negative (it can in options using European options like ratio spreads), this collapses into a structural matrix error, as the automated funding mechanism would begin perversely forcing long positions to receive cash payouts for holding a bankrupt asset while short-sellers are penalized. Conversely, if the contract is designed to "*remain resilient*" by imposing an artificial price floor at or near zero, the perpetual contract completely severs its link to the underlying spot market, transforming the derivative into an unhedged trading hallucination.

In either scenario, the automated liquidation protocols would trigger un-executable margin demands during off-hours sessions, trapping the clearinghouse in an unstoppable liquidation cascade where the absolute absence of a physical convergence checkpoint ensures that paper distortions permanently corrupt foundational energy pricing benchmarks.

48. *How would a perpetual contract behave differently than a standard futures contract during episodic supply shocks characteristic of energy markets, including geopolitical disruptions, supply decisions by major producers, severe weather, and infrastructure outages? In particular, how would the absence of a fixed expiration and the presence of 24/7 mark-to-market, funding, and liquidation mechanics affect that behavior relative to a standard contract? What risk of liquidation cascades during such events is supported by any available data on historical volatility and price jumps/gaps?*

During an episodic supply shock – such as a sudden geopolitical disruption, a surprise production cut by a major cartel, or a catastrophic infrastructure outage – a perpetual contract would behave abnormally, in a highly non-linear manner compared to a standard futures contract (due to elimination of the Forward Curve and term structure, Bias Bleed, Weekend Banking Wall, etc.) significantly magnifying systemic risk. Traditional futures handle supply shocks through transparent shifts in the term structure, where near-term delivery months adjust rapidly to physical constraints while farther-dated contracts act as macroeconomic dampers.

A perpetual contract removes this orderly curve segmentation, forcing the entire weight of a physical shock into a singular, unanchored financial ledger governed by 24/7 mark-to-market and short-interval funding updates. Operating outside of standard banking hours when institutional market makers are locked behind the weekend wall, these continuous liquidation mechanics create a catastrophic vulnerability to off-hours price jumps and gaps. Historical volatility data from unregulated cryptocurrency complexes and sudden energy market gap events demonstrates that

when a physical supply shock interacts with automated, continuous leverage, the short-interval funding updates trigger a self-reinforcing "*Gamma Cascade*."[21] Because a paper perpetual contract cannot physically store or transport a single barrel of oil to relieve a localized bottleneck, the automated risk engines are forced into an unstoppable liquidation loop, dumping long or short positions into a hollow, thin-liquidity book and draining the central clearinghouse guarantee fund before regular business hours can even open.

49. *Given that a perpetual contract provides no delivery, does its design need to account for the storage, logistics, and deliverable-supply constraints that drive price formation in the underlying physical market; if so, under what circumstances and through what mechanism, given that a perpetual lacks both the delivery process and the fixed expiration through which a standard futures contract internalizes those constraints?*

    For a perpetual contract provides no physical delivery and lacks a fixed expiration date, its design cannot natively internalize the storage, logistics, and deliverable-supply constraints that drive price formation in the underlying physical market. Instead, these physical carrying costs and operational constraints must be factored in upstream, embedded directly within the external reference prices or highly liquid benchmark datasets (such as Globex data for WTI crude) that the perpetual market uses for its payoff intervals. If a perpetual contract attempts to trade on an underlying commodity that is thinly traded or lacks robust, around-the-clock physical liquidity, the lack of an active market-making anchor ensures that the contract price will perpetually drift away from reality, leaving the contract highly vulnerable to speculative manipulation and social media meme-trading influence.

I. Susceptibility to Manipulation, Surveillance, and the Compliance Demonstration

50. *Core Principle 3 requires a DCM to list only contracts not readily susceptible to manipulation. For a perpetual contract, the reference price must be reliable at every funding interval on a continuous basis rather than at a single settlement. What features would such a contract require to satisfy Core Principle 3 on that continuous basis, and what data demonstrates that such reliability is (or is not) achievable for crude oil and other energy commodities?*

    To comply with Core Principle 3, a perpetual contract requires a highly reliable settlement price that is completely insulated from manipulation at every funding interval on a continuous basis. The only way to safely achieve this continuous reliability for crude oil and other energy commodities is to list perpetual contracts exclusively where there is already a robust, highly liquid underlying market trading around the clock.

