



James J. Angel, Ph.D., CFP®, CFA
Associate Professor of Finance
Georgetown University¹
McDonough School of Business
Washington DC 20057

[REDACTED]

January 16, 2023

Securities and Exchange Commission
100 F St. NW
Washington, DC 20549-9303
Rule-comments@sec.gov

Re: 24X Exchange
File No. 10-239

Dear SEC:

¹ All opinions are strictly my own and do not necessarily represent those of Georgetown University or anyone else. I am very grateful to Georgetown University for financial support. Over the years I have served as a Visiting Academic Fellow at the NASD (predecessor to FINRA), served on the boards of the EDGX and EDGA stock exchanges, served as Chair of the Nasdaq Economic Advisory Board, and performed consulting work for brokerage firms, stock exchanges, other self-regulatory organizations, market makers, industry associations, and law firms. I am the academic director for the FINRA Certified Regulatory and Compliance Professional (CRCP®) program at Georgetown University. I've also visited over 80 stock and derivative exchanges around the world. As a finance professor, I practice what I preach in terms of diversification and own modest and well-diversified holdings in most public companies, including brokers, asset managers, market makers, and exchanges.

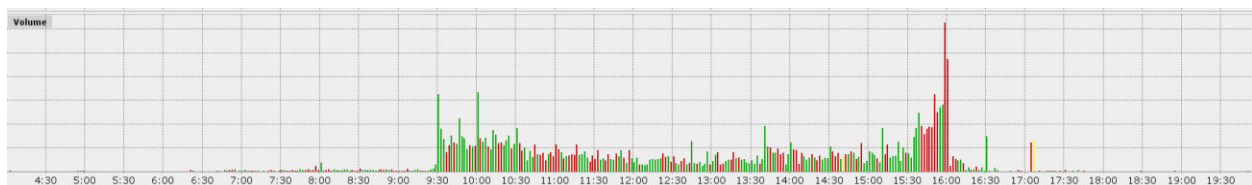
Summary:

- The 24X Exchange's application should be approved without further delay.
- Sparse expected trading activity should not be grounds for disapproval.
- FINRA can be trusted to do a thorough job of surveillance.
- The plumbing issue of trade reporting is easily solvable, as we already have 24/5 trading in ETPs.
- Core market data including depth of book should be available for free on the exchange's web site at least when the SIPs are closed.

Sparse expected trading activity should not be grounds for disapproval.

I'm a little skeptical of how much trading 24X will do in most NMS stocks in the middle of the night. There is currently very little trading activity outside regular market hours on the trading platforms that already offer this service.

Several exchanges currently offer trading in NMS securities outside of the regular trading hours of 9:30 am ET to 4:00 pm ET. These sessions begin as early as 4 am and run as late as 8 pm. Trading volumes in these sessions are very light, with most of it just before the 9:30 am opening auctions and just after the 4:00 pm close. Here is a chart showing the volume for the SPY on January 13, 2023. As you can see, most of the volume is during the regular trading hours and relatively little is at other times.



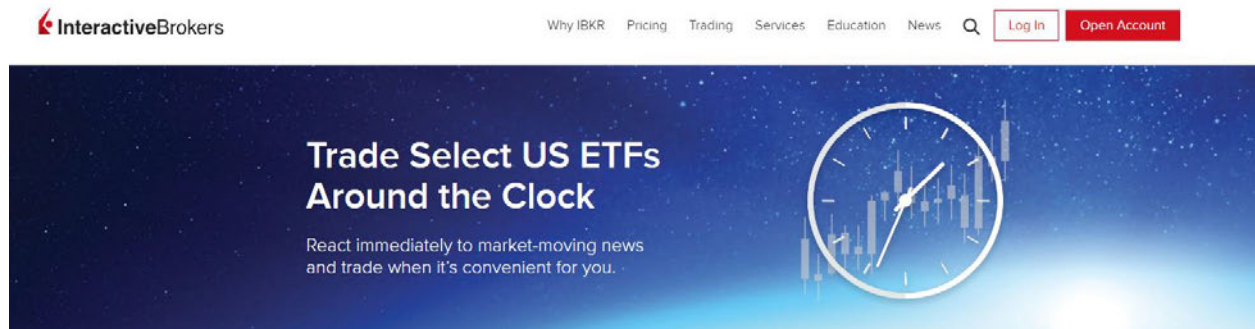
There is a good reason for this lack of activity: As traders like to say, liquidity attracts liquidity. Buyers go where the sellers are and vice versa. This network effect causes trading activity to concentrate. Bid-ask spreads are wider during the extended session due to the low volume, which further pushes market participants to trade during regular market hours.

