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| Form ATS<br>Page 1<br>Execution<br>Page | <b>UNITED STATES SECURITIES AND EXCHANGE COMMISSION</b><br>WASHINGTON, D.C. 20549<br><b>INITIAL OPERATION REPORT, AMENDMENT TO INITIAL OPERATION REPORT AND<br/>         CESSATION OF OPERATIONS REPORT FOR ALTERNATIVE TRADING SYSTEMS</b> | Date filed<br>(MM/DD/YY):<br><b>6/1/15</b> | OFFICIAL<br>USE<br>ONLY |
|---|---|--|-------------------------|

WARNING: Failure to keep this form current and to file accurate supplementary information on a timely basis, or the failure to keep accurate books and records or otherwise to comply with the provisions of law applying to the conduct of alternative trading systems would violate the federal securities laws and may result in disciplinary, administrative or criminal action.  
**INTENTIONAL MISSTATEMENTS OR OMISSIONS OF FACTS MAY CONSTITUTE CRIMINAL VIOLATIONS**

INITIAL OPERATION REPORT     AMENDMENT TO INITIAL OPERATION REPORT     CESSATION OF OPERATIONS REPORT

1. Exact name, principal business address, mailing address, if different, and telephone number of alternative trading system:
  - A. Full name of alternative trading system (if sole proprietor, last, first and middle name):  
UBS ATS
  - B. Name(s) under which business is conducted, if different from Item 1A:  
UBS Securities LLC
  - C. CRD Number: 7654                      D. SEC File No.: 8-22651
  - E. If this filing makes a name change on behalf of the alternative trading system, enter the previous name and specify whether the name change is of the \_\_\_\_\_ alternative trading system name (1A), or \_\_\_\_\_ business name (1B):  
Previous name: \_\_\_\_\_
  - F. Alternative trading system's main street address (Do not use a P.O. Box):  
1285 Avenue of the Americas, New York, NY 10019
  - G. Mailing address (if different):  
\_\_\_\_\_
  - H. Business telephone and facsimile number:  
\_\_\_\_\_  
\_\_\_\_\_  
(Telephone)                      (Facsimile)
  - I. Contact employee:  
\_\_\_\_\_  
\_\_\_\_\_  
(Name and Title)                      (Telephone Number)                      (Facsimile)

**EXECUTION:** The alternative trading system consents that service of any civil action brought by, or notice of any proceeding before, the SEC or a self-regulatory organization in connection with the alternative trading system's activities may be given by registered or certified mail or confirmed telegram, to the alternative trading system's contact employee at the main address, or mailing address if different given in Items 1F and 1G. The undersigned, being first duly sworn, deposes and says that he/she has executed this form on behalf of and with the authority of, said alternative trading system. The undersigned and alternative trading system represent that the information and statements contained herein, including exhibits, schedules, or other documents attached hereto, and other information filed herewith, all of which are made a part hereof, are current, true, and complete.

Date: 06/01/2015                      UBS ATS  
 (Name of applicant)  
 By: \_\_\_\_\_  
 (Printed Name and Title)  
 Subscribed and sworn before me this 1 day of June, 2015 by \_\_\_\_\_  
 (Month)                      (Year)  
 My Commission expires 21 Dec 2017 County of \_\_\_\_\_ State of \_\_\_\_\_

**DEBBIE ANN PALOCIN**  
**NOTARY PUBLIC-STATE OF NEW YORK**  
 No. 01PA6215204  
 Qualified in New York County  
 My Commission Expires December 21, 2017

*This page must always be completed in full with original, manual signature and notarization.  
 Affix notary stamp or seal where applicable.*

**DO NOT WRITE BELOW THIS LINE - FOR OFFICIAL USE ONLY**

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|---|---|---------------------------------|-------------------------|
| Form ATS<br>Page 2  | <b>UNITED STATES SECURITIES AND EXCHANGE COMMISSION</b><br><b>WASHINGTON, D.C. 20549</b><br><b>INITIAL OPERATION REPORT, AMENDMENT TO INITIAL OPERATION REPORT AND</b><br><b>CESSATION OF OPERATIONS REPORT FOR ALTERNATIVE TRADING SYSTEMS</b> | OFFICIAL<br>USE                 | OFFICIAL<br>USE<br>ONLY |
| Alternative trading system name: <u>UBS ATS</u>   |   | CRD Number: <u>7654</u>         |                         |
| Filing date: <u>6/1/15</u>  |   | SEC File Number: <u>8-22651</u> |                         |
| <p>2. If this is an initial operation report, the date the alternative trading system expects to commence operation: _____</p> <p>3. Attach as Exhibit A, a description of classes of subscribers (for example, broker -dealer, institution, or retail). Also describe any differences in access to the services offered by the alternative trading system to different groups or classes of subscribers.</p> <p>4. Attach as Exhibit B:</p> <p>a. A list of the types of securities the alternative trading system trades (for example, debt, equity, listed, Nasdaq NM), or if this is an initial operation report, the types of securities it expects to trade. Note whether any types of securities are not registered under Section 12(a) of the Exchange Act of 1934 ("Exchange Act").</p> <p>b. A list of the securities the alternative trading system trades, or if this is an initial operation report, the securities it expects to trade. Note whether any securities are not registered under Section 12(a) of the Exchange Act.</p> <p>5. Attach as Exhibit C, the name, address, and telephone number of counsel for the alternative trading system.</p> <p>6. Attach as Exhibit D, a copy of the constitution, articles of incorporation or association, with all amendments, and of the existing bylaws or corresponding rules or instruments, whatever the name, of the alternative trading system. If this information is publicly available on a continuous basis on an Internet site controlled by the alternative trading system, the alternative trading system may indicate the location of the Internet web site where such information may be found in lieu of filing such information with the Commission.</p> <p>7. Attach as Exhibit E, the name of any entity, other than the alternative trading system, that will be involved in operation of the alternative trading system, including the execution, trading, clearing, and settling of transactions on behalf of the alternative trading system. Provide a description of the role and responsibilities of each entity.</p> <p>8. Attach as Exhibit F, the following information:</p> <p>a. The manner of operation of the alternative trading system;</p> <p>b. Procedures governing entry of orders into the alternative trading system;</p> <p>c. The means of access to the alternative trading system;</p> <p>d. The procedures governing execution, reporting, clearance, and settlement of transactions effected through the alternative trading system;</p> <p>e. Procedures for ensuring subscriber compliance with system guidelines; and</p> <p>f. A copy of the alternative trading system's subscriber manual and any other materials provided to subscribers.</p> <p>9. Attach as Exhibit G, a brief description of the alternative trading system's procedures for reviewing system capacity, security, and contingency planning procedures.</p> <p>10. If any other entity other than the alternative trading system, will hold or safeguard subscriber funds or securities on a regular basis, attach as Exhibit H the name of such entity and a brief description of the controls that will be implemented to ensure the safety of such funds and securities.</p> <p>11. Attach as Exhibit I, a list providing the full legal name of those direct owners reported on Schedule A of Form BD.</p> |   |                                 |                         |

