RULES OF THE CHICAGO STOCK EXCHANGE, INC.

ARTICLE 1. Definitions and General Information

Rule 1. Definitions

Whenever and wherever used in these Rules, unless the context requires otherwise, the following terms shall have the respective meanings ascribed to them below:

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(oo) Reserved[“Routable Order”: means any incoming limit order, as defined under Article 1, Rule 2(a)(1), of any size, not marked by any order modifiers or related terms listed under Article 1, Rule 2 that prohibit the routing of the order to another Trading Center; provided, however, that during a SNAP Cycle, participating SNAP Eligible Orders are always Routable Orders.]

(pp) – (qq) Unchanged

(rr) Reserved[“SNAP Price”: means a single price at which the greatest number of shares may be executed during a SNAP Cycle, as described under Article 18, Rule 1(b), without trading-through any more aggressively priced orders on either side of the market, in compliance with all CHX Rules and relevant securities laws and regulations, including Regulation NMS and Rule 201 of Regulation SHO, and any applicable exemptive relief therefrom; provided the following:

(1) Where two or more price points are identified above, the SNAP Price shall be the price closest to the last reported sale in the security from the same trading day that was not permitted to trade-through the National Best Bid and Offer (“NBBO”) at the time the last sale was executed (“eligible same day last sale”). Where two or more price points are equally close to the eligible same day last sale price, the SNAP Price shall be the eligible same day last sale price.

(2) If an eligible same day last sale cannot be ascertained, pursuant to paragraph (rr)(1) above, the SNAP Price shall be the price closest to the NBBO midpoint. Where two or more price points are equally close to the NBBO midpoint, the SNAP Price shall be the NBBO midpoint.]
Reserved[“SNAP Eligible Order”: means a limit order, as defined under Article 1, Rule 2(a)(1), not marked by, or handled as, any one of the following modifiers:

1. Cancel On SNAP.
2. Fill Or Kill.
3. Immediate Or Cancel.
4. Start SNAP, except where the limit order marked Start SNAP is handled as SNAP AOO – One And Done, pursuant to Article 1, Rule 2(h)(1)(C).

Certain modifiers attached to SNAP Eligible Orders shall be deactivated during a SNAP Cycle, pursuant to Article 18, Rule 1(b)(2)(D).]

Rule 2. Order Types, Modifiers, and Related Terms

Unless otherwise specifically defined elsewhere in the CHX Rules, the following terms shall have the respective meanings ascribed to them, for purposes of all CHX Rules. Order modifiers listed under Article 18, Rule 1(b)(2)(D) shall not be active for a security that is subject to a SNAP Cycle, as described under Article 18, Rule 1.

(a) General Order Types. The following general order types shall be accepted by the Matching System, subject to the requirements of Article 20, Rule 4. All orders received by the Matching System will be deemed to have been received “Do Not Route,” as defined under paragraph (b)(3)(A), which cannot be overridden by the order sender.

(b) Order Execution Modifiers. One or more order execution modifiers may be applied to a general order type, subject to the requirements of Article 20, Rule 4, so long as the modifier is compatible with the general order type and other applicable order modifiers/terms.

1. Limit Orders Only. The following order execution modifiers may be attributed to limit orders only.

   (A) – (B) Unchanged
(C) “CHX Only”: a limit order modifier that requires an order to be ranked and executed on the Exchange pursuant to Article 20, Rule 8, without routing away to another Trading Center and is eligible for the CHX Only Price Sliding Processes, detailed below. An order sender may not opt out of the CHX Only Price Sliding Processes if the order is marked CHX Only. An order sender can enter instructions to have all limit orders default to CHX Only.

[A limit order marked CHX Only shall be deemed to have been received “Do Not Route,” as defined under paragraph (b)(3)(A), which cannot be overridden by the order sender.]

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(D) “Post Only”: a limit order modifier that requires an order to be posted on the Exchange and not routed away to another trading center.

[A limit order marked Post Only shall be deemed to have been received “Do Not Route,” as defined under paragraph (b)(3)(A), which cannot be overridden by the order sender.]

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(3) Applicable to Multiple Order Types

(A) Unchanged

(B) "Intermarket Sweep" or "ISO": a limit or cross order modifier that marks an order as required by SEC Rule 600(b)(30). The Exchange relies on the marking of an order as an ISO when handling such an order, and thus, it is the entering Participant’s responsibility, not the Exchange’s responsibility, to comply with the requirements of Regulation NMS and Article 20, Rule 6(c)(3) relating to ISOs. Any new incoming order marked ISO will not be rejected or cancelled if it would lock, cross, or trade-through a Protected Quotation of an away market. [ISOs shall be deemed to have been received “Do Not Route,” as defined under paragraph (b)(3)(A), which cannot be overridden by the order sender.]

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(d) Order Duration (“Time-In-Force”) Modifier. One order duration modifier may be applied to a general order type, subject to the requirements of Article 20, Rule 4, so long as the modifier is compatible with the general order type and other applicable order modifiers/terms.

(1) Unchanged
(2) "Fill Or Kill" or "FOK": a modifier that requires an order to be executed in full and for limit orders, at or better than its limit price, as soon as the order is received by the Matching System, but that will be immediately cancelled if it cannot be executed in full. An order marked FOK may be executed at one or more different prices against orders in the Matching System (including any Reserve Size or undisplayed orders).

[An order marked FOK shall be deemed to have been received “Do Not Route,” as defined under paragraph (b)(3)(A), which cannot be overridden by an order sender.]