There are 24/7 markets in currencies and commodities.

Just because there is little trading interest in *most* NMS securities late at night, it does not mean that there will be little trading interest in *all* NMS securities. In particular, there are active 24/7 markets in currencies and commodities. There are now many ETPs listed on our exchanges that provide exposure to these global markets. It is likely that most of the overnight volume on 24X will be in instruments related to global indices and commodities. Whether this is enough to make the exchange viable is a commercial decision and should not affect the SEC's decision whether or not to approve the application.

We already have 24/5 trading in many ETFs.

Interactive Brokers currently offers overnight trading in a variety of ETPs from Sunday through Thursday. This is evidence that there is some interest in overnight trading, and that the trade reporting and customer protection issues with overnight trading are not insuperable.



Here is the list of ETPs that Interactive Brokers currently trades overnight:

Financial Instrument	Account
ISHARES CORE U.S. AGGREGATE	AGG
SPDR DJIA TRUST	DIA
PROSHARES SHORT DOW30	DOG
ISHARES MSCI EMERGING MARKET	EEM
ISHARES MSCI EAFE ETF	EFA
ISHARES MSCI AUSTRALIA ETF	EWA
ISHARES MSCI JAPAN ETF	EWJ
ISHARES CHINA LARGE-CAP ETF	FXI
SPDR GOLD SHARES	GLD
ISHARES CORE S&P MID-CAP ETF	IJH
ISHARES RUSSELL 2000 ETF	IWM
PROSHARES SHORT QQQ	PSQ
INVESCO QQQ TRUST SERIES 1	QQQ
PROSHARES SHORT RUSSELL2000	RWM
PROSHARES SHORT S&P500	SH
ISHARES SILVER TRUST	SLV
SPDR S&P 500 ETF TRUST	SPY
ISHARES 20+ YEAR TREASURY BO	TLT
US NATURAL GAS FUND LP	UNG
UNITED STATES OIL FUND LP	USO

It is better that overnight trading be done on regulated exchanges.

It is thus clear that some market participants think that there is enough investor interest to merit running the markets overnight. For this reason, it is better to have regulated and surveilled exchanges offering this service.

We can trust FINRA to do a good job of surveillance.

One of the most important criteria for approving an exchange application is whether or not an applicant can enforce not only its own rules but also national securities laws on its platforms. 24X plans to use FINRA for regulation. FINRA has a long and distinguished regulatory record and they can be trusted to do the job right.

Plumbing issues are solvable.

Other commenters have raised important infrastructure issues regarding trade reporting and trade settlement, such as 24X's initial plan to offer fractional share trading. I see that 24X appears to have dropped its plan for fractional share trading. As our current integer-based trade reporting and settlement infrastructure was not designed to handle decimals, this was a needed change. As the fractional share trading has been dropped from the application, it should not prevent approval.

(On a side note: The issues with fractional share trading are solvable. Instead of rounding every fractional trade to one share for trade reporting, the fractions could be allowed to accumulate until the accumulated value exceeded one share. Only then would an integer-based print be made to the tape.)

Core market data should be available for free on the 24X web site when the SIPs are closed.

One issue that comes up is the fact that the SIPs are closed overnight.² How will market data be disseminated? This is not a hard problem in the modern internet age. 24X should provide the core data (bid, ask, last sale, and depth of book) on its web site for free at least during periods when the SIPs are closed. Other exchanges typically provide trade and quote information on their web sites for free, and Cboe also some provides depth of book data. The latency on these web sites is slow enough that it does not affect their ability to sell direct feeds.

24X should also arrange with data vendors to provide data feeds on commercially reasonable terms so that brokers can easily fulfill their obligations under the Vendor Display Rule, NMS Rule 606.³ Indeed, it is in 24X's best interest to offer such data cheaply, in order to get more brokers to connect to and thus trade on the exchange.