**EXHIBIT A**

The UBS ATS has the following classes of participants:

1. Broker-dealer and non-broker dealer Subscribers send directed orders to the UBS ATS. These Subscribers sign a subscriber agreement to access the UBS ATS.
2. UBS BD sends orders via the UBS smart order router to the UBS ATS. These orders may represent the trading interest of institutional customers of UBS BD or UBS BD trading desks.
3. UBS BD clients can also send orders and Conditional Indications to the UBS ATS without the involvement of the UBS smart order router. These clients, acting as Sponsored Participants of the UBS ATS, can send their orders and Conditional Indications via a direct connection to the UBS ATS.

The orders of some subscribers to the UBS ATS are identified as Restricted Orders. These orders are not eligible for crossing against certain orders routed by the UBS BD. This crossing limitation is described in greater detail in Exhibit F under the section on "Procedures Governing the Entry of Orders into the UBS ATS".

**EXHIBIT B**

a. A list of the types of securities the alternative trading system trades (for example, debt, equity, listed, Nasdaq NM), or if this is an initial operation report, the types of securities it expects to trade. Note whether any types of securities are not registered under Section 12(a) of the Exchange Act.

The UBS ATS is enabled to trade any equity security registered under Section 12(a) of the Exchange Act that satisfies the definition of an "NMS stock," as that term is used in SEC Regulation NMS. From time-to-time and for various reasons, the UBS ATS may disable trading in a given security.

b. A list of the securities the alternative trading system trades, or if this is an initial operation report, the securities it expects to trade. Note whether any securities are not registered under Section 12(a) of the Exchange Act.

In lieu of providing a list of securities traded, which would be voluminous and change on a daily basis, please take note the UBS ATS is enabled to trade any equity security registered under Section 12(a) of the Exchange Act that satisfies the definition of an "NMS stock," as that term is used in SEC Regulation NMS. As noted above, the UBS ATS may disable trading in a given security from time-to-time and for various reasons. A current list of the equity securities traded by the UBS ATS is available upon request.

June 1, 2015

**Exhibit C**

**Legal Counsel for the Alternative Trading System:**

  
Managing Director  
UBS Securities LLC  
1285 Avenue of Americas  
New York, NY 10019



June 1, 2015

**EXHIBIT D**

Fifth Amendment and Restated Limited Company Agreement of UBS Securities LLC.

June 1, 2015

**EXHIBIT E**

UBS Securities LLC ("UBS BD") is the sponsor and operator of the UBS ATS. UBS BD will route orders to the UBS ATS. UBS BD is registered with the SEC as a broker-dealer in the United States. UBS BD is a member of the NYSE, NASDAQ, FINRA, SIPC and a number of other self-regulatory organizations. UBS BD is self-clearing and a member of the Depository Trust & Clearing Company and the National Securities Clearing Corporation. The UBS ATS matches buy and sell orders in equity securities and reports the matched transactions as required by FINRA trade reporting rules. UBS BD will clear and settle all trades executed by the UBS ATS.

## **Exhibit F**

### **1. Overview of the UBS ATS**

The UBS ATS is a proprietary computerized system for crossing orders in NMS Stocks. It is a facility made available only to UBS Securities LLC ("UBS BD"), other broker dealer and non-broker dealer Subscribers, and Sponsored Participants of the UBS BD (collectively, "Order Originators"). The UBS ATS does not publically display orders.

The UBS ATS will accept orders with an instruction that the order post within the UBS ATS until executed, canceled, or expired at day's end ("Resident Orders"). The UBS ATS also will accept orders with an instruction that they be immediately crossed with other orders in the UBS ATS or cancelled ("IOC Orders").

In addition to Resident and IOC Orders, the UBS ATS will accept a message indicating an intent to trade ("Conditional Indications").

The UBS ATS can receive orders by two means: via industry standard FIX protocol and via a proprietary, binary protocol (UBP). Conditional Indications can only be sent to the UBS ATS via FIX protocol.

The UBS ATS matching algorithm searches all buy and sell orders in the UBS ATS to identify orders that may be crossed at a price at or better than the NBBO.

UBS ATS does not route orders to any other trading venue.

A glossary of key terms for this Form ATS is attached. Note that any capitalized terms used within Exhibit F without definition have the meaning ascribed to those terms in the glossary.

### **2. The Manner of Operation of the UBS ATS**

#### **2.1. Hours of Operation**

The UBS ATS will be operational during regular US market hours, generally 9:30:00am to 4:00:00pm Eastern Time. The UBS ATS will not execute any cross until a trade in the security is reported to the Consolidated Tape after the ATS has opened.

#### **2.2. Eligible Orders and Conditional Indications**

Order Types:

- Pegged Orders (both Resident and IOC TimelInForce). Pegging can be to the near, midpoint, or far side of the NBBO. Pegged Orders may have a limit price.
- Limit Orders (both Resident and IOC TimelInForce)
- Market Orders (both Resident and IOC TimelInForce)



Conditional Indication Types:

- Pegged Conditional Indications (Resident TimeInForce only). Pegging can be to the near, midpoint, or far side of the NBBO. Pegged Conditional Indications may have a limit price
- Limit Conditional Indications (Resident TimeInForce only)

To be accepted by the UBS ATS, orders must satisfy the applicable minimum pricing increments specified in Rule 612 of SEC Regulation NMS.

### **3. Procedures Governing the Entry of Orders into the UBS ATS**

#### **3.1. Order Entry and Routing**

Resident Orders, IOC Orders and Conditional Indications must be designated as such before being sent to the UBS ATS. If an IOC Order is not immediately crossed by the UBS ATS upon receipt, the UBS ATS will cancel the order. An IOC Order cannot generate an Invite to a Conditional Indication.