(3) Unchanged

(4) "Immediate Or Cancel" or "IOC": a modifier that requires an order to be executed, either in whole or in part and for limit orders, at or better than its limit price, as soon as the order is received by the Matching System, with any unexecuted balance of the order to be immediately cancelled. Orders marked IOC shall be executed against any orders in the Matching System at or better than the Exchange's BBO (including any Reserve Size or undisplayed orders at or better than that price).

[An order marked IOC shall be deemed to have been received “Do Not Route,” as defined under paragraph (b)(3)(A), which cannot be overridden by an order sender.]

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[(h) Order modifiers related to SNAP. One or more order modifiers related to SNAP, as described under Article 18, Rule 1, may be applied to limit orders only, subject to the requirements of Article 20, Rule 4, so long as the modifier is compatible with other applicable order modifiers/terms.

(1) “Start SNAP”: a limit order modifier that -1- initiates a SNAP Cycle in a specified security, as described under Article 18, Rule 1(b), if the limit order marked Start SNAP meets the requirements of subparagraph (A) or, -2- joins a SNAP Cycle in progress, if it does not meet the requirements of subparagraph (A), but meets the requirements of proposed subparagraph (C). A limit order marked Start SNAP is not executable during the Open Trading State, as defined under Article 1, Rule 1(qq). A limit order marked Start SNAP that does not meet the requirements of either subparagraph (A) or (C) shall be cancelled.
(A) Requirements to initiate a SNAP Cycle. A limit order marked Start SNAP shall only initiate a SNAP Cycle if the following conditions are met. If any one of the following conditions are not met, the limit order marked Start SNAP will be cancelled, unless it meets the requirements of subparagraph (C).

(i) Size. A limit order marked Start SNAP must be for (a) at least 2,500 shares and have a minimum aggregate notional value of $250,000 or (b) at least 20,000 shares with no minimum aggregate notional value requirement; provided, however, that certain issues specified below have special minimum size requirements:

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<thead>
<tr>
<th>Special Issues</th>
<th>Minimum Size</th>
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<tbody>
<tr>
<td>Berkshire Hathaway, Inc. (BRK-A)</td>
<td>100</td>
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(ii) Price. The limit price of a buy (sell) order marked Start SNAP must be priced at or through the National Best Offer (National Best Bid) at the time the order was received by the Matching System. If the National Best Bid and Offer (“NBBO”) is crossed or a two-sided NBBO does not exist at the time the limit order marked Start SNAP is received by the Matching System, the limit order marked Start SNAP shall not initiate a SNAP Cycle. A limit order marked Start SNAP and Sell Short, as defined under Article 1, Rule 2(b)(3)(E), for a covered security subject to short sale price test restriction, shall not initiate a SNAP Cycle and shall be cancelled.

(iii) Timing. A limit order marked Start SNAP will only initiate a SNAP if it is received during the regular trading session; provided, however, that it will not initiate a SNAP if it is received (a) within five minutes of the first two-sided quote in the subject security having been received by the Exchange from the primary market disseminated after either the beginning of the regular trading session or a trading halt, pause or suspension that required the Exchange to suspend trading in the subject security; (b) within five minutes of the end of the regular trading session; (c) during a SNAP Cycle or (d) within one minute after the completion of the previous SNAP Cycle.

(iv) Routing unavailable. A limit order marked Start SNAP will not initiate a SNAP if the CHX Routing Services, as described under Article 19, are not available at the time the order is received by the Matching System.
(B) **Minimum SNAP execution size condition.** An order sender may instruct that the entire SNAP Cycle be cancelled, without any executions, if the sum of -1- the minimum number of shares that could be executed within the Matching System at the SNAP Price, as defined under Article 1, Rule 1(rr), and -2- the number of shares that are to be routed away, pursuant to Article 19, Rule 3(a)(4) and (5), is less than the minimum number of shares required for the limit order marked Start SNAP to initiate a SNAP Cycle.

(C) **SNAP AOO - One And Done handling.** By default, a limit order marked Start SNAP that does not meet the requirements of subparagraph (A) and is received by the Matching System during a SNAP Order Acceptance Period, as described under Article 18, Rule 1(b)(2), shall be handled as SNAP AOO - One And Done, as defined under paragraph (h)(3)(B), and join the SNAP Cycle in progress, if the order meets the requirements of paragraph (h)(3)(B). The order sender may instruct that the limit order marked Start SNAP not be subject to this special handling even if eligible.

(2) “Cancel On SNAP”: a limit order modifier that requires the order to be cancelled upon initiation of a SNAP Cycle or cancelled upon receipt if received during a SNAP Cycle.

(3) “SNAP Auction Only Orders” or “SNAP AOOs”: a limit order marked by, or handled as, one of the modifiers below, that is only executable during a SNAP Cycle, as described under Article 18, Rule 1(b). SNAP AOOs shall only be accepted from the beginning of the early session to five minutes prior to the end of the regular trading session. Upon receipt by the Exchange, all valid SNAP AOOs shall either be queued or immediately ranked on the SNAP CHX book, as described under Article 20, Rule 8(b)(2)(A).

A SNAP AOO must be for (a) at least 250 shares and have a minimum aggregate notional value of $25,000 based on its corresponding SNAP AOO Reference Price or (b) at least 2,000 shares with no minimum aggregate notional value requirement; provided, however, that certain issues specified below have special minimum size requirements. If there is no special minimum size requirement noted for a security, the SNAP AOO Reference Price for the security shall be the last sale in the subject security that was not permitted to trade-through the National Best Bid and Offer (“NBBO”) at the time the last sale was executed. If a SNAP AOO Reference Price cannot be determined, the SNAP AOO shall be cancelled.

