



June 13, 2023

By Electronic Submission and Email

Vanessa A. Countryman
Secretary
U.S. Securities and Exchange Commission
100 F Street N.E.
Washington, D.C. 205499-1090

Re: Supplemental Information and Reopening of Comment Period for Amendments Regarding the Definition of “Exchange” (Release No. 34-97309; File No. S7-02-22)

Dear Ms. Countryman:

Polygon Labs, an international software development company that builds blockchain infrastructure, appreciates the opportunity to submit this letter in response to the notice of proposed rulemaking by the Securities and Exchange Commission (“SEC” or “Commission”) to amend the interpretation of the definition of “exchange” in Rule 3b-16 under the Securities Exchange Act of 1934 (“Exchange Act”), and to make certain other amendments to Regulation ATS and Regulation SCI under the Exchange Act (“Proposal”). We thank the Commission for reopening rulemaking in consideration of the comments it received in response to the Proposal’s initial comment period. *See* Supplemental Information and Reopening of Comment Period for Amendments Regarding the Definition of “Exchange,” Exchange Act Release No. 34-97309, 88 Fed. Reg. 29448 (April 14, 2023) (“Reopening Release”).

We write to highlight certain concerns with the Proposal, and the further details provided in the Reopening Release, as set forth more fully in Section III. First, validators – thousands of decentralized, independent participants in a permissionless blockchain network that engage in technological conduct – do not (and, at times, cannot) coordinate with each other, and thus, cannot be considered a “group of persons” in the way the Proposal suggests. The Proposal’s requirement that the people or entities who run computers for the network must “register” is a critical flaw that, even assuming that was logistically and practically possible (which it is not), would serve to hamper technological innovation and the accompanying economic growth in the United States. Second, the phrase “New Rule 3b-16(a) Systems” (i.e., offer the use of non-firm trading interest and provide non-discretionary protocols) remains ambiguous, at best, and leaves unanswered questions of who the term encompasses, and whether or not compliance is possible. Third, the Proposal sweeps in relationships that deviate substantially from what has traditionally been understood as a securities “exchange.” Fourth, the Proposal is extremely expansive and will have

unintended consequences for a variety of industries, including various blockchain-based technologies such as permissionless distributed ledgers and decentralized finance.¹

I. Existing Regulatory Framework and Proposal to Amend

Section 3(a)(1) of the Exchange Act defines “exchange” as “any organization, association, or group of persons, whether incorporated or unincorporated, which constitutes, maintains, or provides a market place or facilities for bringing together purchasers and sellers of securities or for otherwise performing with respect to securities the functions commonly performed by a stock exchange as that term is generally understood, and includes the market place and the market facilities maintained by such exchange.”²

The underlying framework of the Exchange Act is important because that historical context echoes into the current Proposal. The Exchange Act was a direct response to the 1929 stock market crash, and the collapse of share prices on the New York Stock Exchange.³ Congress expressly included the phrase “a stock exchange as that term is generally understood” – referring to a centralized intermediary that operated a marketplace – because the goal of implementing the Exchange Act was “to protect investors against manipulation of stock prices through regulation of transactions upon securities exchanges and in over-the-counter markets, and to impose regular reporting requirements on companies whose stock is listed on national securities exchanges.”⁴

That goal is carried out in the current interpretation of the definition of “exchange” set forth in Section 3(a)(1), codified in Rule 3b-16, which outlines a two-part test whereby an “organization, association, or group of persons” shall be deemed an exchange “if such organization, association, or group of persons: (i) brings together the orders for securities of multiple buyers and sellers; and (ii) uses established, non-discretionary methods (whether by providing a trading facility or by setting rules) under which such orders interact with each other, and the buyers and sellers entering such orders agree to the terms of a trade.”⁵

Now, the Commission has purportedly “clarified” the scope of its amendment to Rule 3b-16(a) to include within the definition of “exchange” an organization, association, or group of persons that constitutes, maintains, or provides a market place or facilities for bringing together buyers and sellers of securities or for otherwise performing with respect to securities the functions commonly performed by a stock exchange if it is not subject to an exception under Rule 3b-16(b), and it also: (1) brings together buyers and sellers of securities using a so-called “trading interest”

¹ In addition to these concerns, the Proposal and Reopening Release include other fundamental problems that are beyond the scope of this letter, including (1) the definition of “trading interest,” and (2) the assumption that there are “buyers” and “sellers” as there are in traditional finance.

² See 15 U.S.C. 78c(a)(1).

³ See *Ernst & Ernst v. Hochfelder*, 425 U.S. 185, 194 (1976).

⁴ *Id.* at 195.

⁵ See 17 CFR 240.3b-16(a).

as the Reopening Release attempts to define that term;⁶ and (2) makes available established, non-discretionary methods (whether by providing a trading facility or communication protocols, or by setting rules) under which buyers and sellers can interact and agree to the terms of a trade.⁷ Trading systems that meet the criteria of Exchange Act Rule 3b-16(a), as proposed to be amended, are referred to as “New Rule 3b-16(a) Systems” in the Reopening Release, and were previously referred to as “Communication Protocol Systems.”⁸ The strained language employed to define these systems, in an attempt to subsume them under the Commission’s purview, foreshadows the impossibility of bringing these purely software systems “into compliance,” and thus belies the Commission’s purported goal of technological neutrality, as discussed further below.