    For example, because WTI crude trades with deep liquidity off-hours on Globex, a perpetual contract utilizing that specific data stream can satisfy Core Principle 3. However, if a contract attempts to reference a thinly traded commodity or an illiquid delivery point, the underlying reference price can be easily gamed.

    In a thinly traded environment, predatory actors can coordinate a manipulation campaign to exploit the automated funding intervals. A bad actor could build an outsized short or long position on the perpetual future, manipulate the trade price on an illiquid underlying exchange, capture a massive cash payout at the next funding interval, and immediately exit the market. Furthermore, while a deep benchmark product like WTI possesses a structural liquidity moat that resists sudden manipulation, a lightly traded energy commodity is highly vulnerable to artificial sentiment shifts, including meme-trade influence driven by unvetted social media campaigns. Core Principle 3 compliance cannot be achieved unless the CFTC restricts perpetual listings to deeply liquid, robustly traded benchmark assets.

[21] https://www.tse-fr.eu/articles/intermediary-leverage-shocks-and-funding-conditions

51. *How could the timing of a funding-interval calculation be protected against manipulation, particularly during overnight and weekend windows of reduced liquidity?*

To protect the timing of a funding-interval calculation from predatory manipulation during overnight and weekend windows of reduced liquidity, exchanges must transition away from rigid, predictable time slots and implement dynamic, liquidity-weighted interval extensions. When funding payout markers are fixed and known in advance, they serve as a stationary target for high-frequency algorithms and speculative desks. In a thinly traded time of day, lengthening the interval window acts as a primary structural defense because it forces an adversary to sustain their artificial price distortions over a significantly longer timeline. This extension drastically alters the risk-reward equation for the attacker, turning a rapid, low-cost microsecond raid into a highly capital-intensive operation that exposes the manipulator to genuine market risk across the extended tracking window.

The critical necessity of this defense is illustrated by a clear game-theoretic example of an off-hours funding raid.

> Suppose an exchange operates an energy perpetual contract with a fixed 8-hour payout interval, setting the next automated settlement print at exactly 10:00 PM EST.
>
> A predatory customer holding an outsized long position on this thinly traded commodity can exploit the system's structural predictability.
>
> At 9:00 PM – precisely one hour before the calculation print when order book depth is at its lowest – the customer creates a sequence of aggressive, semi-wash trades on the underlying 24/7 future to artificially bump the last sale price well above the current perpetual contract price.
>
> At the 10:00 PM checkpoint, the automated risk engine captures this distorted index, forcing a massive, unearned cash transfer directly to the long position.
>
> The manipulator pockets the alpha and immediately trades out of their long position before regular, deeply liquid market hours resume on Monday morning, converting the contract into a **private gaming loop**.

Crucially, implementing longer calculation windows during off-hours interfaces with a natural microstructural constraint: the "*meager payout*" reality. Because a perpetual contract's funding mechanism is a zero-sum capital transfer between longs and shorts, any payout is strictly capped by the volume of counterparty open interest. During overnight and weekend sessions, there are typically very few long positions active on a thinly traded product. While the mathematical potential to manipulate the reference price is significantly greater due to thin liquidity, the actual cash reward generated by the attack may be remarkably meager.

By mandating that the exchange risk engine automatically stretch the funding interval when trading volume drops, regulators can programmatically force the capital cost of executing the wash trades on the underlying future to exceed any minor derivative payouts available on the contract side, rendering off-hours manipulation entirely uneconomic.

52. *Core Principle 4 requires a DCM to monitor trading and the underlying market to prevent manipulation, price distortion, and disruption of the delivery or cash-settlement process. What surveillance capabilities—across the perpetual contract, related futures and options, and the underlying physical market, on a continuous basis—would be necessary to satisfy Core Principle 4 and are those capabilities currently feasible? What access to physical data or information-sharing arrangements would be required over and above those used for existing energy futures?*

To satisfy Core Principle 4 in a continuous, 24/7 trading ecosystem, a DCM must transition from legacy post-trade auditing to a unified, multi-asset Agentic AI real-time surveillance infrastructure. Because perpetual contracts