Corporate actions will be a pain.

² The SIPs are the Securities Information Processors (SIPs) that disseminate trade and quote data.

³ One way to assess commercially reasonable would be for the price of 24X's after-hours SIP-equivalent data to be no higher than the ratio of 24X's trading volume to the trading volume of the SIP. Another methodology would compare the prices of proprietary data feeds for other national securities exchanges with comparable trading volumes.

24X represents that it will implement corporate actions such as stock splits, spinoffs, and dividends “upon news receipt from the primary listing exchange or at 8:00 pm upon receipt from the vendor “Symbol Master,” whichever occurs sooner.”

Corporate actions are where mistakes frequently occur. For example, missing a symbol change could lead to serious mistakes. 24X must have robust policies and procedures in place to cross-check the data it receives from its vendor and to correct the inevitable mistakes. Sometimes the issuers are late in notifying the exchanges and data vendors. What if the data arrives after 8pm? Not only do data vendors make mistakes, but brokers and investors also make mistakes in processing corporate actions. 24X should consider a trading pause at 8 pm for all stocks with corporate actions so that there is a definitive break between the pre- and post- corporate-action trading. Indeed, 24X should be prepared to issue many trading halts for anticipated corporate actions.⁴ My understanding is that all orders expire at the end of each session, but, if not, 24X should also have a rule to cancel all outstanding orders for stocks with corporate actions such as dividends, spinoffs, and splits.

However, just because corporate actions are a pain does not mean that the application should be rejected. It just means that 24X will have to be pro-active in dealing with the inevitable messes. It needs to fully staff operations with experienced personnel who understand corporate actions.

The LULD-like price bands should prevent extremely erroneous trades.

During regular trading hours, our market uses a Limit-Up Limit-Down (LULD) mechanism to prevent trades from occurring at clearly erroneous prices. The LULD method creates a price band based on the last five minutes of trading, and prevents trades from occurring outside the band. If the quote gets stuck at the edge of the band for 15 seconds, there is a trading halt followed by an auction. This mechanism is not in place outside regular trading hours. 24X proposes a system similar in philosophy to LULD with a price band based on recent trade prices.

My understanding of the 24X application is that trades will not be allowed outside the bands, but there will be no pauses for an auction. This should be sufficient to

⁴ Fortunately, many of the messier ones are for smaller and less active stocks that probably will not see a lot of activity in the middle of the night.

prevent extremely erroneous trades. Instead of a trading halt, a stock would just get stuck at the band. It might naturally get unstuck if other orders arrive, or it could stay stuck until the next session begins. This would be a great natural experiment to see how price bands without a trading halt would function.

Overnight trading will facilitate futures trading.

There are many situations where an investor who trades futures may also wish to trade cash equities. These include arbitrage as well as portfolio reallocations. As some futures contracts trade all night, it would be very useful for investors to be able to trade related cash equities throughout the night as well. For example, an investor anticipating a margin shortfall in futures may sell some cash equities to prevent an unwanted liquidation of the futures position.

Overnight trading may reduce frictions in regular daytime trading.

One of the problems that liquidity providers face is overnight risk. For this reason, they often seek to “go home flat” and provide less liquidity near the close of the day so that they have little inventory to carry overnight. Increasing liquidity in the afterhours will reduce the risk of carrying inventory overnight, because it will be easier to exit a position if necessary. This may help to improve the willingness of liquidity providers to provide liquidity in the regular trading session.

The 24X application should be approved.

24X has submitted a pretty much plain-vanilla application to become an exchange, with the major exception being its plans to operate 24/7. 24/7 trading is in the public interest as it will provide additional convenience to investors and facilitate futures trading.

It is also in the public interest to promote innovation and competition in trading, which 24X is likely to do.

The information produced by trading 24/7 can be very helpful to policy makers in times of major shocks to the economy, by showing which sectors are most affected.

Whether or not 24X succeeds is up to the market. The SEC should let the market decide whether 24/7 trading is economically viable or not. Assuming that the Commission is satisfied with 24X's ability to comply with the many duties of operating a national securities exchange (e.g. Reg SCI, surveillance, etc.), the application should be approved without further delay.

Respectfully submitted,

James J. Angel,

Georgetown University