In response to the extraordinary volume of comments the Commission received on the Proposal, including whether these changes would be applicable to decentralized finance (“DeFi”) protocols, the Commission reopened rulemaking, specifically noting that:

currently certain trading systems for crypto assets, including so-called ‘DeFi’ systems, operate like an exchange as defined under federal securities laws—that is, they bring together orders of multiple buyers and sellers using established, non-discretionary methods (by providing a trading facility, for example) under which such orders interact and the buyers and sellers entering such orders agree upon the terms of a trade. Because it is unlikely that systems trading a large number of different crypto assets are not trading any crypto assets that are securities, these systems likely meet the current criteria of Exchange Act Rule 3b-16(a) and are subject to the exchange regulatory framework.⁹

In the Reopening Release, the Commission has gone far beyond suggesting that only DeFi software protocols that allow users to communicate certain transactions to a permissionless, distributed ledger constitute a national securities exchange (“NSE”) or alternative trading system (“ATS”), but now – for the first time and without any warning – has indicated that the underlying ledgers or networks, and those individuals or entities running or owning computers that process such communications, constitute, and thus, must register as, NSEs and/or ATSS.¹⁰

After the Commission was widely criticized for constructing a rule that would regulate DeFi without ever explicitly stating that it was doing so, the Reopening Release explicitly

⁶ See Reopening Release at 29449. Even the term “trading interest” is a new term that the Commission constructs in this Proposal, which in and of itself should be a separate subject of rulemaking. Throwing this term in haphazardly alters the meaning of an “exchange,” and what it means to trade securities.

⁷ See *id.* at 29448.

⁸ *Id.* at 29449, n.11 (“Such systems were referred to as ‘Communication Protocol Systems’ in the Proposing Release.”).

⁹ *Id.* at 29450-51.

¹⁰ *Id.* at 29451.

addresses DeFi, but then goes much further: it extends the scope of rulemaking to all of blockchain technology, and users of blockchain technology more generally, with scant discussion of the implications of that extension. Of the 75 questions relating to the rulemaking, only a single question even mentions “validators” or “miners,” and only within the context of whether those engaged in mining or validating would “incur costs” under the rulemaking.¹¹ The question otherwise ignores the Reopening Release’s clear attempt to have validators “come in and register.” This overreach is a clear violation of the Administrative Procedure Act’s requirement that federal agencies must provide sufficient factual detail and rationale for the proposed rule to fairly apprise interested parties, and permit them to comment meaningfully.¹² Rather than encouraging meaningful participation in the rulemaking process, the Commission is forcing interested parties to comment based on extremely limited new information raised in the Reopening Release for the first time.

Further, as discussed further below, the Reopening Release fundamentally misunderstands the way in which the technology operates and thus, seeks to encompass individuals, entities and pure software in a way that has never been done before in this country or, as far as we are aware, anywhere else. Because Congress explicitly incorporated the general public meaning of the term “stock exchange” as it was understood in 1934, this letter will review, in detail, both the technology that the Proposal aims to sweep into its ambit, and just how far the Proposal is removed from what the drafters of the Exchange Act understood a “stock exchange” to be.

We appreciate the need to update certain rules and regulations to accommodate technological advancements in financial services that are within the Commission’s remit, but the proposals set forth in the Reopening Release will exponentially expand the Commission’s jurisdiction over pure technology alone – and not those who are performing the functions of the persons operating or maintaining an NSE or ATS.

II. Overview of Blockchains

Blockchains are distributed systems with no centralized control over the systems. No one entity, organization, or group of persons is necessary to operate blockchains, or to facilitate users interacting and transacting with the smart contracts on those blockchains, or each other, directly.

A Layer-1 network refers to a blockchain (for example, Bitcoin or Ethereum), and a Layer-2 protocol is a protocol that exists independently of a Layer-1 network but relies on the security of the Layer-1 network. These networks operate autonomously, i.e., no people need to coordinate in order for them to run on their own; and permissionlessly, i.e., nobody needs authorization to interact with the network.

¹¹ *Id.* at 29493.

¹² 5 U.S.C. § 553(b); *see generally* *Mid Continent Nail Corporation v. United States*, 846 F.3d 1364, 1373-74 (Jan. 27, 2017).

Many blockchains, including Ethereum, Polygon, Solana, Tezos, and Polkadot, use a proof-of-stake consensus mechanism for processing transactions on-chain.¹³ A proof-of-stake consensus mechanism is an algorithm that is used by certain nodes in a blockchain network to agree on the next valid block of transactions that will be added to the blockchain. A validator is a participant in a proof-of-stake blockchain running a computer that verifies transactions on the network. When validators determine – through computational processes – that a communication about a new transaction is accurate, validators add the transaction to a blockchain network. At no point are validators in possession or control of any assets in the transactions that they verify.

To become a validator, a network participant must “put up” a specific amount of the network’s native cryptocurrency. No agreement, either formal or informal, is necessary for a participant to become a validator in a proof-of-stake blockchain.¹⁴ For example, anyone can become a validator on the Ethereum network by depositing ETH into a specific smart contract called the “deposit contract,” and then running certain pieces of software. There are hundreds of thousands of validators across the full blockchain industry, and they span the entire globe. These validators do not know each other, and are not operating together. Validators do not run networks, or “control” blockchains and they certainly do not “control” DeFi protocols; they verify transactions such that a blockchain is continuously updated with information.