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(A) “SNAP AOO - Day”: a limit order modifier that requires the order to only participate in the next SNAP Cycle for which it is eligible and every SNAP Cycle thereafter for the remainder of the trading session until fully-executed or cancelled.

(B) “SNAP AOO - One And Done”: a limit order modifier that requires the order to only participate in the next SNAP Cycle for which it is eligible with any unexecuted remainder to be cancelled; provided, however, that if the SNAP Cycle in which the limit order marked SNAP AOO – One And Done was participating was aborted prior to the stage three Pricing and Satisfaction Period of the SNAP Cycle, the order shall be re-queued, pursuant to Article 20, Rule 8(b)(2)(A), and not cancelled.

(C) “SNAP AOO - Pegged”: a limit order modifier only available for orders marked SNAP AOO – Day or SNAP AOO - One And Done, that requires the order to be priced at the less aggressive of an optional limit price or mandatory offset price from the NBBO ascertained from the market snapshot taken pursuant to Article 18, Rule 1(b)(2)(E). An order sender that submits a limit order marked SNAP AOO - Pegged must specify one of the following pricing options:

(i) **Midpoint.** Priced at the midpoint of the NBBO or the locking price if the NBBO is locked. If the NBBO is crossed, the order shall not participate in the instant SNAP Cycle, even if there is an optional limit price indicated.

(ii) **Market.** A buy (sell) order shall be priced at, or a specified offset below or above, the NBO (NBB).

(iii) **Primary.** A buy (sell) order shall be priced at, or a specified offset below or above, the NBB (NBO).

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**ARTICLE 18. Reserved[Auctions]**

**Rule 1. Sub-second Non-displayed Auction Process (“SNAP”)**
(a) **Generally.** SNAP is a fully-hidden on-demand auction that may be initiated in a security within the Matching System, pursuant to the provisions of this Rule. A SNAP Cycle may only occur during the regular trading session, but may occur more than once during a regular trading session and may occur in different securities concurrently. During a SNAP Cycle, automated trading in the subject security shall be suspended. The Exchange reserves the right to enable or disable SNAP, per security, pursuant to notice to Participants.

(b) **SNAP Cycle.** A SNAP Cycle is comprised of the following five stages.

1. **Stage One: Beginning the SNAP Cycle.** Upon the initiation of a SNAP Cycle pursuant to Rule 1A below, the Matching System shall immediately suspend automated matching of orders in the subject security and shall take the following actions:

   (A) **Notice of SNAP to market.** The Exchange shall remove its Protected Quotation(s) in the subject security, if any, and notify the market that a SNAP Cycle is taking place in the subject security.

   (B) **CHX Book Feed.** The Exchange shall submit messages through the CHX Book Feed to reflect that precedent orders previously disseminated through the CHX Book Feed are no longer automatically executable. The Exchange will suspend dissemination of any other order information concerning the subject security.

2. **Stage Two: SNAP Order Acceptance Period.** The SNAP Order Acceptance Period shall begin upon initiation of a SNAP Cycle and last approximately 475 to 525 milliseconds, the actual length of which will be randomized by the Matching System and take the following actions:

   (A) **Precedent orders.** Orders received by the Exchange prior to the initiation of a SNAP Cycle in the subject security shall be handled as follows:

      (i) **SNAP Eligible Orders,** as defined under Article 1, Rule 1(ss), in the subject security, not marked SNAP AOO - Pegged, as defined under Article 1, Rule 2(h)(3)(C), resting on the CHX book or SNAP AOO Queue, as described under Article 20, Rule 8(b)(2)(A), prior to the initiation of the current SNAP Cycle, shall be ranked on the SNAP CHX book, pursuant to Article 20, Rule 8(b)(3)(A) – (C) and (E), as applicable. Precedent SNAP AOOs marked SNAP AOO - Pegged shall remain on the SNAP AOO Queue until ranked on the SNAP CHX book, pursuant to paragraph (b)(3)(A) below.
(ii) **Initiating order.** The limit order marked Start SNAP that initiated the SNAP Cycle shall be ranked on the SNAP CHX book, pursuant to Article 20, Rule 8(b)(3)(D).

(iii) **Non-SNAP Eligible Orders** in the subject security resting on the CHX book prior to the initiation of the current SNAP Cycle shall be cancelled.

(B) **Incoming orders.** Incoming orders received during the SNAP Cycle shall be handled as follows:

(i) **Incoming SNAP Eligible Orders.** Incoming SNAP Eligible Orders received during the SNAP Order Acceptance Period shall be immediately ranked on the SNAP CHX book, pursuant to Article 20, Rule 8(b)(3)(E); provided, however, that SNAP AOOs marked SNAP AOO - Pegged shall be placed in the SNAP AOO Queue upon receipt and shall only be ranked on the SNAP CHX book, pursuant to paragraph (b)(3)(A) below. Incoming SNAP Eligible Orders received after the SNAP Order Acceptance Period, but during a SNAP Cycle, shall not be eligible to participate in the current SNAP Cycle and shall be queued, pursuant to subparagraph (C) below.

(ii) **Incoming non-SNAP Eligible Orders.** Incoming non-SNAP Eligible Orders received during the SNAP Cycle, shall be cancelled upon receipt, except that cross orders shall be queued, pursuant to subparagraph (C) below.