Upon acceptance by the UBS ATS, orders are designated with a single Source Category. Source Categories are used by the UBS ATS when applying certain crossing restrictions.

Source Categories are defined as follows:

- Source Category 1: Retail orders routed by broker-dealer clients of the UBS Retail Market Making business.
- Source Category 2: Certain orders received from UBS algorithms, where the underlying client is an institutional client of UBS.
- Source Category 3: Orders received from Order Originators that are determined by UBS to exhibit low-to-neutral reversion.
- Source Category 4: All other orders not originating from Source Categories 1, 2 or 3.

When performing analyses in connection with Source Category determinations, UBS calculates reversion metrics based on a monthly quantitative review of trading activity.

Orders received from UBS algorithms may be identified as either Source Category 2 or Source Category 3, depending upon the end client and the desired level of urgency.

Only orders sent by clients of the UBS BD may be eligible to be categorized as Source Category 1 or 2.

#### **3.2. Conditional Indications**

Conditional Indications indicate an intent to trade, specifying a security, a side (buy or sell), a price, a quantity and a minimum executable quantity. A Conditional Indication will be held by the UBS ATS until cancelled or expired at day's end.

Prior to the execution of any potential cross involving one or more Conditional Indications, the UBS ATS will send a message to the Order Originator of the Conditional Indication indicating an opportunity to trade exists, but not providing any information on price or quantity available (an "Invite"). Upon receipt of the Invite, the Order Originator may confirm an agreement to trade by sending a Resident Order to the UBS ATS (a "Firm-Up Order"). The Firm-Up Order may be for a quantity less than the quantity of the Conditional

Indication so long as the quantity is at least equal to the minimum executable quantity. Regardless of how an Order Originator of a Conditional Indication responds to an Invite, the Conditional Indication is always cancelled after the sending of the Invite. The sending of an Invite will not delay or prevent any order from crossing in the UBS ATS prior to receipt of a responding Firm-Up Order.

To facilitate the acceptance of Invites and at the election of the Order Originator of the Conditional Indication, a Firm-Up Order may or may not specify an order expiration of short duration (a "Firm-Up Order Expiry"). The election of a Firm-Up Order Expiry will be made at the UBS ATS connection level set-up for each participant using Conditional Indications and will be a uniform time for all Order Originators making the election. If a Firm-Up Order Expiry is elected, a Firm-Up Order will be cancelled if a cross does not occur within the specified time.

All orders from Subscribers are defaulted to not interact with Conditional Indications. All orders from the UBS BD, are defaulted to interact with Conditional Indications.

### 3.3. Crossing Restrictions

The UBS ATS allows all Order Originators to use the following optional crossing restrictions, on a per-order or configured basis:

- No Self Cross: To prevent crossing against 'own orders' (orders sent with the same client ID).
- No UBS Principal: To prevent crossing against UBS BD Principal Orders, or UBS affiliate Principal orders.
- Round Lot Only: To prevent crossing in other than round lot quantities.
- No Locked: To prevent crossing on a pegged order when the NBBO is locked. (Bid = Offer).
- PeggedMidPointMode: To prevent a Mid-point Pegged Order from being executed at its limit price if (i) in the case of a buy order, its limit price is less than the mid-point of the spread between the NBB and NBO and (ii) in the case of a sell order, its limit price is greater than the mid-point of the spread between the NBB and NBO. In the event this restriction is not elected, a Mid-Point Pegged Order with a specified limit price may be executed at the limit price even if the price is not equal to the mid-point of the spread between the NBB and the NBO.
- Enable Conditionals: To enable a Resident Order to interact with Conditional Indications.
- Minimum Quantity: Orders may be routed to the UBS ATS with a minimum quantity value specified. UBS ATS will only cross where at least this number of shares is available from a single eligible contra side order.

The UBS BD determines what crossing restrictions will be used within the UBS ATS for orders submitted by clients of the UBS BD. The crossing restrictions operate to prevent crossing with certain Source Categories and may involve any combination of Source Categories.

Notwithstanding the foregoing, the UBS ATS allows clients of the UBS BD to determine whether they want their orders to cross with orders from Source Category 4.

Conditional Indication Restrictions:

UBS will restrict the use of Conditional Indications to clients of the UBS BD who regularly submit orders that result in transactions significantly exceeding the average trade size for the security. (Measured by notional value).

Senders of Conditional Indications will be subject to an ongoing evaluation, where the quality of their Conditional Indications and subsequent Firm-Up orders from Invites, are measured. A Quality Grade will be assigned based on these measurements.

Conditional Indications can specify an Invite Grade, to limit which Quality Grade of other Conditional Indications they will interact with.

#### 3.4. Notification of Crossing Restrictions

Subscribers and Sponsored Participants will be informed on a periodic basis of their Source Category or Quality Grade, as the case may be, and any changes made thereto.

#### 3.5. Regulation SHO

Compliance responsibilities related to properly marking orders and obtaining necessary locates are the obligation of the broker-dealer sending an order to the UBS ATS. For Clients of the UBS BD, the UBS ATS will accept sell short orders so long as the orders specify a locate source (Rule 203(b)(1) of Reg SHO). Trade reports from the UBS ATS will include the Regulation SHO order marking designations that were transmitted to the UBS ATS.

If a short sale circuit breaker price restriction applies to trading in a security under Rule 201 of Regulation SHO, the UBS ATS will not cross an order marked as a short sale at a price that is equal to or less than the NBB. However, if the order is marked as short sale exempt, the UBS ATS would cross at a price that is equal to or greater than the NBB.

#### 3.6. Market Access Rule

The UBS BD and UBS ATS maintain controls to comply with the requirements of SEC Rule 15c3-5 and subjects orders from Order Originators to relevant market access controls prior to sending the orders to the UBS ATS.

### **4. The Procedures Governing Execution, Reporting, Clearance, and Settlement of Transactions Effected Through the UBS ATS**

#### 4.1. Priority

Eligible Resident Orders and IOC Orders are given priority based first on price and second on the time of their receipt by the UBS ATS. Eligibility is determined based on the crossing restrictions associated with the orders on both sides of the potential cross.

Invites are sent to the Order Originators of Conditional Indications on a priority based first on price, second on the quantity and third on the time of receipt by UBS ATS. For orders with the same price and time, priority is given to Resident and IOC Orders over Conditional Indications.