As discussed more fully below, the Reopening Release seems to fundamentally misunderstand the way in which permissionless, decentralized blockchain networks function – there are hundreds of thousands of diffuse validators across the world, who do not know each other, coordinate, or work together to support a blockchain, and because many of them use different types of hardware and software to be able to add data blocks to a permissionless, decentralized blockchain network, it is no understatement to say that it would take an effect of seismic proportions to shut down a permissionless, decentralized global blockchain network.

III. Argument

A. Validators are not a “group of persons,” and are improper targets for the Proposal.

In responding to commenters’ accurate statements that developers and users of DeFi protocols act independently of each other, the Commission states that “[t]rading on so-called DeFi systems can involve multiple actors,” including for example, “the provider(s) of the DeFi application or user interface, developers of AMMs or other DLT code, decentralized autonomous organizations (‘DAO’), validators or miners, and issuers or holders of governance or other

¹³ *What is proof of stake?*, McKinsey & Company (Jan. 3, 2023), <https://www.mckinsey.com/featured-insights/mckinsey-explainers/what-is-proof-of-stake>.

¹⁴ *Cf.* Reopening Release at 29454 (“[I]n assessing whether a person would be acting in concert with a group of persons, one factor to consider, depending on other facts and circumstances, would be the extent to which a person acts with an agreement (formal or informal) to perform a function of a market place or facilities for bringing together buyers and sellers of securities.”).

tokens.”¹⁵ The Commission goes on to say that “[t]hese actors can form a group of persons if they act in concert to perform, or exercise control or share control over, different functions of a market place or facilities for bringing together buyers and sellers of securities”¹⁶

To be clear, DeFi applications run primarily on public, permissionless blockchains, which are often supported by a large number of dispersed, uncoordinated validators. Blockchain networks have hundreds or thousands of nodes. For example, Ethereum has approximately 500,000 validators.¹⁷ Although some of these validators could potentially know each other, most do not know each other; many of them are unknown to anyone. As a result, they do not coordinate with each other, and indeed, could not practically coordinate with each other sufficiently to change a blockchain network.

Contrary to these facts, the Commission states that it “understands that, typically, including for so-called ‘DeFi’ trading systems, a single organization constitutes, maintains, or provides the market place or facilities for bringing together buyers and sellers of securities or otherwise performs with respect to securities the functions commonly performed by a stock exchange under section 3(a)(1) and Exchange Act Rule 3b-16 thereunder.”¹⁸

That is not the case for at least three reasons – technological, legal, and practical.

Technologically, to become engaged in validation on a proof-of-stake blockchain, a participant must have the requisite hardware and software and then merely “put up” a certain amount of a “cryptocurrency” to run the validator and nodes. Validators do not “act in concert,” and do not dictate the transactions on a blockchain, or a DeFi protocol.¹⁹ Validators simply determine the accuracy of the state of a blockchain, based on the truth of information coming through to the DeFi protocol. By independently confirming transactions to support a blockchain network on their own, validators cannot plausibly be considered a “group of persons” acting in concert such that the Proposal is applicable.

¹⁵ Reopening Release at 29455-56.

¹⁶ *Id.* at 29456.

¹⁷ Bessie Liu, *Ethereum Hits 500,000 Validator Milestone*, Blockworks (Jan. 12, 2023), <https://blockworks.co/news/ethereum-to-reach-500000-validators>.

¹⁸ *Id.* at 29454.

¹⁹ See Reopening Release at 29454 (“In determining which persons would be included in the group of persons that constitutes, maintains, or provides an exchange or performs with respect to securities the functions commonly performed by a stock exchange, important factors would generally include whether the persons *act in concert* in establishing, maintaining, or providing a market place or facilities for bringing together buyers and sellers of securities or in performing with respect to securities the functions commonly performed by a stock exchange, or exercise control, or share control, over aspects of such market place or facilities or the performance of functions commonly performed by a stock exchange.”) (emphasis added); see also *Zang v. Umami Sustainable Seafood, Inc.*, 2017 WL 634618, at *5 (S.D. Cal. Feb. 16, 2017) (holding that a rational trier of fact could not find that a group “acted in concert” where there was no evidence that each individual “came together in unison to act as a group”).

Legally, validators are not part of any “single organization” or group such that they can be bound together as a legal entity.²⁰ Validators are diffuse individuals, numbering in the hundreds of thousands, and spread out around the world.²¹ They have entered no agreement to work together, let alone share in the profits and losses of any joint enterprise. Their motives are separate, and may be entirely differentiated from each other. Their identities are often unknown. They do not comprise a juridical entity, i.e., an entity that is capable of taking legal action. And the Commission has provided absolutely no guidance on how a group of validators could even fathomably meet the requirements to be registered as a National Securities Exchange or an Alternative Trading System. As a result, the Proposed Rule appears to be both necessary to meet, and literally impossible to meet, subjecting it to a challenge for being arbitrary and capricious.

Practically, even assuming validators did exercise any “control” over the transactions on a blockchain, validators across a decentralized network typically do not interact or work together, and often do not know each other’s identities. Given the sheer number of validators on these public, permissionless blockchains, and the fact that they can and do span the entire world, coordination is virtually impossible. Even if validators did know each other’s identities, hundreds of thousands of validators spread globally would have to voluntarily choose to work together, in the absence of any legal organization binding them together. And, hypothetically, even if a subset of validators on a blockchain network did want to coordinate, they would have no conceivable method of forcing other validators spread across the world to comply – nor should they have that ability in a decentralized, permissionless system. It strains credulity to lump thousands of unknown validators across numerous continents together as a “group of persons” that purportedly “provides a market place” for the trading of securities (even assuming any of the cryptoassets used in DeFi protocols or used by validators in a proof-of-stake network are securities).²² It is inconceivable for them to coordinate sufficiently to comply with the Proposal as suggested, or to register with the Commission as an exchange, or in any other way.