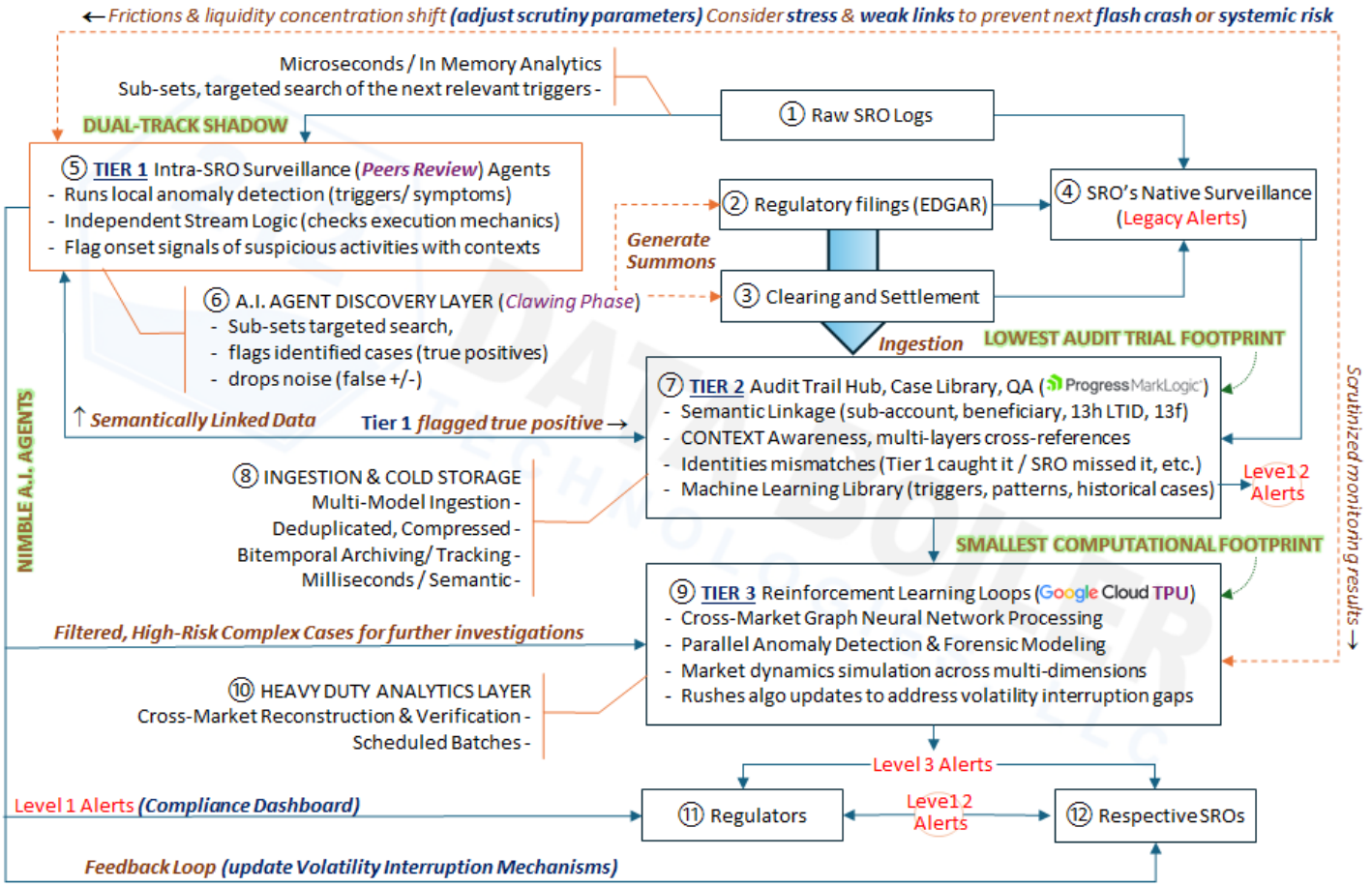
compress the multi-month forward curve into a singular ledger and trade outside standard business hours, a failure in one corner of the market can trigger a cross-asset cascade within microseconds. Such surveillance system would need to operate across three asset layers simultaneously on a sub-second basis:

- Sub-Second Order-Book Imbalance (OBI) Tracking
- Algorithmic "Look-Across" Cross-Asset Monitoring
- Sub-Second Margin and Collateral Auditing

Require data access to granular physical and OTC datasets and information-sharing arrangements:

- Live Physical Repository Feeds
- Bilateral OTC Swap Clearinghouse Access[14]
- Cross-Border Exchange Memorandums of Understanding

Technically, TPU can handle the complex computational challenge. Yet, it also needs semantic database to fabricate the fragmented futures and swap data, as well as overcoming any resistance to share data due to confidentiality. Our proposed Dynamic IP Licensing and Intent-Based Pricing Model would help support this Agentic AI market monitoring. See **Annex 2** on pages 52-60 of our June 22, 2026 comment letter to the SEC on Consolidated Audit Trail (CAT)[22] for an elaborate discussion our design for a **Distributed/ Federated, Event-Driven Agent Topology**.



[22] https://www.databoiler.com/index_htm_files/DataBoiler%20SEC%20CAT%2020260622.pdf

53. *What would a DCM be required to demonstrate to establish that a perpetual contract on crude oil or another energy commodity is not readily susceptible to manipulation, consistent with Core Principle 3 and the guidelines in Appendix C to part 38? Based on currently available information and data, can such a demonstration be made, and if so, on what evidentiary basis?*

See our response to Q52.

The analysis should include, but not limited to, reviewing the payout on a perpetual future on a time series basis if there is an extraordinarily large payout on the short or long side that does not match typical payouts for that time of day, a "*blip*" inexplicable in the underlying price or a global event that caused the payout to be large.

J. Position Limits and Accountability

54. *NYMEX West Texas Intermediate crude oil is a core referenced futures contract subject to federal speculative position limits under 17 CFR Part 150, with spot-month limits tied to estimated deliverable supply. How would a perpetual contract referencing such a commodity be integrated into the Part 150 framework, given that it has no delivery and no expiration (e.g. should the perpetual be considered economically equivalent to the referenced contract, inheriting the associated limits)? Commenters are invited to evaluate that approach and any alternatives, including the threshold question whether such a perpetual is economically equivalent to the referenced contract.*

An expiration-free perpetual contract is **NOT economically equivalent** to a standard, physically delivered futures contract, making a direct copy-paste of the 17 CFR Part 150 framework structurally incompatible. Standard NYMEX WTI futures are bound to the physics of fixed delivery months, where spot-month position limits are mathematically tied to the estimated deliverable supply of physical infrastructure hubs, forcing speculators to downsize exposure to prevent physical corners or squeezes. A perpetual contract, by contrast, operates as a cash-settled financial index with an infinite maturity horizon, meaning it faces no physical delivery bottlenecks and can accumulate massive paper positions that are multiple orders of magnitude larger than the physical infrastructure core. Attempting to classify a perpetual as "*economically equivalent*" and forcing it to inherit standard spot-month limits is a regulatory fiction; because a perpetual contract has no defined expiration date, it has no native "*spot month*" to restrict, rendering a traditional spot-limit step-down mechanism entirely mathematically irrelevant.

The structural design of the perpetual contract introduced an "**annuity inversion**," it exacerbates risk by creating an unbounded volatility horizon. To integrate perpetual contracts into the Part 150 framework without corrupting physical benchmarks, regulators must reject nominal spot equivalence and implement alternative, dynamic contract specifications. Instead of traditional spot-month caps, the CFTC should enforce a **Global Open Interest Tracking Cap** combined with a **Delta-Adjusted Accountability Tier** that aggregates a participant's cross-asset exposure across perpetuals, 0DTE options, and calendar futures simultaneously.

If a speculator accumulates an outsized position on the perpetual venue, their position limits must be dynamically adjusted downward based on real-time order-book imbalance (OBI) metrics and trailing physical storage capacity metrics at Cushing, Oklahoma. This dynamic framework is vital to ensure that if a predatory participant attempts to use massive, unanchored financial leverage to manipulate the reference index during thin off-hours windows, their position sizes are automatically scaled back by automated risk engines, effectively neutralizing the economic incentive for cross-market manipulation and protecting the integrity of the broader physical energy economy.