All marketable limit orders (i.e., buy orders with limit prices at or above the NBO or sell orders with limit prices at or below the NBB) will be treated as though they are at equivalent prices for priority purposes. As such, they will be handled based strictly on time priority, as if they were market orders. If a marketable limit order becomes non-marketable before execution, it will be treated as a limit order and will receive price/time priority, with time based upon the original time of receipt of the order by the UBS ATS.

#### 4.2. Principal Trading

The UBS ATS will handle all orders from Order Originators without regard to whether an order is designated "Principal" or "Agency", for the purposes of priority. All Order Originators may opt out of crossing with UBS Principal Orders. All UBS Principal Orders reach the UBS ATS through the UBS Smart Order Router. There are no UBS Principal directed orders in UBS ATS.

#### 4.3. Trade Execution

The UBS ATS will continuously check for crossing opportunities. In the event a cross occurs, the UBS ATS will record the NBBO and Limit Up/Limit Down price bands ("LULD bands") at the time of crossing. If only a partial execution of an IOC Order occurs, the unexecuted residual portion of the order will be cancelled. If a partial execution of a Resident Order occurs, the unexecuted residual quantity will remain in the UBS ATS (and retain its original time priority) until it is executed, cancelled or expires. Once an execution occurs, the UBS ATS sends electronic messages containing execution reports to the Order Originators.

Executions on crosses between Source Category 1 and Source Category 2 orders, or between two Source Category 2 orders, will include an identifier describing the execution as a "UBS PIN" type execution from the UBS ATS. All other executions from the UBS ATS will not use this identifier.

##### 4.3.1. Locked and Crossed Markets

The UBS ATS will not effect a cross if the inside market for the stock is crossed (where the bid price exceeds the offer price), but will effect a cross if the market for a stock is locked (where the bid price is equal to the offer price); provided however, if instructed by an Order Originator, the UBS ATS will not execute a Pegged Order if the market for the stock is locked. In the event of an execution during a locked market, the cross will be executed at the locked price.

##### 4.3.2. Limit Up/Limit Down Bands

The UBS ATS will only execute if the effective price of a potential cross is not constrained by a LULD band.

##### 4.3.3. Trading Halts

The UBS ATS is programmed to react to "halt" or "pause" messages it receives from the SIP or direct market data feeds from all U.S. equities exchanges. The ATS will prevent crosses in a security during periods in which trading in the security is halted (e.g., subject to a LULD Trading Pause, Single Stock Circuit Breaker, or regulatory halt). The UBS ATS will resume crossing when it receives a message from the SIP or direct market data feed of the primary market that trading has resumed in the security.

##### 4.3.4. Pricing Methodology

Crosses in the UBS ATS are priced based on the NBBO as calculated by UBS by aggregating the "top of book" quotations of all U.S. equities exchanges using direct market data feeds maintained by UBS. If quotations from one or more exchanges are not available from the UBS direct market data feeds for any reason, the UBS ATS will rely on quotation data from the SIP (for the affected exchange feed(s)) to calculate an NBBO. For example, if UBS's direct market data feed from NASDAQ goes down, UBS ATS will use the attributed quote for NASDAQ from the SIP.

In the case of the UBS BD declaring "self help" against a protected quote market center due to inaccurate or inaccessible quotes, the UBS ATS NBBO may exclude all quotes from that market center from the calculation of the NBBO until the "self help" is revoked.

LULD bands will be taken from the most direct source, which will typically be the SIP that calculates the bands for the particular security.

Orders are crossed at the NBBO, at the mid-point price of the NBBO, or at prices within the NBBO. Sub-penny executions will not occur except at the mid-point unless the stock is trading below \$1.00. Crosses will only occur at a price that is equal to or better than the NBBO at the time the UBS ATS identifies the crossing opportunity. Both Resident Orders and IOC Orders may receive price improvement. Incoming orders are executed against the best priced (lowest seller, or highest buyer) eligible order that is not

constrained by a LULD band. When a Resident Order is eligible for crossing with an IOC order, the crossing price is determined by the Resident Order's price.

In the case of Conditional Indications, if an Order Originator receives an Invite and responds by sending a Resident Order, the cross occurs as described in the paragraph above.

#### 4.3.5. Crossing Scenarios

The following scenarios are presented to describe the order crossing process used by the UBS ATS: All scenarios are "stand alone" and assume no other orders present other than specified. Unless otherwise stated in the example, the prevailing NBBO is 50.00 x 50.02.

##### 4.3.5.1. Resident Pegged Order Scenarios

#### 1. Resident Midpoint vs. IOC Market

Resident Order: Buy 1000 @ the Midpoint Peg  
IOC Order: Sell 100 @ at the Market

##### **Result**

100 shares crossed @ 50.01  
900 shares remain of the Resident Order

#### 2. Resident Midpoint vs. IOC limit (full spread)

Resident Order: Buy 1000 @ the Midpoint Peg  
IOC Order: Sell 100 @ 49.99

##### **Result**

100 shares crossed at 50.01  
900 shares remain of the Resident Order

#### 3. Resident Midpoint (with "round lot only" restriction vs. IOC limit (full spread)

Resident Order: Buy 1000 @ the Midpoint Peg with "round lot only" restriction  
IOC Order: Sell 149 @ 49.99

##### **Result**

100 shares crossed at 50.01  
900 shares remain of the Resident Order

#### 4. Resident Midpoint (with "MinQty" restriction vs. IOC limit (full spread)

Resident Order: Buy 1000 @ the Midpoint Peg with MinQty of 500  
IOC Order: Sell 100 @ 49.99

##### **Result**

NO CROSS - Sell IOC was not of sufficient shares size to meet buy order MinQty restriction  
1000 shares remain of the Resident Order

**5. Resident Midpoint (with limit price constraint) vs. IOC limit (full spread)**

Resident Order: Buy 1000 @ The Midpoint Peg, with 50.00 limit price constraint and PegLimitConstraintMode=1 (FilltoLimit)

IOC Order: Sell 100 @ 50.00

**Result**

100 shares crosses at 50.00

**6. Resident Midpoint (with limit price constraint) vs.. IOC limit (full spread)**

Same example but now with PegLimitConstraintMode=2

Resident Order: Buy 1000 @ The Midpoint Peg, with 50.00 limit price constraint and PegLimitConstraintMode=2 (FillToMid)

IOC Order: Sell 100 @ 50.00

**Result**

NO Shares Cross (order is not marketable at midpoint)

**7. Resident Midpoint vs. IOC limit (in spread)**

Resident Order: Buy 1000 @ the Midpoint Peg

IOC Order: Sell 100 @ 50.01

**Result**

100 shares crossed at 50.01

900 shares remain of the Resident Order

**8. Resident Midpoint vs. IOC limit (no spread)**

Resident Order: Buy 1000 @ the Midpoint Peg

IOC Order: Sell 100 @ 50.02

**Result**

No Cross. The Resident Order remains in the ATS; the IOC Order is not executed and is cancelled.