The Commission’s understanding, in its own words, is that “it is possible for the miners or validators of a smart contract’s underlying blockchain to effect a change to a blockchain through, for example, a fork that would impact interactions with the immutable smart contract, and that this

²⁰ Generally, an agency relationship exists when “one person, to one degree or another or respect or another, acts as a representative of or otherwise acts on behalf of another person with power to affect the legal rights and duties of the other person.” Restatement (Third) of Agency § 1.01 cmt. c (2006). No such agency relationship exists here to bind large swaths of unaffiliated validators in different jurisdictions, who are not representatives of each other and do not act on each other’s behalves.

²¹ Even through an APA-compliant rulemaking process, the Commission cannot purport to bind validators all over the world, who may have no contact with the United States, and who may be performing non-securities transactions outside the United States. *See, e.g., Morrison v. National Australia Bank Ltd.*, 561 U.S. 247, 273 (2010).

²² *See generally Intercontinental Exchange, Inc. v. SEC*, 23 F.4th 1013, 1025 (2022) (“In short, the outer boundary of the term ‘group of persons’ remains murky, and vigilance is necessary to ensure the term is not stretched too far.”).

capacity has already been used on rare occasions.”²³ The Commission also contends that “smart contract(s) may have to be altered in order to ensure that the system does not trade securities. As discussed above, this could be achieved either by any organization, association, or group of persons that can make changes to the smart contract, or by the miners or validators of the relevant blockchain in the event that the smart contracts are immutable.”²⁴

These statements belie a deep misunderstanding of the way in which miners and validators operate. Even if some validators theoretically could jump the hurdles of distance, volume, and logistics sufficient to coordinate, validators are not part of any legal entity or organization such that they would be obligated to work together, or have the ability to force other validators to work cohesively with them. Due to the unlikelihood that validators can or will coordinate, the Commission’s expectation of validators coming together in this way is impossible in practice.

As an example outside of the blockchain context, Microsoft Excel Online is a widely used software program. Even if, theoretically, groups of people could collectively use Excel Online to express so-called “trading interest,” or to interact and agree to the terms of a trade, Excel Online would remain software, and could not be considered an exchange. Nor would Microsoft itself, the creator of the software, be transformed into an exchange, or have any responsibility for others deciding to use it for trading. Similarly here, merely validating transactions and adding them to the blockchain is a permissionless process that does not require coordination, and does not transform a network of decentralized validators into an exchange. As many have pointed out, those who develop open-source code are improper targets for the Proposal²⁵ – and so are those who merely interact with the code.

Further, the Commission states that “[t]hese actors can form a group of persons if they act in concert to perform, or exercise control or share control over, different functions of a market place or facilities for bringing together buyers and sellers of securities . . . ,” but is vague in establishing what constitutes “control” by a group of persons.²⁶ An interaction with software code that does not require permission or coordination with anyone else, much less another validator, cannot (without significant other indicia of control) be considered “control” over a market place. The Commission additionally states that “in the case of New Rule 3b-16(a) Systems that use the technologies discussed above to automate portions of their operations using smart contracts, validators and miners may choose to take actions to form a single entity, like an organization, and register with the Commission.”²⁷ Notwithstanding the unlikelihood of coordination, if unaffiliated validators who are not acting in concert, and do not have any implicit or explicit agreement with

²³ Reopening Release at 29483.

²⁴ *Id.* at 29484.

²⁵ *See, e.g.*, Letter from Jake Chervinsky, Head of Policy, Blockchain Association and Miller Whitehouse-Levine, Policy Director, DeFi Education Fund, dated June 13, 2022, at 5.

²⁶ Reopening Release at 29456.

²⁷ *Id.* at 29484.

each other, then have to form an entity specifically to register with the Commission, clearly these validators did not have “control” in the first place.

The Commission seeks comments on any costs that validators could incur under the Proposal.²⁸ Given that there are hundreds of thousands of unknown validators worldwide, it is impossible to understand the full costs of compliance, even if coordination was possible. But, any rule that would affect hundreds of thousands of disparate individuals across the world would be astronomical, as compliance (if that were even possible) would require the costs of legal, technical and practical coordination of an extraordinary number of potentially unknown people and entities across various jurisdictions, many of whom may have no nexus to the U.S. Because the Commission cannot possibly account for the full costs that validators will bear, and because the Commission expressly acknowledges that it lacks data on certain economic effects of the Proposal,²⁹ the Commission does not adequately satisfy its rulemaking responsibilities.³⁰

B. Validators do not constitute New Rule 3b-16(a) Systems.

Even if validators could be conceived of as a “group of persons” as contemplated in the Reopening Release (and they cannot), they would have to also fall within the description of “New Rule 3b-16(a) Systems” in order to meet the criteria of the proposed amended Exchange Act Rule 3b-16(a). Rather than clearly define “New Rule 3b-16(a) Systems” or “Communication Protocol Systems,”³¹ the Proposal involves a two prong test for a trading system to be a “communication protocol”: it (1) brings together buyers and sellers of securities using trading interest;³² and (2) makes available established, non-discretionary methods (whether by providing a trading facility or communication protocols, or by setting rules) under which buyers and sellers can interact and agree to the terms of a trade.