(C) **First In/First Out ("FIFO") Queue.** During a SNAP Cycle, the Exchange shall queue the following incoming messages for later processing, pursuant to paragraph (b)(5)(B) below:

(i) Cancel and cancel/replace messages for resting or queued orders.

(ii) Cancel messages from away markets for routed orders received after the SNAP Order Acceptance Period.

(iii) SNAP Eligible Orders received after the SNAP Order Acceptance Period.

(iv) Cross orders.
(D) **Deactivate certain modifiers.** Prior to being ranked on the SNAP CHX book, the following order modifiers shall be deactivated for the subject security only:

(i) CHX Only.

(ii) Post Only.

(iii) Do Not Route.

(iv) Match Trade Prevention.

(v) Always Quote.

(vi) Reserve Size.

(E) **Market snapshot and routing availability.** Upon the conclusion of the SNAP Order Acceptance Period, the Matching System shall take a snapshot of the Protected Quotation(s) of external market(s) in the subject security and determine whether or not the CHX Routing Services are available. If a two-sided NBBO does not exist or the CHX Routing Services are unavailable, the SNAP Cycle shall be aborted without any executions and the Matching System shall immediately begin the stage five Transition to the Open Trading State.

(3) **Stage Three: Pricing and Satisfaction Period.** If permitted, pursuant to paragraph (b)(2)(E) above, the Matching System shall utilize the market snapshot taken pursuant to paragraph (b)(2)(E) to initiate the Pricing and Satisfaction Period by taking the following actions:

(A) **Pricing and Ranking of SNAP AOOs Marked SNAP AOO - Pegged.** The Matching System shall price all SNAP AOOs marked SNAP AOO - Pegged remaining on the SNAP AOO Queue, then rank such orders on the SNAP CHX book, pursuant to Article 20, Rule 8(b)(3)(E).

(B) **Establishing the SNAP Price.** Once the process described under subparagraph (A) has been completed, the Matching System shall determine the SNAP Price, as defined under Article 1, Rule 1(rr). If the SNAP Price cannot be determined, the Matching System shall take a snapshot of the Protected Quotation(s) of external market(s) in the subject
security and the SNAP Cycle shall continue to the stage five Transition to the Open Trading State.

If the SNAP Price can be determined and one or more orders must be routed away, pursuant to Article 19, Rule 3(a)(4) and/or (5), the SNAP Cycle shall continue to the Satisfaction Period, pursuant to subparagraph (C). If no order routing is necessary, the SNAP Cycle shall continue to the stage four Order Matching Period.

(C) **Satisfaction Period.** If the SNAP Price requires the routing of one or more orders, pursuant to Article 19, Rule 3(a)(4) and/or (5), the Exchange’s routing systems shall route away the necessary SNAP Eligible Orders, or portions thereof, based on their execution priority, pursuant to paragraph (b)(4)(A). The Matching System shall then delay proceeding to the stage four Order Matching Period for 200 milliseconds or until all confirmations for routed orders have been received from away market(s), whichever occurs first.

The unexecuted remainders of orders routed away pursuant to Article 19, Rule 3(a)(4) and/or (5) returned to the Matching System prior to the expiration of the Satisfaction Period during which the orders were routed away shall maintain their respective original execution priority within the SNAP CHX book, whereas such unexecuted remainders returned to the Matching System after the expiration of the Satisfaction Period during which the orders were routed away shall be handled pursuant to Article 20, Rule 8(b)(7).

(4) **Stage Four: Order Matching Period.** Upon conclusion of the stage three Pricing and Satisfaction Period, orders remaining on the SNAP CHX book if any, shall be matched at the SNAP Price as follows:

(A) **Execution priority.** SNAP Eligible Orders with a Working Price at or more aggressive than the SNAP Price shall be executed in Working Price priority and if more than one such order shares the same Working Price, then as described under Article 20, Rule 8(b)(3), for that price point.

(B) **Market snapshot.** Upon conclusion of the matching of orders at the SNAP Price, the Matching System shall then take a snapshot of the Protected Quotation(s) of external market(s) in the subject security.

(5) **Stage Five: Transition to the Open Trading State.** Upon conclusion of the stage of stages two or four of the SNAP Cycle, the Matching System shall utilize the market snapshot taken pursuant to paragraph (b)(3)(B) or (b)(4)(B), as applicable,
to transition trading in the subject security to the Open Trading State by taking the following actions:

(A) **Resting Orders.** Orders resting on the SNAP CHX book shall be transitioned to the CHX book and shall be ranked, pursuant to Article 20, Rule 8(b)(1); routed away, pursuant to Article 19, Rule 3(a); placed in the SNAP AOO Queue, pursuant to Article 20, Rule 8(b)(2)(A), if the order is a SNAP AOO that may participate in a subsequent SNAP Cycle; or otherwise cancelled. All order modifiers attached to the SNAP Eligible Orders being transitioned to the CHX book that were deactivated shall be reactivated prior to transition to the CHX book.

(B) **Processing the FIFO Queue.** Once the process under subparagraph (A) above has been completed, all messages queued on the FIFO Queue, as described under paragraph (b)(2)(C), shall be processed as incoming messages in the order in which they were received.

(C) **Notice of end of SNAP to market.** Once the processes under subparagraphs (A) and (B) have been completed, the Exchange will notify the market that the SNAP Cycle has concluded; publish Protected Quotation(s) in the subject security, if any; and begin the dissemination of relevant order information concerning orders resting on the CHX book, pursuant to Article 4, Rule 1.