**9. Resident Midpoint vs. IOC midpoint**

Resident Order: Buy 1000 @ Midpoint Peg

IOC Order: Sell 100 @ the Midpoint Peg

**Result**

100 shares crossed at 50.01

900 shares remain of the Resident Order

**10. Resident Market Peg vs. IOC Market**

Resident Order: Buy 1000 @ the Market Peg

IOC Order: Sell 100 @ the Market

**Result**

100 shares crossed at 50.02

900 shares remain of the Resident Order

### **11. Resident Primary Peg vs. IOC Market.**

Resident Order: Buy 1000 @ the Primary Peg  
IOC Order: Sell 100 @ the Market

#### **Result**

100 shares crossed at 50  
900 shares remain of the Resident Order

### **12. Multiple Resident Midpoint vs. IOC Limit (full spread)**

The prevailing NBBO is 45.00 x 45.10  
10:00am: Resident Order A: Buy 100 @ Midpoint Peg  
10:05am: Resident Order B: Buy 200 @ Midpoint Peg  
10:06am: Resident Order C: Buy 300 @ Midpoint Peg  
10:07am: IOC Order: Sell 400 @ 45.02

#### **Result**

All of order A crossed at 45.05 against the IOC Order to sell. All of order B crossed at 45.05 against the IOC Order to sell.  
100 shares of order C crossed at 45.05 against the IOC Order to sell.  
200 shares remain of Resident Order C

#### 4.3.5.2. Resident Market Order Scenarios

### **13. Resident Market vs. IOC Limit (full spread)**

Resident Order: Buy 1000 @ at the Market  
IOC Order: Sell 100 @ 49.99

#### **Result**

100 shares crossed at 50.02  
900 shares remain of the Resident Order

### **14. Resident Market vs. IOC Limit (in spread)**

Resident Order: Buy 1000 @ at the Market  
IOC Order: Sell 100 @ 50.01

#### **Result**

100 shares crossed at 50.02  
900 shares remain of the Resident Order

### **15. Resident Market vs. IOC Midpoint**

Resident Order: Buy 1000 @ at the Market  
IOC Order: Sell 100 @ the Midpoint Peg

#### **Result**

100 shares crossed at 50.02  
900 shares remain of the Resident Order

4.3.5.3. Resident Limit Order Scenarios

**16. Resident Limit vs. IOC Limit (full spread)**

Resident Order: Buy 1000 @50.00  
IOC Order: Sell 100 @ 50.00

**Result**

100 shares crossed at 50.00  
900 shares remain on the resident order.

**17. Resident Limit (outside NBBO) vs IOC Limit (full spread)**

Resident Order: Buy 1000 @49.99  
IOC Order: Sell 100 @ 50.00

**Result**

No Cross.  
The Resident Limit Order remains in the ATS; the IOC Order is not executed and is cancelled.

**18. Resident Limit (inside NBBO) vs. IOC Midpoint**

Resident Limit Order: Buy 1000 @50.01  
IOC Order: Sell 100 @ midpoint

**Result**

100 shares crossed at 50.01  
900 shares remain on the resident order.

**19. Resident Limit (full spread) vs. IOC Midpoint**

Resident Limit Order: Buy 1000 @50.02  
IOC Order: Sell 100 @ midpoint

**Result**

100 shares crossed at 50.02  
900 shares remain on the resident order.

4.3.5.4. Limit Up Limit Down Price Constraint Scenarios

**20. Resident Primary Peg vs. IOC Market. (LULD band in effect but not inside NBBO)**

LULD Bands in affect: 47.50 x 52.50  
Resident Order: Buy 1000 @ the Primary Peg  
IOC Order: Sell 100 @ the Market

**Result**

100 shares crossed at 50.00  
900 shares remain of the Resident Order



**21. Resident Primary Peg vs. IOC Market. (LULD band in effect AND inside the NBBO)**

LULD Bands in affect: 50.01 x 52.50  
Resident Order: Buy 1000 @ the Primary Peg  
IOC Order: Sell 100 @ the Market

**Result**

No Cross will occur. The cross price of 50.00 is constrained by the LULD band.

**22. Resident Midpoint Peg vs. IOC Market. (LULD band in effect AND inside the NBBO)**

LULD Bands in affect: 50.01 x 52.50  
Resident Order: Buy 1000 @ the Midpoint Peg  
IOC Order: Sell 100 @ the Market

**Result**

100 shares crossed at 50.01  
900 shares remain of the Resident Order  
Cross Price of 50.01 is at the Lower Band – will still execute.

**23. Resident Midpoint vs. an incoming Conditional Indication Midpoint – Invite Restriction**

Resident Order: Buy 5,000 @ the Midpoint Peg (Invite Restriction enabled)  
Incoming Conditional Indication: Sell 10,000 @ at the Midpoint Peg with MinQty = 5000

**Result**

- A. The incoming Conditional Indication will not receive an Invite
- B. Both the Resident Order and the incoming Conditional Indication remain open

**24. Resident Midpoint / Firm-up – time priority**

Resident Order: Buy 5,000 @ the Midpoint Peg (Invite Restriction is enabled) Resident Order: Buy 10,000 @ the Midpoint Peg (Invite Restriction not enabled) Incoming Conditional Indication: Sell 5,000 @ at the Midpoint Peg with MinQty = 5000

**Result**

- A. The originator of the Sell Conditional Indication receives an Invite which cancels the Conditional Indication
- B. The originator of the Conditional Indication sends a Firm-Up Order to Sell 5,000 @ the Midpoint Peg
- C. The Firm-Up Order crosses with the Buy 5000 @ midpoint order, since it had time priority.
- D. The Resident Buy 10,000 @ Midpoint order remains open