Neither prong is applicable to validators.

²⁸ *Id.* at 29477.

²⁹ Proposal at 15618.

³⁰ *See, e.g., Business Roundtable v. SEC*, 647 F.3d 1144, 1148 (D.C. Cir. 2011) (unanimous vacatur of an SEC rule because the Commission had acted “arbitrarily and capriciously for having failed once again . . . adequately to assess the economic effects of a new rule.”).

³¹ Cmm’r Hester M. Peirce, *Rendering Innovation Kaput: Statement on Amending the Definition of Exchange*, U.S. SEC. & EXCH. COMM’N (April 14, 2023), [https:// www.sec.gov/news/statement/peirce-rendering-innovation-2023-04-12#_ftn1](https://www.sec.gov/news/statement/peirce-rendering-innovation-2023-04-12#_ftn1) (“Numerous commenters asked us to define ‘Communication Protocol System,’ but this release demurs.”).

³² The Reopening Release specifies that “trading interest” would include “orders,” as the term is defined under 17 CFR 240.3b-16(c), or any non-firm indication of a willingness to buy or sell a security that identifies at least the security and either quantity, direction (buy or sell), or price. Reopening Release at n.9.

i. Validators do not bring together buyers and sellers of securities using trading interest.

As discussed above, validators merely perform computational work to publicly record the order of blocks on a blockchain. They do not “bring together” buyers and sellers of securities, or orders of securities.³³ In fact, the Reopening Release itself acknowledges this fact by admitting that “[t]he function they [validators] perform is not only with respect to a particular trading system.”³⁴ This admonition, on its own, demonstrates that validators could not possibly “bring together” purported “buyers and sellers” in a DeFi software protocol because they are simply recording transactions as they are brought to the network by individual users transacting on numerous, various and disparate software protocols.

In fact, validators likely “encompass [the] purely administrative items”³⁵ the Commission contemplated would not be included in the definition of “exchange.” Validators confirm the communication of a transaction received from an individual user; proof-of-stake blockchain networks no more “bring together” buyers and sellers or other actors than does Microsoft bring together those that record information in a shared Excel Online spreadsheet.

The Commission tries to pigeonhole validators into the scope of the Proposal by claiming that since validators can fork a blockchain network, they purportedly “control” smart contracts that comprise DeFi systems or protocols³⁶ and, by extension, “control” DeFi protocols such that they “constitute, maintain, or provide facilities for bringing together buyers and sellers of securities.”³⁷ Being able to fork a network – to recreate a system – no more “controls” a DeFi protocol than photocopying a piece of paper controls what is written on it. Or, more to the point: copy-pasting a batch of computer code does not “control” what that code does, and leaves the previous code unaffected. It also does not require that any individual user, developer or anyone else use the “forked” code over the original code – those decisions are left entirely to the individuals because, as noted throughout this letter, blockchain networks do not “control” any one person or piece of software.

ii. Validators do not make available established, non-discretionary methods under which buyers and sellers can interact.

The Commission states that the term “makes available established, non-discretionary methods” is intended to encompass the methods that an organization, association, or group of

³³ Although it is outside the scope of this letter, Polygon Labs also does not agree or concede that any particular crypto assets – or indeed, crypto assets in general – are, themselves, securities.

³⁴ Reopening Release at 29455-56, n.75.

³⁵ *Id.* at 29455, n.69.

³⁶ *Id.* at 29471, n.213.

³⁷ *Id.* at 29483 (“[T]he Commission understands that it is possible for the miners or validators of a smart contract’s underlying blockchain to effect a change to a blockchain through, for example, a fork that would impact interactions with the immutable smart contract, and that this capacity has already been used on rare occasions.”).

persons may provide, whether directly or indirectly, for buyers and sellers to interact and agree upon terms of a trade.³⁸ Further, the Commission explains that New Rule 3b-16(a) systems “provid[e] protocols that allow participants to interact, negotiate, and come to an agreement.”³⁹ That is not what validators do.

Validators do not “make available” or “provide” a protocol or blockchain network. Validators merely participate in the already existing blockchain network by voting on which transactions to append to the blockchain. Validators also do not “allow” participants to interact, negotiate, and come to an agreement – users interact directly by utilizing software. Additionally, validators do not have “control” over any market place, entity, or system in the way the Commission implies.⁴⁰ And, as discussed above, validators are disparate, and do not necessarily, or have any need to, interact or coordinate with each other such that they could be considered an affiliated group of persons. Validators are no more affiliated with each other than users of Microsoft Excel Online are necessarily affiliated with each other.

The Commission states “that it did not intend for communication protocols to include systems that only provide the connectivity or technology that allows buyers and sellers to communicate (such as utilities or providers of stand-alone electronic web chat) without also establishing non-discretionary methods that govern how the communications are allowed to proceed as participants agree to the terms of a trade.”⁴¹ This statement aptly describes validators, who merely verify that data blocks are recorded correctly to a blockchain network. Yet, as indicated above, the Commission expressly stated the Proposal could include validators.⁴² This contradictory messaging about who the Proposal could potentially affect, especially when there are hundreds of thousands of disparate validators worldwide, is improper, and should not be implemented in any final rule.

Setting aside that the term “communication protocol system” is “ambiguously broad,”⁴³ and that merely redefining the term as “New Rule 3b-16(a) Systems” in the Reopening Release inadequately sidesteps the issue and provides no clarity, the Proposal also leaves unanswered a host of questions that would be necessary for compliance as to validators. Who would “register,” and how would an unaffiliated group “register”? How would unaffiliated validators even know

³⁸ Reopening Release at 29458.