(c) **Halt, pause or suspension during the SNAP Cycle.** A SNAP Cycle shall not begin in a security if a trading halt, pause or suspension is in effect for a subject security that requires the Exchange to suspend trading in that security (“material halt, pause or suspension”). In the event a material halt, pause or suspension has been declared for the subject security during a SNAP Cycle, the Exchange shall take the following actions, as applicable:

(1) **SNAP CHX book**

(A) **During stages one or two.** If the market snapshot taken pursuant to paragraph (b)(2)(E) or (F) indicates that a halt, pause or suspension is in effect, the SNAP Cycle shall be aborted and not proceed to stage three or stage five, as applicable. The Exchange shall then cancel all orders resting on the SNAP CHX book, subject to paragraph (c)(2) below.

(B) **During stages three or four.** If the market snapshot taken pursuant to paragraph (b)(3)(B) or (b)(4)(B) indicates that a halt, pause or suspension is in effect for the subject security, the SNAP Cycle shall be aborted and not proceed
to stage five. The Exchange shall then cancel the unexecuted remainders of all orders resting on the SNAP CHX book, subject to paragraph (c)(2) below.

(C) Any subsequent material halt or pause shall be handled pursuant to the relevant CHX Rules.

(2) SNAP AOOs. Upon initiation of a material halt or pause, all SNAP AOOs not marked Cancel On Halt or otherwise cancelled by the order sender that are -1-on the SNAP AOO Queue, as defined under Article 20, Rule 8(b)(2)(A), or -2-resting on the SNAP CHX book and may be re-queued on the SNAP AOO Queue, shall remain or be re-queued on the SNAP AOO Queue, as applicable, and not cancelled.

(3) FIFO Queue. Upon initiation of a material halt or pause, the FIFO Queue shall be processed until exhausted. FIFO Queue messages shall be processed pursuant to paragraphs (c)(4) and (5) below.

(4) Incoming orders. Upon initiation of a material halt or pause and for the remainder of the material halt or pause, all incoming orders shall be rejected; provided, however, that incoming SNAP AOOs shall be placed on the SNAP AOO Queue, if the material halt or pause is not the result of a systems issue at the Exchange.

(5) Incoming cancel messages. All incoming cancel messages and the cancel component of cancel/replace messages shall be immediately processed during a material halt or pause.

Rule 1A. Initiating SNAP

(a) Generally. Subject to Rule 1(c) above, a SNAP Cycle in a security shall be initiated either (1) upon receipt of a valid limit order marked Start SNAP, as defined under Article 1, Rule 2(h)(1), or (2) by the Exchange pursuant to paragraph (b) below.

(b) Exchange-initiated SNAP. During the Open Trading State for each SNAP-eligible security and at preprogrammed intervals, the Exchange shall review the CHX book, SNAP AOO Queue and Protected Quotations of external markets to determine whether sufficient liquidity exists to initiate a SNAP Cycle without the receipt of a valid limit order marked Start SNAP (“pro forma SNAP review”). In conducting the pro forma SNAP review, the Exchange shall take a market snapshot of the Protected Quotations of external markets in the subject security and calculate a pro forma SNAP Price, as defined under Article 1, Rule 1(rr), to determine:
(1) whether the projected execution size ("PES") at the pro forma SNAP Price is equal to or greater than the corresponding minimum PES, as described under paragraph (d); and

(2) whether the PES within the Matching System at the pro forma SNAP Price would be equal to or greater than 80% of the corresponding minimum PES.

If the conditions set forth under paragraphs (b)(1) and (2) are met, the Exchange shall initiate a SNAP Cycle pursuant to Rule 1(b) above, subject to paragraph (c) below.

(c) Restrictions on Exchange-initiated SNAP. Notwithstanding paragraph (b) above, the Exchange shall not initiate a SNAP Cycle:

(1) within five minutes of the first two-sided quote in the subject security having been received by the Exchange from the primary market disseminated after either the beginning of the regular trading session or a trading halt, pause or suspension that required the Exchange to suspend trading in the subject security; within five minutes of the end of the regular trading session; during a SNAP Cycle; or within one minute after the completion of the previous SNAP Cycle;

(2) if the CHX Routing Services, as described under Article 19, are not available at the time of the market snapshot taken pursuant to be paragraph (b) above; or

(3) if the NBBO ascertained from the market snapshot taken pursuant to paragraph (b) above is crossed or a two-sided NBBO does not exist.

(d) Minimum PES. The minimum PES for an Exchange-initiated SNAP pursuant to paragraph (b) above shall either be (1) 2,500 shares with a minimum aggregate notional value of $250,000 based on the midpoint of the NBBO ascertained from the market snapshot taken pursuant to paragraph (b) above or (2) 20,000 shares with no minimum aggregate notional value requirement; provided, however, certain issues specified below have special minimum PES requirements:

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<td>Berkshire Hathaway, Inc. (BRK-A)</td>
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ARTICLE 19. Operation of the CHX Routing Services

Rule 1. CHX Routing Services

[(a) Generally. Routable Orders that have been submitted to, and accepted by, the Matching System may be routed from the Matching System to other Trading Centers pursuant to this Article 19 and in a manner that is compliant with other Exchange rules and all securities laws and regulations, including, but not limited to, Regulation NMS and Regulation SHO; provided that the Exchange’s routing-related systems and facilities are enabled and operational.

(b) Limitation of liability. Use of the CHX Routing Services is optional and subject to the Exchange’s limitation of liability, pursuant to Article 3, Rule 19.