4.3.5.5. Conditional Indication Scenarios

**25. Resident Midpoint vs. an incoming Conditional Indication Midpoint**

Resident Order: Buy 10,000 @ the Midpoint Peg  
Incoming Conditional Indication: Sell 10,000 @ at the Midpoint Peg

**Result**

- A. The originator of the Conditional Indication receives an Invite which cancels the Conditional Indication
- B. The originator of the Conditional Indication sends a Firm-Up order to Sell 10,000 @ the Midpoint Peg
- C. 10,000 shares crossed @ 50.01

**26. Resident Midpoint vs. an incoming Conditional Indication Midpoint – MinQty met**

Resident Order: Buy 5,000 @ the Midpoint Peg

Incoming Conditional Indication: Sell 10,000 @ at the Midpoint Peg with MinQty = 5,000

**Result**

- A. The originator of the Conditional Indication receives an Invite which cancels the Conditional Indication
- B. The originator of the Conditional Indication sends a Firm-Up order to Sell 10,000 @ the Midpoint Peg with MinQty = 5,000
- C. 5,000 shares crossed @ 50.01
- D. 5,000 shares of the incoming counterparty's Firm-Up order are not filled and are canceled after the Firm-Up Order Expiry by the UBS ATS

**27. Resident Midpoint vs. an incoming Conditional Indication Midpoint – MinQty not met**

Resident Order: Buy 5,000 @ the Midpoint Peg

Incoming Conditional Indication: Sell 10,000 @ at the Midpoint Peg with MinQty = 10,000

**Result**

- A. The incoming Conditional Indication will not receive an Invite because its MinQty has not been met
- B. Both the Resident Order and the incoming Conditional Indication remain open

**28. Resident Midpoint vs. an incoming Conditional Indication Midpoint – No Firm-Up sent**

Resident Order: Buy 10,000 @ the Midpoint Peg

Incoming Conditional Indication: Sell 10,000 @ at the Midpoint Peg

**Result**

- A. The originator of the Conditional Indication receives an Invite which cancels the Conditional Indication
- B. The originator of the Conditional Indication does not send a Firm-Up order
- C. The Resident Order remains open

**29. Resident Conditional Indication Midpoint vs. IOC Midpoint**

Resident Conditional Indication: Buy 10,000 @ the Midpoint Peg

IOC Order: Sell 10,000 @the Midpoint Peg

**Result**

- A. Resident Conditional Indication will not receive an Invite because the incoming order has a TimeInForce of IOC
- B. The Resident Conditional Indication remains open
- C. The IOC order does not get filled and is cancelled

**30. Resident Conditional Indication Midpoint vs. an incoming Conditional Indication Midpoint**

Resident Conditional Indication: Buy 10,000 @ the Midpoint Peg

Incoming Conditional Indication: Sell 10,000 @ at the Midpoint Peg

**Result**

- A. Both the originator of the resident and incoming Conditional Indications receive an Invite which cancels their Conditional Indications
- B. Both the originator of the resident and incoming Conditional Indication send Firm-Up orders:
  - Buy 10,000 @ the Midpoint Peg
  - Sell 10,000 @ the Midpoint Peg
- C. 10,000 shares crossed @ 50.01

**31. Resident Conditional Indication Midpoint vs. an incoming Conditional Indication Limit (full spread)**

Resident Conditional Indication: Buy 10,000 @ the Midpoint Peg

Incoming Conditional Indication: Sell 15,000 @ at 50.00 with MinQty = 10,000

**Result**

- A. Both the originator of the resident and incoming Conditional Indications receive an Invite which cancels the Conditional Indications
- B. Both the originator of the resident and incoming Conditional Indication send Firm-Up orders:
  - Buy 10,000 @ the Midpoint Peg
  - Sell 15,000 @ 50.00 with MinQty = 10,000
- C. 10,000 shares crossed @ 50.01
- D. 5,000 shares of the incoming counterparty's firm-up order are not filled and are canceled after the Firm-Up Order Expiry by the UBS ATS

**32. Resident Conditional Indication Midpoint vs. an incoming Conditional Indication Limit (full spread) – MinQty not met**

Resident Conditional Indication: Buy 10,000 @ the Midpoint Peg

Incoming Conditional Indication: Sell 15,000 @ at 50.00 with MinQty = 15,000

**Result**

- A. Both resident and incoming Conditional Indications will not receive an Invite because the incoming Conditional Indication's MinQty has not been met
- B. Both the resident Conditional Indication and the incoming Conditional Indication remain open

**33. Multiple Resident Conditional Indications Midpoint vs. an incoming Conditional Indication Midpoint (Only one resident order receives an Invite)**

Resident Conditional Indication: Buy 10,000 @ the Midpoint Peg

Resident Conditional Indication: Buy 20,000 @ the Midpoint Peg

Incoming Conditional Indication: Sell 15,000 @ at the Midpoint Peg

**Result**

- A. Both the originator of the second resident Conditional Indication and the incoming Conditional Indication receive an Invite which cancels their Conditional Indications.
- B. Both the originator of the second resident Conditional Indication and the incoming Conditional Indication send Firm-Up orders:
  - Buy 20,000 @ the Midpoint Peg
  - Sell 15,000 @ the Midpoint Peg
- C. 15,000 shares crossed @ 50.01
- D. 5,000 shares of the Buy 20,000 share Firm-Up order are not filled and are canceled after the Firm-Up Order Expiry by the UBS ATS
- E. The first Resident Conditional Indication remains open

The second Resident Conditional Indication is sent the Invite instead of the first Resident Conditional Indication because it has the greater quantity and Invites are generated based on price, quantity and time priority.