³⁹ *Id.*

⁴⁰ Cmm’r Hester M. Peirce, *Is that a Fish Behind the Wheel? Remarks before the University of Central Florida’s Inaugural FinTech Summit*, U.S. SEC. & EXCH. COMM’N (Apr. 1, 2022), <https://www.sec.gov/news/speech/peirce-remarks-fintech-summit-040122> (“DeFi protocols allow people to come together to trade crypto-assets through automated open-source protocols that are outside the control of any person.”).

⁴¹ Reopening Release at 29460, n.122.

⁴² *Id.* at 29455-56.

⁴³ Cmm’r Hester M. Peirce, *Rendering Innovation Kaput: Statement on Amending the Definition of Exchange*, U.S. SEC. & EXCH. COMM’N (April 14, 2023), https://www.sec.gov/news/statement/peirce-rendering-innovation-2023-04-12#_ftn1.

that they were considered a “group of persons” that were “acting in concert” to “establish, maintain, or provide a market place”? In contrast to the Proposal’s suggestion, there is unequivocally no “agreement (formal or informal) to constitute, maintain, or provide a market place or facilities for bringing together buyers and sellers of securities or to perform with respect to securities a function commonly performed by a stock exchange,” for validators in a permissionless system.⁴⁴

C. The Proposal defies the traditional understanding of an “exchange.”

When Congress enacted the Securities Exchange Act in 1934, Congress defined an “exchange” as “any organization, association, or group of persons, whether incorporated or unincorporated, which constitutes, maintains, or provides a market place or facilities for bringing together purchasers and sellers of securities or for otherwise performing with respect to securities the functions commonly performed by a stock exchange as that term is generally understood...” 15 U.S.C. § 78c(a)(1) (emphasis added). At the time the Exchange Act was enacted, “organization” and “association” denoted a unified legal entity formed for a particular, common purpose.⁴⁵

Because Congress explicitly incorporated the general public meaning of the term “stock exchange” as it was understood in 1934, it is worth remarking how removed “validators for software consensus mechanisms” are from what the drafters of the Exchange Act understood a “stock exchange” to be. In 1934, an “exchange” was a centralized intermediary that operated a marketplace between buyers’ and sellers’ orders. The understanding of an “exchange” that brought together orders did not contemplate a direct, computer-automated peer-to-protocol system. The ENIAC⁴⁶ – the first programmable, electronic, general-purpose digital computer – was completed for operations on December 10, 1945, approximately six months before the Supreme Court released its decision in *SEC v. W.J. Howey Co.*, 328 U.S. 293 (1946) (decided May 27, 1946). It is fanciful to think that anyone “generally understood” that a stock exchange could be, instead of a physical space where traders gathered together to exchange open interest and reach transactions, a system of thousands of independent, autonomous validators, spread all over the world (and hailing from any legal jurisdiction around the world), communicating without any centralized coordination, and performing no task other than corroborating the accuracy of computations submitted by people, not to other people, but to software.⁴⁷

⁴⁴ Reopening Release at 29456.

⁴⁵ For “association,” see *Webster’s New International Dictionary* 167 (2d ed. 1947); for “organization,” see *Webster’s New International Dictionary* 1719 (2d ed. 1947).

⁴⁶ See Paul A. Freiberger and Michael R. Swaine, *ENIAC Computer*, Britannica, <https://www.britannica.com/technology/ENIAC>.

⁴⁷ Indeed, traditional stock exchanges rely on third-party service providers for technical assistance in executing securities trading, but those service providers are not considered “exchanges” themselves. See, e.g., Nasdaq, Inc., Form 10-K for the year ended December 31, 2022, at 24 (Feb. 23, 2023) (disclosing risk factor that “[w]e rely on third parties for regulatory, data center, cloud, data storage and processing, data content, clearing and other services”).

The definition of “an exchange” builds in the concept of what an exchange was, and was understood to be, in 1934. That notion relied on an intermediary to regulate, which does not exist in a DeFi system – i.e., the existence of an exchange operator that includes a management team and performs a self-regulatory function.⁴⁸ That notion also relied on people entering into transactions with *people*, rather than allowing users to interact directly with software code. Further, traditional exchanges registered with the Commission also required (and still require) a rulebook that establishes exchange membership standards, and participation in the national market system for securities.

Fifty years later, technology allowed for more automated exchanges, and by the 1980s and 1990s, the technology was starting to create electronic marketplaces that were already quite a distance away from the 1930s concept of an exchange. In 1991, the Commission expressly argued in *Board of Trade of City of Chicago v. S.E.C.*, 923 F.2d 1270 (7th Cir. 1991), and the Seventh Circuit agreed, that certain features were needed for a fully automated or electronic “market place.” The Commission argued then that a “Delta system” – in which traders could input offers into a computer, and a clearing agency would monitor the computer to match buyers and sellers – was *not* an exchange. As the Seventh Circuit held:

The Delta system is not—not quite, anyway—what is generally understood by the term “stock exchange.” It lacks a trading floor. It lacks specialists, who enhance the liquidity of an exchange by using their own capital to trade against the market when the trading is light, in order to buffer price swings due to the fewness of offers rather than to changes in underlying market values. Not all conventional exchanges have specialists, but those that do not have brokers who trade for their own account as well as for their customers’ accounts, and the additional trading enhances the market’s liquidity.⁴⁹

The Seventh Circuit continued – agreeing with the Commission – by observing the absurd results of treating such a system as an exchange:

The Delta system cannot register as an exchange, because the statute requires that an exchange be controlled by its participants, who must in turn be registered brokers or individuals associated with such brokers. [Citations omitted.] So all the financial institutions that trade through the Delta system would have to register as brokers, and RMJ, Delta, and the bank would have

⁴⁸ See *Stock Exchange Practices: Report of the Committee on Banking and Currency 7* (June 16, 1934) (“Pecora Report”) at 77-78 (explaining that the New York Stock Exchange “is an unincorporated association” governed by a “governing committee consisting of 40 members and the president and treasurer of the exchange.”).