[(c) Firm orders. Routable Orders submitted to the Matching System are firm orders, pursuant to Article 20, Rule 3, and Participants that submit Routable Orders agree to be bound by all resulting executions, including the execution of routed orders at other Trading Centers. Routed orders received by another Trading Center shall be subject to the rules and procedures of that Trading Center.]

Rule 2. Routing Brokers

(a) Reserved [CHXBD, LLC as Outbound Router. The Exchange shall provide the CHX Routing Services through CHXBD, LLC (“CHXBD”), which is an affiliated broker that operates as a facility of the Exchange. CHXBD shall utilize one or more non-affiliated third-party brokers-dealers (“third-party routing brokers” and together with CHXBD “routing brokers”) in connection with the CHX Routing Services to route orders to away Trading Centers. CHXBD shall only accept routing-related instructions from the Exchange to route orders to away Trading Centers and shall not accept routing instructions from Participants or other non-Participants directly. Thus, the Exchange will determine the logic that provides, when, how, and where orders are routed away. Routing brokers cannot change the terms of an order or the routing instructions, nor do the routing brokers have any discretion about where to route an order. The Exchange shall report and allocate executions or report cancellations of routed orders at the away Trading Centers to the Participants that submitted the Routable Orders and to Qualified Clearing Agencies. Neither the Exchange nor CHXBD shall have responsibility for the handling of the routed order by the away Trading Center.

For so long as CHXBD is affiliated with the Exchange and is providing outbound routing from the Exchange to away Trading Centers, the following shall apply:
(1) The Exchange will regulate CHXBD as a facility (as defined in Section 3(a)(2) of the Act), subject to Section 6 of the Act. In particular, and without limitation, under the Act, the Exchange will be responsible for filing with the Commission rule changes and fees relating to CHXBD and CHXBD will be subject to the Exchange’s non-discrimination requirements.

(2) FINRA, a self-regulatory organization unaffiliated with the Exchange or any of its affiliates, will carry out oversight and enforcement responsibilities as the designated examining authority designated by the Commission pursuant to Rule 17d-1 of the Act with the responsibility for examining CHXBD for compliance with applicable financial responsibility rules.

(3) Participants’ use of CHXBD to route orders to away Trading Centers will be optional. Participants that do not desire to use CHXBD must designate orders entered into the Matching System as “Do Not Route” or any other order modifier available through the Exchange that is ineligible for routing. Any Participant that does not want to use CHXBD may use other routers to route orders to away Trading Centers.

(4) CHXBD will not engage in any business other than (A) its outbound router function for the Exchange, (B) its usage of CHXBD Error Accounts in compliance with paragraph (b)(7) below, and (C) any other activities it may engage in as approved by the Commission.

(5) The Exchange shall establish and maintain procedures and internal controls reasonably designed to adequately restrict the flow of confidential and proprietary information between the Exchange and its facilities (including CHXBD as its routing facility) and any other entity; or, where there is a third-party routing broker, the Exchange, the routing facility and any third-party routing broker, and any other entity, including any affiliate of the third-party routing broker (and if the third-party routing broker or any of its affiliates engages in any other business activities other than providing the routing services to the Exchange, between the segment of the third-party routing broker or affiliate that provides the other business activities and the segment of the third-party routing broker that provides the routing services).

(6) The books, records, premises, officers, agents, directors and employees of CHXBD as a facility of the Exchange shall be deemed to be the books, records, premises, officers, agents, directors and employees of the Exchange for the purposes of, and subject to oversight pursuant to, the Act. The books and records of CHXBD as a facility of the Exchange shall be subject at all times to inspection.
and copying by the Exchange and the Commission. Nothing in these Rules shall preclude officers, agents, directors or employees of the Exchange from also serving as officers, agents, directors and employees of CHXBD.

(7) CHXBD shall maintain a CHXBD Error Account for the purpose of liquidating unpaired trade positions that are the result of an execution or executions that are not clearly erroneous under Article 20, Rule 10 and result from a technical or systems issue at CHXBD, the Exchange, a routing destination, or non-affiliated third-party broker-dealers. (“Error Positions”).

(A) CHXBD shall not accept any positions in a CHXBD Error Account from an account of a Participant or permit any Participant to transfer any positions from its account to a CHXBD Error Account; provided, however, that CHXBD may accept into its CHXBD Error Account positions erroneously allocated to Participants to the extent that the alternatives listed under subparagraph (C) below have been exhausted or are impracticable.

(B) If a technical or systems issue on the Exchange or CHXBD results in the Exchange not having valid clearing instructions for a Participant to a trade, the Exchange may assume that Participant’s side of the trade so that the trade can be automatically processed for clearance and settlement on a locked-in basis.

(C) In connection with a particular technical or systems issue and prior to accepting any resulting Error Positions into the CHXBD Error Account, the Exchange or CHXBD shall, if practicable, -1- assign such Error Positions to Participants in accordance with subparagraph (C)(i) below; -2- cause to have any erroneous executions cancelled on the Trading Centers on which they were executed; or -3- allocate Error Positions to third-party routing brokers if the technical or systems issue occurred away from the Exchange and CHXBD. Error Positions that could not be handled in this manner shall be taken into the CHXBD Error Account and liquidated in accordance with subparagraph (D). Determinations on how to treat Error Positions shall be made in a nondiscriminatory manner.

