A Plain English Guide to Executions in POSIT

As part of ITG's commitment to providing execution transparency on behalf of our clients, we published the Form ATS (Alternative Trading System) for POSIT on May 1, 2014. Our most recent amendments to our Form ATS were published in January 2017 and can be found online at www.itg.com/about/transparency. Our Form ATS has been on file with the Securities and Exchange Commission since May 1999, following the implementation of Regulation ATS.

The guide below answers some frequently asked questions about executions in the U.S. version of POSIT in a less technical format than the Form ATS itself.

Since 1987, POSIT has been a trusted trading venue that helps protect our institutional clients in the U.S. from signaling their trading intentions, lowers trading costs through meaningful price improvement, and provides protection from potentially "toxic" liquidity. POSIT provides an agency-only crossing solution for our clients to source quality liquidity anonymously while minimizing market impact.

As always, we welcome dialogue with our clients. If you have questions about the Form ATS or the information below, please feel free to contact your ITG Account Executive or call us at 1-212-444-6100.

Q: Who may execute orders in POSIT and how do they do so?
Institutional investors and broker-dealers that are ITG clients are eligible to become POSIT Subscribers. Subscribers can enter orders via ITG's Triton EMS, ITG OMS, ITG's agency trading desk, or any certified FIX connection. Orders can be submitted either as Day Orders or IOC (Immediate or Cancel) Orders. Any exchange-listed security can be traded in POSIT.

Q: How does POSIT matching work?
While POSIT was originally established with scheduled (point-in-time) crossing in 1987, today it runs on a continuous crossing basis during regular U.S. trading

hours. However, POSIT also retains the capability to run scheduled matches, pre-market VWAP matches, and after-hours matches.

POSIT does not operate on strict price/time priority. The system incentivizes size over speed, matching orders using price-size pro rata matching logic while seeking to cross orders at the midpoint of the NBBO (National Best Bid or Offer), thereby providing price improvement for all of the Subscribers involved in a match. If an order is passively priced, POSIT will attempt to cross the order against orders marked by a Subscriber as aggressive. Aggressive orders will be executed against passively-priced orders only after exhausting all NBBO midpoint crossing opportunities. Transactions in POSIT are executed using a Regulation NMS-compliant NBBO constructed from a combination of direct market data feeds and market data disseminated by the Securities Information Processors ("SIPs").

Further, POSIT does not provide differential pricing based on the concept of making or taking liquidity and does not provide rebates (all Subscribers pay commissions).

Q: How does POSIT protect execution quality?
ITG uses empirical data and objective metrics to gauge execution quality in POSIT, while avoiding the use of less sophisticated approaches such as tiering liquidity. This approach is based on a core premise that quality liquidity can be extracted from the marketplace by deploying the appropriate technology and measurement tools.

ITG and POSIT employ several measures, controls, and reviews to protect Subscriber orders from potentially toxic order flow and gaming strategies. These tools include POSIT's pre-and post-trade controls and Subscriber-requested counterparty restrictions (Subscriber requests must be based on experience and implemented by ITG). ITG uses these controls to monitor trading activity in the ATS for execution quality, potential regulatory violations, and inappropriate conduct.

ITG employs anti-gaming technology - called Liquidity Guard - to help ensure quality executions for POSIT Subscribers. Liquidity Guard has two components: Prevention and Detection. Liquidity Guard Prevention, which is built into POSIT's

matching logic, assigns restrictive configurations to certain Subscribers that are designed to minimize poor execution quality outcomes for resting Day Orders of other Subscribers. ITG assigns and sets the restrictive configurations within Liquidity Guard Prevention as it deems appropriate. Liquidity Guard Prevention works to prevent matches between certain Subscribers in certain stocks that meet a liquidity profile (based on the average spread and historical average daily trading volume) outside of dynamic price parameters. The price parameters are established using certain quantitative measures and are updated throughout the trading day based on recent price movements. The decision whether and how to apply the Liquidity Guard Prevention price parameters is based on an analysis of execution quality data, order attributes, and Subscriber trading behavior. Liquidity Guard Prevention also prevents crosses, for a brief period upon arrival in the POSIT matching engine, of orders from certain Subscribers against Day Orders for certain other Subscribers. Subscribers may opt out of having their Day Orders protected by the price parameters of Liquidity Guard Prevention at any time, but not the delay component.

Liquidity Guard Detection methodically analyzes just-completed POSIT trades and flags any potentially problematic activity, such as cases of phishing, latency arbitrage, and short-term reversion, so the POSIT team can examine them further, arrive at a conclusion, and take appropriate action when necessary. In addition to analyzing just-completed POSIT trades, Liquidity Guard Detection also uses in-depth research on historical trades to identify specific instances of poor execution outcomes. Subscribers identified as engaging in activity that may deteriorate the quality of the liquidity pool or other Subscribers' experience in POSIT may be subject to additional restrictions enforced by changing Liquidity Guard Prevention settings. Additionally, such Subscribers may be restricted from interacting with certain contra Subscribers on the basis of such activity. Both Liquidity Guard Prevention and Detection may be refined to address new gaming strategies.