⁴⁹ 923 F.2d at 1272-73.

to turn over the ownership and control of the system to the institutions. The system would be *kaput*.⁵⁰

In response to emerging technologies in the late 1990s such as automated trading facilities, the Commission developed the Alternative Trading System (ATS). The Commission expressly acknowledged that the then-existing regulatory framework, “designed more than six decades ago, did not envision many of these trading and business functions.”⁵¹ The Commission noted that many alternative trading systems provided services akin to traditional centralized exchange functions, “such as matching counterparties’ orders, executing trades, operating limit order books, and facilitating active price discovery.”⁵² In other words, even though automated, the then-new generation of automated trading facilities still acted something like an exchange. There was still a resemblance to the general understanding of the stock exchanges of the 1930s.

Now, the ideas in the Reopening Rule / Proposal represent a fundamental shift in the very nature of what an exchange is – and one that may harm investors rather than protect them, as the Commission is mandated to do. Today, the Commission is faced with systems that are several steps more abstracted even from that Delta system – decentralized and autonomous software where users can make decisions about how to handle their own assets and then record those decisions effectuated by other types of software as an order into a computer, but there is no “intermediary,” no “market place,” no “specialists,” no “brokers,” no “customers,” and no “system” that brings together buyers and sellers. There is nothing in these systems that the drafters of the 1934 Act would generally understand to be a stock exchange. To say that the then-existing regulatory framework, “designed more than six decades ago, did not envision” the ways in which blockchain networks facilitate permissionless, self-directed communications and transactions – even if those engaged in such conduct use words like “exchange” or “trading” – would be an understatement.

The Securities Act of 1933 and the Securities Exchange Act of 1934 were implemented partially to stop various types of cartels that were running exchanges, and to allow for the Commission’s goals of transparency and investor protection.⁵³ With the Proposal, instead of embracing new technological development which would empower individuals and provide even further transparency, the Commission (ironically) seeks to entrench the prior incumbents with this Proposal, which protects current exchanges, while stifling technological innovation in the United States. Only systems with centralized intermediaries, with a large, identifiable entity in control of the systems, could properly register as an exchange. This approach would eliminate the possibility for continued innovation in systems that individuals may use to trade any types of assets and thus, stifle technological innovation as a whole.

⁵⁰ *Id.*

⁵¹ Regulation of Exchanges and Alternative Trading Systems, 63 Fed. Reg. 70844, 70845 (Dec. 22, 1998).

⁵² *Id.* at 70848.

⁵³ *See generally* Pecora Report at 5-68.

D. The Proposal is too expansive, and not technology-neutral.

Not only would the Proposal hobble the wider crypto-asset ecosystem, but the expansive scope of the proposed change would encompass an extensive array of industries. As Commissioner Peirce emphasized, the proposed rule could affect anyone “who operate[s] any service that is designed to facilitate any communication between potential buyers and sellers of any type of security.”⁵⁴

For example, if an “exchange” runs on a cloud-based service provider, such as Amazon Web Services (“AWS”), the cloud service provider has the ability to control overflow if it so decides. The Commission’s assertion that those who exercise “control” over a system requires registration as an “exchange” fundamentally scopes in even cloud service providers.⁵⁵ Although the Proposal states that those using cloud-based services to operate an exchange cannot escape registration, the ways in which cloud-based services work are akin to how validators work and, more importantly, support validators to the point where if the cloud-service providers decided to stop supporting validators, then validators would necessarily stop confirming transactions.

The Commission presumably does not intend for cloud-service providers themselves to be captured by this Proposal, or to register as an exchange, or to take on the hefty compliance burdens that such registration would demand. Similarly, cell phone service providers, like Verizon, have the technological capacity to access every communication on its network. It is likewise dubious that the Commission intends for the proposed rule to designate and require registration as an exchange from cell phone service providers.⁵⁶ Extended to its logical conclusion, the proposed rule as drafted would mean that entities like AWS and Verizon, or any cloud-based provider or cell phone service provider that hosts communications nodes, would have to register as an exchange. It is inconceivable that the Commission intended to force all of these extremely different communications systems to register as a securities exchange, or comply with Regulation ATS.

On this front, the Proposal is internally inconsistent on its claim of purported “technological neutrality.” Whereas the Commission would only have those using cloud based or other technological services – that is, where the exchange “runs on” the technology – register as the exchange, as it relates to blockchain-based technology, the Reopening Rule indicates that any part of the system, including the technology on which a DeFi exchange may run, must also register (e.g., requiring hundreds of thousands of validators globally to try to determine some semblance of a way to “register”). This is the definition of technological *bias*, and thus, must be eliminated from any final rule.⁵⁷

⁵⁴ Cmm’r Hester M. Peirce, *Dissenting Statement on the Proposal to Amend Regulation ATS*, U.S. SEC. & EXCH. COMM’N (Jan. 26, 2022), <https://www.sec.gov/news/statement/peirce-ats-20220126>.