55. *The spot-month limit applies during a defined period approaching the referenced contract's expiration and is set as a percentage of estimated deliverable supply. A perpetual contract has no expiration, and therefore no spot month, and makes no delivery. How, if at all, can or should a spot-month limit be applied to a perpetual? Should a perpetual*

position be treated as continuously within the spot month, never within it, or mapped to the spot month of the referenced contract as it rolls—and what are the consequences of each for the limit's effectiveness?

Again, it makes no economic sense to apply limits based on the current spot month limits. The perpetual future is cash only and the limits on the spot month would of course affect the trading price, if the limit is reached then buying into that product becomes more expensive because the supply limit has been reached, but the perpetual future market does not care because they have only cash, no physical delivery. It is possible that a position limit on the underlying could cause a *wobble* in the underlying price and shift the payment from short to a long.

56. *Because a perpetual's mark and funding reference a price that converges to physical delivery only through the referenced contract, a large perpetual position may create an economic incentive to influence the referenced contract's price during its spot month without the perpetual itself participating in delivery. To what extent does an uncapped or differently capped perpetual position aggregate that incentive, and could it facilitate the spot-month manipulation that position limits are designed to prevent? What aggregation or limit design would address this, and is it achievable for a contract with no delivery and no expiration?*

An uncapped or poorly capped perpetual position creates an aggressive, highly dangerous economic incentive to manipulate the standard futures contract during its spot month, transforming the perpetual into a high-leverage launchpad for cross-market predatory raids. Because a perpetual contract relies on a short-interval funding rate to achieve convergence, its payout is directly tied to the price of the referenced contract.

A sophisticated adversary can accumulate a massive, uncapped position on the perpetual venue and, instead of trading on that exchange, deploy a fraction of their capital to intentionally distort the referenced front-month NYMEX contract during its illiquid spot-month close. By executing aggressive wash trades, spoofing patterns, or marking-the-close tactics on the underlying standard future, the attacker creates an artificial price move that triggers an outsized, multi-million-dollar cash transfer directly to their perpetual position at the next funding interval. This asymmetric capital loop completely bypasses the physical delivery constraints that traditional position limits are designed to police, allowing speculators to trigger severe spot-month squeezes and artificial price corners without ever handling a physical barrel of oil or participating in delivery logistics.

To effectively neutralize this cross-market gaming loop, regulators must reject standard single-venue limits and implement a Unified Delta-Cross-Aggregation Limit Design built directly into the exchange microstructure. Under this framework, a market participant's total open interest across the perpetual venue must be mathematically aggregated in real-time with their front-month and back-month calendar futures, swaps, and options exposure on a delta-equivalent basis. As the referenced contract enters its critical spot-month window, the perpetual position cap must dynamically step down on a rolling basis, tethered directly to the order-book imbalance (OBI) and actual storage capacity utilization rates of the underlying physical delivery hub.

This dynamic design is entirely achievable for a contract with no delivery and no expiration by utilizing automated risk engines that continuously audit portfolio concentrations. If a participant's cross-asset exposure crosses an automated accountability tier during thin off-hours trading, the system programmatically scales back their position or adjusts their funding-rate multiplier, ensuring that the capital cost of attempting to manipulate the standard spot-month contract will always mathematically exceed any potential payouts on the perpetual side.

57. *How would spot-month limits, the delivery-month step-down, and aggregation requirements apply to a contract without a defined delivery period? Should perpetual open interest be treated as spot-month-equivalent, made subject to a separate limit, or addressed through position accountability levels instead?*

For a perpetual contract lacking a defined delivery period, attempting to copy-paste traditional spot-month limits or delivery-month step-downs is a mathematical impossibility that opens severe regulatory blind spots. Because an expiration-free contract operates entirely outside the boundaries of physical delivery logistics, its open interest should never be treated as spot-month-equivalent.

Instead of forcing an artificial delivery framework onto a cash-only asset, one may consider utilizing a bifurcated **position accountability framework** that treats the perpetual future like a cash-settled predictive market while explicitly accounting for its cross-market impact. Under this design, the perpetual contract is subject to its own separate, continuous position limits during standard regimes to prevent speculative concentrations.