POSIT's other pre-trade control involves Subscriber-requested counterparty restrictions that are applied based on Subscriber experience or data analysis. Specifically, Subscribers may request to limit their interactions within POSIT to prevent matching with certain counterparties. ITG applies these limited and specially-tailored counterparty controls without disclosing the identities of the restricted counterparties and/or other confidential information of its Subscribers.

Q: What is POSIT Alert?
POSIT Alert is an indications matching network that notifies interested buy-side institutions of a block-size trading opportunity in POSIT. POSIT Subscribers can opt out of indicating for POSIT Alert interaction.

If a potential match exists that meets minimum order size thresholds, the POSIT Alert Subscriber on each side of the potential trade will receive an Alert. Then, the notified parties must each submit an order to POSIT for the match to occur. Alerts reflect only stock symbol and transaction side and do not reveal order size or price. Participation in POSIT Alert is voluntary and Subscribers may decline to respond to an Alert.

In addition to POSIT Alert, POSIT also supports the use of conditional orders by institutional and broker-dealer Subscribers for the purpose of seeking available liquidity. POSIT Alert Subscribers can opt-in to matching against broker-dealer conditional orders but by default POSIT Alert Subscribers are not enabled to match against conditional orders submitted by broker-dealer Subscribers.

POSIT Alert Subscribers who meet a minimum participation threshold are given a Power Score based on their interactions in POSIT Alert. Power Score is calculated based on quantitative metrics designed to measure user experience and overall performance across our network. Users whose Power Scores exceed a minimum threshold are eligible for Power Match opportunities in POSIT Alert, in which users are notified of a potential match against a high-scoring user with size exceeding a multiple of our Alert size thresholds.

The average trade size using POSIT Alert in 3Q16, excluding algorithmic orders, was approximately 38,000 shares. The average trade size for POSIT Alert Power Match opportunities in 3Q16, excluding algorithmic orders, was approximately 70,000 shares.

Q: What is AlterNet Securities and how does it interact in POSIT?
AlterNet Securities is an ITG-affiliated broker-dealer that may submit orders to POSIT for the purpose of facilitating trades for broker-dealer clients on an agency, riskless principal, and/or net trading basis. AlterNet only serves sell-side

(i.e., broker-dealer) clients and is not permitted to use POSIT Alert functionality. When using the net trading service, broker-dealer clients of AlterNet opt to receive an execution price inclusive of an agreed-upon commission. The net execution price is always at or within the NBBO and includes potential price improvement.

Neither ITG nor AlterNet engages in any of the following activities: 1) proprietary trading; 2) market making; 3) capital commitment; and/or 4) establishing directional positions.

Q: How do ITG's Smart Order Router and ITG's algorithms interact with POSIT?
Both the Smart Order Router and ITG's algorithms interact with POSIT with the objective of achieving best execution for ITG clients. Orders submitted directly to the Smart Order Router look for matching liquidity in POSIT immediately on arrival. If the match does not occur immediately, the Smart Order Router does not search for subsequent matching opportunities in POSIT and the order is worked on external execution venues only.

ITG's algorithms access and provide liquidity to POSIT depending on algorithm type and client instructions.

ITG's algorithm order-routing information is available to clients in real time through ITG's Algorithms Prism. ITG also makes all executing venue and related information available in FIX and end-of-day execution reports sent to clients. Clients can opt-out of interacting with POSIT (or any other non-exchange execution venue) when using the Smart Order Router and/or ITG's algorithms.

Q: Does POSIT utilize Indications of Interest (IOIs)?

Apart from the Alerts generated by POSIT Alert and conditional orders, ITG does not communicate any IOI's based on Subscriber orders submitted directly to POSIT.

Q: How are trades in POSIT reported?

Subscribers receiving executions are automatically notified of such "fills" or "partial fills" by the POSIT system. If a Day Order expires without being fully or partially filled, the Subscriber submitting that order receives a "nothing done" report. All orders matched by POSIT are reported in real time to the appropriate Trade Reporting Facility (TRF) in accordance with applicable regulations.

Q: Who can see orders submitted to POSIT?

ITG restricts access to POSIT Subscriber order data to the ITG registered personnel assigned to the particular Subscriber. Access by those persons to other Subscribers' order information is strictly prohibited and compliance with this rule is monitored. Only certain support personnel on the POSIT support desk may have access to all orders.

ITG employs a thorough internal approval process before granting access to Subscriber order information. It should be noted that, in accordance with ITG's policies and procedures, access to Subscriber order information is closely monitored and evaluated on a regular basis.

Q: How does POSIT FI (Fixed Income) operate?

In November 2014, ITG launched a POSIT service ("POSIT FI") to trade U.S. corporate bonds. POSIT FI acts in an agency or riskless-principal capacity and has functionality for both scheduled matches and continuous crossing. POSIT FI also has POSIT Alert functionality for block-size institutional orders, which operates in a manner similar to the equity version of POSIT Alert. A more detailed description of POSIT FI operations can be found in Exhibit F(2) of our Form ATS.