⁵⁵ Reopening Release at 29452-53.

⁵⁶ Proposal at 15548.

⁵⁷ *See generally* Reopening Release at 29452 (noting the Commission’s mandate to be “tech neutral”).

E. The Proposal will have deleterious effects on systems supported by blockchain technology – including systems operated mostly, or even entirely, outside the United States.

The Commission’s Proposal leaves many questions unanswered when it comes to who, in a truly decentralized system, can bear responsibility for registration – if anyone. The Commission has not articulated what “group,” “system,” or “entity” provides a marketplace for the trading of securities when those terms are inapplicable in the blockchain context, and instead implies a definition so broad that it sweeps in every participant in the industry.⁵⁸ Whether compliance is even possible is unclear. And even if compliance were possible, the effect would be to shut down decentralized computer networks in the United States. That decision, one of major economic importance,⁵⁹ is one for Congress, not the Commission.

The Proposal also fails to consider the geographic scope of validators. In *Morrison v. National Australia Bank Ltd.*, 561 U.S. 247, 273 (2010), the Supreme Court held that Section 10(b) of the Exchange Act only applies to “[1] the purchase or sale of a security listed on an American stock exchange, and [2] the purchase or sale of any other security in the United States.” Excluding cases of fraud, if there is no domestic transaction in the United States, where irrevocable liability occurred on-shore, the U.S. securities law do not apply under *Morrison* and its progeny. *See id.* The Proposal fails to take into account that there are hundreds of thousands of validators, and many of them, if not the majority, exist outside of the United States. The Commission fails to address whether a foreign validator would have to register under the proposed amended rule, and whether the Proposal essentially forces foreign validators to be part of a registered U.S. exchange, even though they may have no connection to the U.S. Not only does this raise a host of questions considering the decentralized nature of validators, but roping in foreign validators in this manner would directly contradict the Supreme Court’s mandate in *Morrison*.

Further, there are legitimate reasons to not impose domestic securities laws on foreign governments. The bedrock principle of international comity cautions the restraint of domestic law into foreign jurisdictions.⁶⁰ Many foreign jurisdictions have adopted regulatory frameworks to usher DeFi in, and to help it thrive. By potentially overstepping and implying that even foreign entities in a decentralized, permissionless system now have to comply with the Proposal, the Proposal expressly contradicts certain foreign regulatory regimes, such as the EU law Markets in

⁵⁸ Cmm’r Hester M. Peirce, *Rendering Innovation Kaput: Statement on Amending the Definition of Exchange*, U.S. SEC. & EXCH. COMM’N (April 14, 2023), [https:// www.sec.gov/news/statement/peirce-rendering-inovation-2023-04-12#_ftn1](https://www.sec.gov/news/statement/peirce-rendering-inovation-2023-04-12#_ftn1) (“The release hints that the relevant “group” may include anybody who has even a purely ministerial role with respect to defi activity.”).

⁵⁹ *See West Virginia v. EPA*, 142 S.Ct. 2587 (2022), slip op. at 19 (“both separation of powers principles and a practical understanding of legislative intent make us ‘reluctant to read into ambiguous statutory text’ the delegation claimed to be lurking there To convince us otherwise, something more than a merely plausible textual basis for the agency action is necessary. The agency instead must point to ‘clear congressional authorization’ for the power it claims.”).

⁶⁰ *See Bank of Augusta v. Earle*, 38 U.S. (13 Pet.) 519, 589 (1839) (“[T]he laws of the one [country], will, by the comity of nations, be recognised and executed in another”).

Crypto Assets (“MiCA”). The Commission should be loath to dictate how other countries should conduct their securities regulation, particularly in light of *Morrison*, in which the Supreme Court has expressly stated that the federal securities laws do **not** apply extraterritorially.

* * *

The crypto-asset industry is not, as the Reopening Release inquires, seeking special treatment. This particular Proposal itself, however, *does* treat the crypto-asset industry differently, sweeping in more technology and potential actors than is technologically possible – the rules as proposed cannot be complied with and thus, would jeopardize the commercial viability of the entire crypto-asset industry.⁶¹ Indeed, the proposed amended rule would be a *de facto* ban on all permissionless blockchain networks or communications protocols and also of the software protocols that are built on top of such networks, including DeFi protocols. Contrary to the Commission’s goals, such a ban would hinder innovation in the United States, disproportionately negatively impact U.S. investors and lead to capital formation offshore in the European Union, the United Kingdom, Japan, and many other countries that are attracting investments, jobs, and technological advancements by designing regulations to adapt to changing technologies.

Polygon Labs appreciates the opportunity to provide comments with respect to rule-making that could potentially affect the hundreds of thousands of validators in the blockchain ecosystem, and the global blockchain ecosystem. Polygon Labs and its counsel are available to meet and discuss these issues with the Commission and to respond to any questions.

Sincerely,



Rebecca Rettig
Chief Policy Officer
Polygon Labs

cc: Jason Gottlieb
Daniel Isaacs
Vani Upadhyaya

⁶¹ See Regulation of Exchanges and Alternative Trading Systems, Release No. 34-40760, 63 Fed. Reg. 70844, 70846 (Dec. 22, 1998) (“the tools it needs to adopt a regulatory framework that addresses its concerns about alternative trading systems without jeopardizing the commercial viability of these markets.”).