(i) The Exchange or CHXBD shall assign all Error Positions resulting from a particular technical or systems issue to the Participants affected by that technical or systems issue if the Exchange or CHXBD:
(1) Determines that it has accurate and sufficient information (including valid clearing information) to assign the positions to all of the Participants affected by that technical or systems issue;

(2) Determines that it has sufficient time pursuant to normal clearance and settlement deadlines to evaluate the information necessary to assign the positions to all of the Participants affected by that technical or systems issue; and

(3) Has not determined to cancel all orders affected by that technical or systems issue in accordance with Article 20, Rule 12.

(D) If the Exchange or CHXBD is unable to address Error Positions in accordance with subparagraph (C) above or if the Exchange or CHXBD determines to cancel all orders affected by the technical or systems issue in accordance with Article 20, Rule 12, then such Error Positions shall be taken into the CHXBD Error Account and CHXBD shall cause to have such positions liquidated as soon as practicable. In liquidating such Error Positions, CHXBD shall:

(i) Provide complete time and price discretion for the trading to liquidate the Error Positions to a non-affiliated third-party broker-dealer and shall not attempt to exercise any influence or control over the timing or methods of such trading; provided, however, that CHXBD may provide a general instruction to the non-affiliated third-party broker-dealer that the Error Positions should be liquidated in a timely manner using commercially reasonable efforts in accordance with custom and practice within the securities industry while minimizing market fluctuation to the extent possible; and

(ii) Establish and enforce policies and procedures that are reasonably designed to restrict the flow of confidential and proprietary information between the non-affiliated third-party broker-dealer and CHXBD/the Exchange associated with the liquidation of the Error Positions.

(E) The Exchange and CHXBD shall make and keep records to document all determinations to treat positions as Error Positions and all determinations for the liquidation of Error Positions through the non-
affiliated third-party broker-dealer, as well as records associated with the liquidation of Error Positions through the non-affiliated third-party broker-dealer.]

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[Rule 3. Routing Events]

(a) A Routable Order, or a portion thereof, shall be routed pursuant to the CHX Routing Services in compliance with CHX rules and all federal securities laws, rules and regulations, including Regulation NMS and Regulation SHO, to the extent necessary:

1. To permit the display and/or execution of an incoming Routable Order on the Exchange in compliance with Rules 610(d) and 611 of Regulation NMS and, for the duration of the Pilot Period to coincide with the Pilot Period for the Regulation NMS Plan to Implement a Tick Size Pilot (“Plan”), the Trade-at-Prohibition described under the Plan;

2. To prevent the execution of an incoming Routable Order for an Odd Lot if it would trade-through a Protected Quotation of an external market;

3. To execute an incoming Routable Order marked Do Not Display or a Routable Order of an Odd Lot that could not be displayed (“incoming undisplayed Routable Order”) against any Protected Quotation(s) of external market(s) priced at or better than the limit price of the incoming undisplayed Routable Order if there are no contra-side resting orders on the CHX book against which the incoming undisplayed Routable Order could execute.

4. To permit orders to be executed within the Matching System at the SNAP Price, as defined under Article 1, Rule 1(rr), in compliance with Regulation NMS. Orders routed away pursuant to this paragraph (a)(4) shall be priced -1- at the SNAP Price or, -2- if the SNAP Price is priced at an increment smaller than the relevant minimum price increment, at the minimum price increment less aggressive than the SNAP Price; or

5. To execute SNAP Eligible Orders at the SNAP Price against Protected Quotations of external markets priced at the SNAP Price that could not be matched within the Matching System, during a SNAP Cycle, as described under Article 18, Rule 1(b).
(b) **Marking routed orders.** Every order routed away pursuant to a Routing Event shall be marked IOC.

(c) **Handling unexecuted remainders.** If an unexecuted remainder of a routed order is returned to the Matching System in one or more parts, each shall be handled pursuant to Article 20, Rule 8(b)(7).

(d) **Cancelling routed orders.** Cancellation requests of routed orders from Participants shall be handled pursuant to Article 20, Rule 8(f). The Exchange may release pending portions of Routable Orders pursuant to Article 20, Rule 12(b).

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**ARTICLE 20. Operation of the CHX Matching System**

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**Rule 5. Prevention of Trade-Throughs**

(a) An inbound order for at least a round lot is not eligible for execution on the Exchange if its execution would be improper under Rule 611 of Regulation NMS (but not including the exception set out in Rule 611(b)(8)) (an “improper trade-through”) and such an order shall be handled by the Exchange as follows:

1. **Reserved**[If the execution of all or part of an inbound Routable Order, as defined under Article 1, Rule 1(oo), would cause an improper trade-through, that Routable Order (or the portion of that order that would cause an improper trade-through) shall be routed away, pursuant to Article 19, Rule 3(a)(1); or]

2. If the execution of all or part of an inbound order would cause an improper trade-through[ and the order cannot be routed away], the order shall be automatically cancelled; provided, however, that such an order marked CHX Only may be subject to the CHX Only Price Sliding Processes, detailed under Article 1, Rule 2(b)(1)(C) and not automatically cancelled.

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**Rule 6. Locked and Crossed Markets**
(d) **Matching System operation.** Except as permitted in paragraph (c) above, an order is not eligible for display on the Exchange if its display would lock or cross a Protected Quotation of an external market in violation of Rule 610 of Regulation NMS and such an order shall be handled by the Exchange as follows:

(1) **Reserved** [If the display of a Routable Order, as defined under Article 1, Rule 1(oo), would impermissibly lock or cross a Protected Quotation of an external market, that Routable Order, or a portion thereof, shall be routed away, pursuant to Article 19, Rule 3(a)(1); or]

(2) If the display of an order would impermissibly lock or cross a Protected Quotation of an external market and the order cannot be routed away, that order shall be automatically cancelled; provided, however, that such an order marked CHX Only may be subject to the CHX Only Price Sliding Processes, detailed under Article 1, Rule 2(b)(1)(C) and not automatically cancelled.