However, the moment the referenced underlying futures contract enters its physical spot month, the perpetual position must automatically trigger enhanced **Position Accountability Levels** linked to a cross-market delta aggregator. If a participant's perpetual holdings cross these automated accountability tiers during thin off-hours windows, automated risk engines must programmatically evaluate their net global exposure – including options and swaps – and scale down their position sizes if their paper leverage threatens to distort the 76 to 78 million barrels infrastructure core at Cushing, Oklahoma.

58. *How would the bona fide hedging definition, which is framed around offsetting cash-market risk and the delivery process, apply to positions in a perpetual contract?*

A perpetual contract can qualify as a bona fide hedging position if it is used to offset price risks in a commercial operation and meets the economic and substitution criteria. The absence of a fixed delivery date does not disqualify it, but the position must remain aligned with the hedging objective and be managed in line with sound commercial practices. A perpetual future can act as a "*natural hedge*" for cash market participants, the same way they can with traditional derivatives. One can take a long or short position to obtain payout if their cash market position goes south (i.e., short if the price drops on a delivered product, or long if it goes up), or can also trade in and out of positions on the perpetual future to hedge risk. Do keep in mind though, the structural design of the perpetual contract introduced an "**annuity inversion**," it exacerbates risk by creating an unbounded volatility horizon.

59. *Would the introduction of a perpetual contract affect the integrity or administration of position limits in the related standard futures contract, and if so, how?*

See our response to Q54 and Q56. The structural design of the perpetual contract introduced an "**annuity inversion**," it exacerbates risk by creating an unbounded volatility horizon. Allowing unanchored, exotic **perpetual futures** to infect core physical energy supply chains is an unacceptable systemic hazard. It threatens the pricing benchmarks relied upon by the physical economy simply to subsidize an isolated, hyper-**leveraged** trading loop. We have reservations in allowing energy perpetuals into the Financial Alchemists' tool bag.

K. Clearing, Margin, and Default Management

60. *What clearing, margining, and default-management considerations differ from, or arise in addition to, those applicable to an existing cleared futures contract on the same commodity for a perpetual contract referencing an energy commodity, particularly given continuous trading, the absence of expiration, and the potential for rapid price movement during physical-market stress?*

The big concern with perpetual markets is calculating the proper mark-to-market price and verifying that users using margin have sufficient margin on their account to cover active orders they have and cancelling them if their margin drops too low. With lack of expiry and the potential swings that happen because of the nature of perpetual futures, it is critical that this be monitored in real time and acted upon quickly.

61. *Existing margin frameworks already respond to rapid price movement in volatile energy contracts; are there any additional protections or framework changes that should be incorporated to ensure adequate margin coverage for a perpetual. In what ways should initial and maintenance margin be calibrated differently for a leveraged, no-expiration contract on a volatile energy commodity, and or uniquely respond to changes in physical-market conditions? In particular, how should margin models account for funding-rate risk—the risk that continuously accruing funding obligations become large or volatile during stress—and for the ongoing nature of that obligation given the absence of expiration?*

    To manage systemic defaults without shrinking the market, the US must deploy advanced joint CFTC-SEC **Portfolio Cross-Margining** frameworks. Offering steep capital efficiency discounts to participants who integrate their global offshore books into transparent US risk systems creates an economic hook. It forces transparency through market incentives while over-collateralizing shadow risks.

    It would require having a model to look at not just the margin on one user position but across the system, calculating the theoretical contract price of a perpetual market near the next payout period, calculate out the theoretical payment, etc. It takes timely action to consider trade suspension if needed to weed out systemic risk. Waiting until the payout period happens that depletes the margin is risky.

62. *What automatic liquidations or risk-mitigation mechanisms, if any, would be appropriate, and how can they be designed to avoid amplifying price movements during periods of market stress?*

    There needs to be mechanisms to remove high margin users who have the potential to go bust in a window near the expiration window. Also, there should be a mechanism where with the approval of the CFTC, if the underlying market price has gone chaotic, where the DCM can suspend or halt activity on the perpetual future, including payouts, until the underlying market is deemed to be stabilized again.

63. *What operational considerations do the calculation and settlement of funding payments on a continuous basis, including banking and settlement cycles and the treatment of funding obligations in a default?*

    To manage fast-trading risk, payout cycles require explicit liquidity backing – such as CHIPS or bank credit facilities – to absorb potential shortfalls.

