



NatWest

ALGO DUE DILIGENCE DISCLOSURE

July 2023

In line with our Statement of Commitment to the principles of the FX Global Code of Conduct, NWM has adopted the GFXC's standardised format to highlight certain points related to its FX Execution Algos. If you would like further information on our FX Execution Algos or to discuss any of the points below, please contact your NatWest Markets sales representative.

Table with 6 columns: Question Number, Question, Peg Clipper, Peg Time Slice, Time Slice, Limit Pro. It contains detailed information about various execution algorithms, including their descriptions, parameters, and internal/external controls.

Question Number	Question	Peg Clipper	Peg Time Slice	Time Slice	Limit Pro
18	What – if any – ongoing work do you do in order to curate execution venues, where curation is possible? Approximately how often is this conducted?	Our algos leverage our client franchise by using a proprietary liquidity pool (COMS). This is a pool over which we have complete control and it is curated on a regular and ongoing basis. Additionally NWM has a regular dialogue with other liquidity providers (LPs) that algos can interact with. LPs receive monthly opportunity reports from NWM which indicates where profiles are soft and rankings are low, therefore, LPs tighten the prices they show.  NWM also monitor market impact upon trading with LPs. There are automated checks carried out twice a month to ensure no LP is adversely moving the market away when traded upon. If LPs/tags are shown to move the market adversely then they are removed from NWM liquidity pool.	NWM have a regular dialogue with their LPs that algos can interact with. LPs receive monthly opportunity reports from NWM which indicates where profiles are soft and rankings are low, therefore, LPs tighten the prices they show.  NWM also monitor market impact upon trading with LPs. There are automated checks carried out twice a month to ensure no LP is adversely moving the market away when traded upon. If LPs/tags are shown to move the market adversely then they are removed from NWM liquidity pool.	NWM have a regular dialogue with their LPs that algos can interact with. LPs receive monthly opportunity reports from NWM which indicates where profiles are soft and rankings are low, therefore, LPs tighten the prices they show.  NWM also monitor market impact upon trading with LPs. There are automated checks carried out twice a month to ensure no LP is adversely moving the market away when traded upon. If LPs/tags are shown to move the market adversely then they are removed from NWM liquidity pool.	We monitor the quality of fills from the liquidity pools that are used by the Limit Pro algo and where possible will take steps to curate the liquidity. This takes place on an ad-hoc basis.
19	Do you have any logic to avoid orders on venues where the order book is visible to all participants (lit execution venues) causing information leakage? If so, please describe it.	No, the venues that this algo uses are always chosen by the algo user alone.	No, the venues that this algo uses are always chosen by the algo user alone.	This algo only trades on NWM principal liquidity.	This algo only places resting orders on COMS.
20	Does the mid/fair-value used by the algorithm differ from the one used by your own market making system for pricing and risk management? If yes, please specify.	No	No	N/A	No
21	Please define your understanding of 'internalisation' and, using an example, describe how this works in practice, demonstrating if/how your Algo Clients benefit from this process. If you wish to do so you may provide an indication of how much volume is internalised on average.	In the context of this algo, internalisation means the ability of the algo to 'match-off' volume with opposing aggressive (spread-crossing) flow from either the NWM client base or internal trading desks.  This is achieved using the NWM COMS system, where the algo child order is blended with our market making price before being shown to clients and internal risk takers. If any user crosses the spread onto a blended price the algo order takes precedence for the fill.  There are several benefits for the algo user from this process: the algo can capture spread, because the opposing flow has crossed the spread onto the algo bid or offer. The market impact is also minimised because the algo has not had to place a resting order on any external venue.  We can also curate the list of taking clients that the blended price is shown to in order to ensure that only those takers where information leakage is low are involved in the process. The internalisation rate for the Peg Clipper is typically between 80% and 90% depending on settings, and 100% can be achieved if desired at the expense of the rate of fill.	In the context of this algo, internalisation means the ability of the algo to 'match-off' volume with opposing aggressive (spread-crossing) flow from either the NWM client base or internal trading desks.  This is achieved using the NWM COMS system, where the algo child order is blended with our market making price before being shown to clients and internal risk takers. If any user crosses the spread onto a blended price the algo order takes precedence for the fill.  There are several benefits for the algo user from this process: the algo can capture spread, because the opposing flow has crossed the spread onto the algo bid or offer. The market impact is also minimised because the algo has not had to place a resting order on any external venue.  We can also curate the list of taking clients that the blended price is shown to in order to ensure that only those takers where information leakage is low are involved in the process. The internalisation rate for the Peg Time Slice varies widely as a function of user settings and the currency pair. Rates near 100% can be achieved in liquid pairs where the desired execution rate is not too quick.	The Time Slice algo does not attempt to internalise as it simply crosses the spread on either a NWM or external price by design. This algo is only used in less liquid currency pairs where there is no inherent spread -crossing activity in the market and hence attempting to achieve internalisation is not feasible.	This algo is primarily intended to sweep external liquidity and therefore achieving any internalisation is not feasible. It does place resting orders into the COMS liquidity pool, and any fills resulting can be regarded as having been internalised, however the fraction of COMS fill is generally not large.
<b>SEGREGATION POLICY</b> Segregation policy is all about keeping order information private and reducing the risk of signalling.					