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**Rule 8. Operation of the Matching System**

The Exchange's Matching System shall operate in the following manner:

(a) **Routing of orders.** Participants may route orders to the Matching System through any communications line approved by the Exchange. [Participants may only route orders away from the Matching System by utilizing the CHX Routing Services, pursuant to Article 19.]

(b) **Ranking and display of orders.** Orders shall be ranked and displayed as follows:

(1) – (6) Unchanged

[7] **Priority of unexecuted remainders of routed orders returned to the Matching System.** An unexecuted remainder of a routed order returned to the Matching System in one or more parts shall be added to the existing balance of the related Routable Order already posted to the CHX book, the SNAP CHX book or the SNAP AOO Queue, as applicable. If no balance exists at the time a part of an unexecuted remainder of a routed order is returned to the Matching System, it shall be treated as a new incoming order, subject to Article 18, Rule 1(b)(3)(C).]
(d) **Automated matching of orders.** Orders shall automatically match against each other, as follows:

(1) – (2) Unchanged

(3) Odd Lot orders and unexecuted Odd Lot remainders that are unable to be immediately displayed according to Rule 8(b)(6) above (because they are at a price that is better than the current CHX quote) shall be posted to, remain in, or be routed or cancelled from, the Exchange’s Matching System according to the attached order modifiers. Orders remaining in the Matching System will continue to be ranked at the price and time at which they were originally received.

(4) **Rule 201 of Regulation SHO.**

(A) **Open Trading State.** During the Open Trading State, as defined under Article 1, Rule 1(qq), and the stage five Transition to the Open Trading State, as described under Article 18, Rule 1(b)(5), orders marked Sell Short in a covered security subject to the short sale price test restriction shall be handled as follows:

(i) – (iii) Unchanged

(iv) A Sell Short order, other than a CHX Only order, will be cancelled back to the order sender if, based on Rule 201 of Regulation SHO, such order is not executable, cannot be routed to another Trading Center pursuant to Article 19, Rule 3 or cannot be posted to the Matching System.

[(B) **SNAP Cycle.** During the stage four Order Matching Period of a SNAP Cycle, as described under Article 18, Rule 1(b)(4), in a covered security subject to the short sale price test restriction, participating SNAP Eligible Orders, as defined under Article 1, Rule 1(ss), marked Sell Short shall not be permitted to execute at prices at or below the NBB ascertained from the market snapshot taken pursuant to Article 18, Rule 1(b)(2)(E) and shall be handled as follows:

(i) A SNAP Eligible Order marked Sell Short in a covered security subject to the short sale price test restriction, with a limit price at or below the NBB ascertained from the market snapshot taken pursuant to Article 18, Rule 1(b)(2)(E), shall be repriced to one minimum price
increment above that NBB for ranking purposes on the SNAP CHX book. A SNAP Eligible Order marked Sell Short in a covered security subject to the short sale price test restriction, with a limit price at one minimum price increment above the NBB ascertained from the market snapshot taken pursuant to Article 18, Rule 1(b)(2)(E) or higher, shall be ranked on the SNAP CHX book at its limit price, without repricing. A SNAP Eligible Order marked Short Exempt, as defined under Article 1, Rule 2(b)(3)(E), in a covered security subject to the short sale price test restriction, shall be handled like a SNAP Eligible Order not marked Sell Short, as described under Article 18, Rule 1(b). SNAP Eligible Orders marked Sell Short in a covered security subject to the short sale price test restriction will never be permitted to execute at prices at or below the NBB ascertained from the market snapshot taken pursuant to Article 18, Rule 1(b)(2)(E).

(ii) The Rule 201(b)(1)(iii)(A) of Regulation SHO exception shall not apply to a SNAP Eligible Order marked Sell Short that is being transitioned to the SNAP CHX book and such an order shall be repriced, if necessary, pursuant to subparagraph (B)(i) above.

(iii) A limit order marked Start SNAP, as defined under Article 1, Rule 2(h)(1), and Sell Short for a covered security subject to short sale price test restriction shall not initiate a SNAP Cycle and shall be cancelled.

(e) Execution of certain orders and order types and auctions. The following orders shall be executed within the Matching System as set out below:

(1) Unchanged

(2) Reserved

(f) Cancellation of orders. Order cancellation messages submitted by Participants shall be handled as follows:

(1) Unchanged
[2] Cancel messages for routed orders shall be held by the Exchange while the routed order is away and only the unexecuted routed portion of a routed order shall be cancelled upon its return to the Matching System; provided, however, that the Exchange may release the pending routed portion of a Routable Order pursuant to Article 20, Rule 12.]

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Rule 12. Order Cancellation[/Release] by the Exchange

(a) The Exchange [or CHXBD ]may cancel orders as it deems to be necessary to maintain fair and orderly markets if a technical or systems issue occurs at the Exchange[, CHXBD, a non-affiliated third party broker in connection with the CHX Routing Services provided under Article 19, or another Trading Center to which an order has been routed]. The Exchange [or CHXBD ]shall provide notice of the cancellation to affected Participants as soon as practicable.

[(b) The Exchange may release orders being held on the Exchange awaiting another Trading Center execution as it deems necessary to maintain fair and orderly markets if a technical or systems issue occurs at the Exchange, CHXBD, a non-affiliated third-party broker, or another Trading Center to which an order has been routed.]

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