L. Customer Protection, Leverage, and Access

64. *What customer-protection considerations—including suitability, disclosure, and the risk of rapid loss—arise from offering a perpetual contract on a geopolitically sensitive physical commodity to retail participants?*

    Perpetual futures are NOT suitable for retail, but the risk could be acceptable to sophisticated institutional investors. The structural design of the perpetual contract introduced an "**annuity inversion**," it exacerbates risk by creating an unbounded volatility horizon. Unregulated leverage and complex cross-asset offsets risk creating a tiered financial *Animal Farm*, where institutional elites capture massive margin discounts while retail brokers and day-traders absorb the residual volatility. To protect the public, the CFTC must standardize access rules, mandate algorithmic "*look-across*" circuit breakers to freeze options when offshore derivatives diverge, and centralize **Discretionary Claw Backs** to strip 100% of the alpha from predatory snipers during periods of market stress.

    The maximum loss on perpetual futures can exceed the initial wager. It should be ban from offering to retail or it should require restrictive limits, including 100% pre-fund, limiting a user position to less than US$1,000.

65. *Should access to perpetual contracts on energy commodities be limited to certain categories of participants, such as eligible contract participants, tiered by sophistication, or otherwise condition? What are the costs and benefits of any such limitation? M. Cross-Asset Criteria, Line-Drawing, and Miscellaneous*

    It should be limited to eligible contract participants only, no retail.

66. *What objective and generally applicable criteria should the Commission consider in determining whether a given underlying commodity can support a perpetual contract consistent with the Core Principles—for example, the existence of a continuous, transaction-based reference price meeting the standard in Appendix C to part 38; the degree of storage-, delivery-, or logistics-driven price formation compatibility with the position-limits regime; or demonstrable continuous manipulation-resistance? Are there additional or alternative criteria the Commission should consider?*

    If the commission is going to allow perpetual futures on a particular commodity, there are several considerations:

    a) It should be a relatively liquid underlying contract with levels of trading that are not light or small. Such a market would allow a bad actor to potentially manipulate things with the underlying that could make them a lot of money on the perp future related to it.

    b) There needs to be clear method of determining the spot price and should be based on the last sale on a certified exchange or operator. The cash market price often revolves around local conditions, like someone getting a discount to take a large quantity off the providers hands, and could cause issues with a perp market payout price.

    c) The underlying commodity has an established record, if the underlying is a new product or has switched exchanges, there should be a waiting period before allowing it to be associated with a perpetual future.

67. *When applying any such criteria, are there energy commodities that are clearly appropriate, clearly inappropriate, or genuinely uncertain candidates for a perpetual contract, and if so why?*

    There are certain candidates that as long as there is active trading on the product, are prime candidates. These would be the benchmark products, WTI or Brent Crude, Henry Hub Natural gas or regional power futures. There is enough trading on these, and enough interest, that such perpetual futures may serve some commercial interest.

    We have particularly concern with Nickel trading.[23] Certain foreign metal markets have experienced systematic fraud, market disruptions, or in flight to dethrone the US dollar.[24] Products traded on foreign exchanges where the reporting rules, especially delimitation of the underlying price is not done on a timely fashion, could be a red flag.

    Also, any product where the daily volume is low, where trading is light, should NOT be considered, because these can be manipulated. In addition, any product that relies on the cash market of physical trading should NOT be allowed, because those prices are not always reported in a timely fashion and the reporting of these could be used to manipulate a market.

[23] https://www.straitstimes.com/singapore/courts-crime/billion-dollar-nickel-scam-ng-yu-zhi-spent-7m-on-luxury-cars-he-gave-to-wife-girlfriends

[24] https://www.fastmarkets.com/insights/nickel-market-reacts-to-trafiguras-shocking-fraud-allegations/ ; https://www.financialresearch.gov/briefs/files/OFRBrief-25-01-lessons-from-trade-cancellation-at-the-lme-in-march-2022.pdf ; https://oilprice.com/Energy/Energy-General/Iron-Ore-Becomes-a-Battlefield-in-Chinas-Fight-to-Dethrone-the-Dollar.html