**34. Multiple Resident Conditional Indication Midpoint vs. an incoming Conditional Indication Midpoint (Both resident orders receive an Invite)**

Resident Conditional Indication: Buy 15,000 @ the Midpoint Peg with MinQty = 10,000  
Resident Conditional Indication: Buy 10,000 @ the Midpoint Peg with MinQty = 10,000  
Incoming Conditional Indication: Sell 25,000 @ at the Midpoint Peg

**Result**

- A. The originator of the first and second resident Conditional Indication and the incoming Conditional Indication receive an invite which cancels their Conditional Indications
- B. Both the originator of the first and second resident Conditional Indication and the incoming Conditional Indication send Firm-Up orders:
  - Buy 15,000 @ the Midpoint Peg with MinQty = 10,000
  - Buy 10,000 @ the Midpoint Peg with MinQty = 10,000
  - Sell 25,000 @ the Midpoint Peg
- C. 15,000 shares crossed @ 50.01
- D. 10,000 shares crossed @ 50.01

4.3.5.6. Crossing Restriction Scenarios

**35. Resident Source Category 2 order,(with crossing restriction to only cross with Source Category 1 and 2 orders) vs. Source Category 1 order (with crossing restriction to only cross with Source Category 1 and 2 orders)**

Source Category 2 Resident Order: Buy 1000 @Midpoint peg  
Source Category 1 IOC: Sell 100 @ 50.00

**Result**

100 shares cross @ 50.01  
900 shares remain on the resident order

**36. Resident Source Category 2 order (with crossing restriction to only cross with Source Category 1 and 2 orders) vs. Source Category 3 order (with crossing restriction to cross with all source categories)**

Source Category 2 Resident Order: Buy 1000 @Midpoint peg  
Source Category 3 IOC: Sell 100 @ 50.00

**Result**

No Cross due to crossing restriction – contra not in required Source Category.

**37. Resident Source Category 3 order (with crossing restriction to only cross with Source Category 1, 2, and 3 orders) vs. Source Category 1 order (with instruction to cross with all)**

Source Category 3 Resident Order: Buy 1000 @Midpoint peg  
Source Category 1 IOC: Sell 100 @ 50.00

**Result**

100 shares cross @ 50.01  
900 shares remain on the resident order.

#### 4.4. Regulatory Reporting and Books and Records

Once a crossing opportunity has been identified, the UBS ATS will execute and report the trade to a recognized trade reporting facility of a self-regulatory organization. The UBS ATS will not send a trade report for any cross between two UBS BD principal orders.

UBS BD has a centralized process for OATS reporting. Equities trading and order management systems submit individual books and records files detailing all transactional events, including orders, amended orders, cancelled orders, order routes, executions, amended executions and cancelled executions. These records are used to make various regulatory reports. Through the use of a FIX link, the UBS ATS will submit the trading records to be incorporated into the necessary regulatory reports. Conditional Indications will not be reported to OATS but records will be maintained by UBS BD on behalf of the UBS ATS.

The books and records of the activity of the UBS ATS will be created and maintained by UBS BD in compliance with Rules 17a-3 and 17a-4 of the Securities Exchange Act of 1934.

#### 4.5. Clearance and Settlement

The UBS ATS is a system operated by the UBS BD. UBS BD is a self-clearing broker dealer, a member of DTCC and has the operational capacity to clear and settle all of the trades executed by the UBS ATS. The UBS BD maintains controls to ensure compliance with the regulatory requirements for the clearance and settlement of trades in equities securities.

### 5. Procedures for Ensuring Subscriber Compliance with System Guidelines

#### 5.1. Compliance-Related Programming

Subscriber agreement provisions require subscribers to comply with applicable rules and regulations as a condition for using the UBS ATS.

The UBS ATS will reject orders priced in increments other than one cent increments for stocks trading at \$1 or above and will screen for securities that are not NMS Stocks, but will rely on other UBS BD systems to perform various other compliance checks, including validation of stock symbols and checking for the population of required fields.

#### 5.2. Monitoring of System

The UBS ATS is monitored by UBS BD Operations and Technology personnel on a real-time basis to ensure the system is functioning as designed. Staff can monitor order entry port status, order-ack latency, market data quality, and trade-throughs, in addition to detailed metrics on order entry rates, open exposure, and executed volumes.

In addition to this real time monitoring, activities in the UBS ATS will be monitored using reports from other UBS systems. These reports include T+1 clearing breaks, same entity crosses and execution quality reports, on a per subscriber basis.

### 6. Materials Provided to Subscribers

The UBS ATS provides written Rules of Engagement to third party Subscribers and Sponsored Participants.

Third party Subscribers sign a Subscriber Agreement to access the UBS ATS directly. Sponsored Participants are clients of UBS BD and do not sign a Subscriber Agreement.

**\*\*\* End of Exhibit F \*\*\***

### UBS ATS Glossary

|                              |   |
|------------------------------|---|
| ADTV                         | Average Daily Trading Volume  |
| Agency Order                 | An order for the account of a customer of UBS BD (including for the account of a third party broker dealer).  |
| ATS                          | Alternative Trading System, as defined in SEC Rule 300(a) of Regulation ATS   |
| Conditional Indication       | An intent to trade a security sent to the UBS ATS. A Conditional Indication is valid for the trading day if not cancelled.  |
| Crossed Market               | A market condition in which the NBB exceeds to the NBO.   |
| Customer                     | As defined in SEC Rule 10b-10(d)(1)   |
| DTCC                         | The Depository Trust & Clearing Corporation   |
| FINRA                        | Financial Industry Regulatory Authority   |
| Firm-Up Order                | A Resident Order generated by an Order Originator of a Conditional Indication after receiving an Invite.  |
| FIX                          | Financial Information Exchange  |
| Invite                       | A message sent to the Order Originator of a Conditional Indication indicating a crossing opportunity exists in the UBS ATS.   |
| IOC Order                    | Orders sent to the UBS ATS with an instruction to cross or cancel if not executed immediately.  |
| Invite Grade                 | A value sent on Conditional Indications that will limit interaction to only other Conditional Indications with a given Quality Grade or higher.   |
| Limit Order                  | A buy order submitted to receive an execution price at or lower than the specified limit price and/or a sell order submitted to receive an execution price at or higher than the specified limit price. |
| Limit Conditional Indication | A Conditional Indication with an explicit limit price.  |
| Locked Market                | A market condition in which the NBB equals the NBO  |
| Market Center                | As defined in SEC Rule 600(b)(38) of Regulation NMS   |

|                               |  |
|-------------------------------|--|
| Market Pegged Order           | A buy order submitted to receive an execution price at the National Best Offer and/or a sell order submitted to receive an execution price at the National Best Bid.   |
| Market Order                  | Equivalent to a Market Pegged Order  |
| Mid-Point Pegged Order        | A buy and/or sell order submitted to receive an execution price at the midpoint between the National Best Bid and Offer.   |
| NBB                           | National Best Bid  |
| NBBO                          | National Best Bid and National Best Offer as defined in SEC Rule 600(b)(42) of Regulation NMS  |
| NBO                           | National Best Offer  |
| NMS Stocks                    | As defined in SEC Rule 600(b)(47) of Regulation NMS  |
| NYSE                          | New York Stock Exchange  |
| OATS                          | Order Audit Trail System as defined in FINRA Rule 7410.  |
| Order Originators             | Persons whose orders or Conditional Indications are routed to the UBS ATS, including Principal and Agency orders of UBS BD and authorized third party broker-dealers, Sponsored Participants and other Subscribers.                    |
| Pegged Conditional Indication | A Conditional Indication with a price that is pegged to the near, midpoint, or far side of the NBBO.   |
| Pegged Order                  | Mid-Point Pegged Order, Market Pegged Order and Primary Pegged Order.  |
| Price Improvement             | An execution at any price less than the NBO for buy orders and the NBB for sell orders.  |
| Primary Pegged Orders         | A buy order submitted to receive an execution price at the National Best Bid and/or a sell order submitted to receive an execution at the National Best Offer  |
| Principal Order               | An order for the account of UBS BD.  |
| Quality Grade                 | A quantitative measurement of senders of Conditional Indications.  |
| Resident Order                | An order sent to the UBS ATS with an instruction to hold the order in the UBS ATS until the order is executed or cancelled. Resident Orders are day orders that expire at the end of the trading session if not executed or cancelled. |

|                        |  |
|------------------------|--|
| Restricted Order       | An order subject to a crossing restriction.  |
| Self Help              | As defined in SEC Rule 611(b)(1) of Regulation NMS.  |
| SIP                    | Securities Information Processor as defined in Section 3(a)(22) of the Securities Exchange Act of 1934   |
| Source Category        | A classification of orders within the UBS ATS matching engine, for use by crossing restrictions.   |
| Sponsored Participant  | A customer of UBS BD given direct access to the UBS ATS.   |
| Subscriber             | As defined in SEC Rule 300(b) of Regulation ATS.   |
| TimeInForce            | A flag that indicates an order is either a Resident Order, or an IOC Order.  |
| UBP                    | UBS Binary Protocol. A proprietary order entry and execution report protocol.  |
| UBS ATS                | A proprietary system owned and operated by UBS BD for the crossing of orders in NMS Stocks.  |
| UBS BD                 | UBS Securities LLC (a broker-dealer registered with the Securities and Exchange Commission pursuant to Section 15(b) of the Securities Exchange Act of 1934) |
| UBS Smart Order Router | A proprietary UBS BD order handling system.  |



## **Exhibit G**

**Attach as Exhibit G, a brief description of the alternative trading system's procedures for reviewing system capacity, security, and contingency planning procedures.**

### **a. System Capacity**

The UBS ATS is covered by the capacity and performance management protocols and standards of the UBS Group. In accordance with these protocols and standards, critical systems, services, and applications related to the UBS ATS must undergo capacity testing, which may utilize the same production hardware and other network and market data resources.

Based upon the results of these tests, UBS determines the actual capacity and performance requirements of the UBS ATS system. UBS ATS's capacity and performance are also reviewed and analyzed intra-day using monitoring tools to help ensure that the UBS ATS meets current and near-term capacity and performance management requirements. These protocols and standards are designed to enable the UBS to proactively address any potential capacity and performance issues concerning the UBS ATS.

### **b. Security**

The UBS ATS must comply with security, access control, and audit protocols and standards of the UBS Group. The UBS ATS must also comply with the UBS Group's access control requirements, which set forth the identification, authentication, and authorization requirements for UBS systems.

Access to monitoring tools for the UBS ATS is restricted and only granted to business and support staff on a "need to know" basis. Individuals may receive access to UBS ATS information and systems only if such access is necessary for the proper performance of their duties. Furthermore, such access must be specifically authorized. Supervisory staff members of the UBS ATS are responsible for reviewing the current list of UBS ATS systems users to ensure that all users with access have a "need to know" and appropriate reporting lines supporting such authorization.

### **c. Contingency Planning**

The UBS ATS must comply with the business continuity management (BCM) policies and procedures of the UBS Group. The UBS ATS must also comply with the BCM testing and the incident and crisis management policies and procedures of the UBS Group. The UBS ATS undergoes controlled business continuity and high availability testing, both at a firm level and in conjunction with industry wide tests.

The UBS ATS is configured to operate using dual data centers with a hot-hot configuration. The UBS ATS is designed to operate independently out of either data center, or a combination of the two. Each component of the UBS ATS system has at least one hot backup, running in a passive but parallel state that can be activated on command to assume control as the active instance. This architecture is designed to allow for intra-day rapid recovery from various failure scenarios, providing effective BCP and HA capabilities.

The UBS ATS relies upon direct connections to the securities exchanges for its market data feeds and calculates an NBBO using prices from those direct market data feeds. The connectivity for these direct market data feeds is centralized in the UBS primary data center, and the processing infrastructure for the UBS ATS calculated NBBO is installed solely in the primary data center. In the event the UBS ATS operates out of the backup data center, the UBS ATS will use the NBBO as

published by the Consolidated Tape Association (CTA) and Unlisted Trading Privileges (UTP) securities information processors (SIP).

When the UBS ATS operates from the primary data center, if a direct market data feed is not available for any reason, the top of book attributed quote for the affected market published by the SIP will be substituted when calculating the NBBO for the UBS ATS. In addition, if operating from the primary data center and a problem arises with the software or hardware related to UBS ATS calculation of the NBBO, the UBS ATS will switch to using the NBBO as published by the SIP.

June 1, 2015

**EXHIBIT H**

**If any other entity, other than the alternative trading system, will hold or safeguard subscriber funds or securities on a regular basis, attach as Exhibit H the name of such entity and a brief description of the controls that will be implemented to ensure the safety of such funds and securities**

The UBS ATS does not function as a custodian or depository, and therefore the UBS ATS does not hold or safeguard Subscriber funds or securities on a regular basis. Any transactions executed by the UBS ATS will be cleared and settled through the customary processes employed by clearing brokers, custodians and DTCC/NSCC.

To the extent that UBS Securities LLC serves as prime broker/custodian for a Subscriber, UBS Securities LLC would hold and safeguard such Subscriber's funds and securities consistent with UBS policies and procedures as well as applicable law and SEC regulations (e.g., SEC Rule 15c3-3).

June 1, 2015

**EXHIBIT I**

The direct owners of UBS Securities LLC are UBS AG and UBS Americas Inc.