22	Please describe if and how the algo orders are segregated within your institution.	There is a clear visibility framework to ensure that all client algos are only visible to the client themselves, the relevant FX Sales coverage team and the eFX Sales team.  No trading desks can see any algo parent orders, except for the Segregated Order Execution Desk. The Segregated Order Execution Desk sole mandate is for client execution, the desk does not do any principal risk trading. In the case where a child fill is filled by the NWM principal price the risk traders can see the economic detail to enable them to manage their risk book, but are not privy details on parent order or counterparty.	There is a clear visibility framework to ensure that all client algos are only visible to the client themselves, the relevant FX Sales coverage team and the eFX Sales team.  No trading desks can see any algo parent orders, except for the Segregated Order Execution Desk. The Segregated Order Execution Desk sole mandate is for client execution, the desk does not do any principal risk trading. In the case where a child fill is filled by the NWM principal price the risk traders can see the economic detail to enable them to manage their risk book, but are not privy details on parent order or counterparty.	There is a clear visibility framework to ensure that all client algos are only visible to the client themselves, the relevant FX Sales coverage team and the eFX Sales team.  No trading desks can see any algo parent orders, except for the Segregated Order Execution Desk. The Segregated Order Execution Desk sole mandate is for client execution, the desk does not do any principal risk trading. In the case where a child fill is filled by the NWM principal price the risk traders can see the economic detail to enable them to manage their risk book, but are not privy details on parent order or counterparty.	There is a clear visibility framework to ensure that all client algos are only visible to the client themselves, the relevant FX Sales coverage team and the eFX Sales team.  No trading desks can see any algo parent orders, except for the Segregated Order Execution Desk. The Segregated Order Execution Desk sole mandate is for client execution, the desk does not do any principal risk trading. In the case where a child fill is filled by the NWM principal price the risk traders can see the economic detail to enable them to manage their risk book, but are not privy details on parent order or counterparty.
23	Can sales and trading personnel who provide intraday 'market colour' view algo orders at any stage? If so, what steps have been taken to minimise the risk of information leakage?	The relevant FX Sales coverage team and the eFX Sales team can see client algo orders. There is a visibility model which ensures a salesperson only sees orders from clients that are relevant to them.  The Segregated Orders Execution Desk can see client algos. This team is fully physically segregated from sales and trading personal and has no position-taking mandate. No traders on any other desk can ever see the parent order details of any client order. In the case where a child fill is filled by the NWM principal price the risk traders can see the economic detail to enable them to manage their risk book, but are not privy to details on the parent order.	The relevant FX Sales coverage team and the eFX Sales team can see client algo orders. There is a visibility model which ensures a salesperson only sees orders from clients that are relevant to them.  The Segregated Orders Execution Desk can see client algos. This team is fully physically segregated from sales and trading personal and has no position-taking mandate. No traders on any other desk can ever see the parent order details of any client order. In the case where a child fill is filled by the NWM principal price the risk traders can see the economic detail to enable them to manage their risk book, but are not privy to details on the parent order.	The relevant FX Sales coverage team and the eFX Sales team can see client algo orders. There is a visibility model which ensures a salesperson only sees orders from clients that are relevant to them.  The Segregated Orders Execution Desk can see client algos. This team is fully physically segregated from sales and trading personal and has no position-taking mandate. No traders on any other desk can ever see the parent order details of any client order. In the case where a child fill is filled by the NWM principal price the risk traders can see the economic detail to enable them to manage their risk book, but are not privy to details on the parent order.	The relevant FX Sales coverage team and the eFX Sales team can see client algo orders. There is a visibility model which ensures a salesperson only sees orders from clients that are relevant to them.  The Segregated Orders Execution Desk can see client algos. This team is fully physically segregated from sales and trading personal and has no position-taking mandate. No traders on any other desk can ever see the parent order details of any client order. In the case where a child fill is filled by the NWM principal price the risk traders can see the economic detail to enable them to manage their risk book, but are not privy to details on the parent order.
24	Can discretionary traders who may enter or exit risk for your institution view algo orders at any stage? If so, what steps have been taken to minimise the risk of information leakage?	NWM traders cannot view client algo parent orders. In the case where a child fill is filled by the NWM principal price the risk traders can see the economic detail to enable them to manage their risk book, but are not privy details on parent order or counterparty.	NWM traders cannot view client algo parent orders. In the case where a child fill is filled by the NWM principal price the risk traders can see the economic detail to enable them to manage their risk book, but are not privy details on parent order or counterparty.	NWM traders cannot view client algo parent orders. In the case where a child fill is filled by the NWM principal price the risk traders can see the economic detail to enable them to manage their risk book, but are not privy details on parent order or counterparty.	NWM traders cannot view client algo parent orders. In the case where a child fill is filled by the NWM principal price the risk traders can see the economic detail to enable them to manage their risk book, but are not privy details on parent order or counterparty.
25	Can an electronic market making system view algo orders at any stage? If so, what steps have been taken to minimise the risk of information leakage or misuse of information?	The NWM market making system cannot view the parent algo orders at any stage. However, if COMS has been chosen as a liquidity pool the COMS matching engine allows a child order from an algo to become part of our market-making price. Such a blended price is only shown to a heavily curated subset of 'taking' counterparties in order to minimise any information leakage from the algo.	The NWM market making system cannot view the parent algo orders at any stage. However, if COMS has been chosen as a liquidity pool the COMS matching engine allows a child order from an algo to become part of our market-making price. Such a blended price is only shown to a heavily curated subset of 'taking' counterparties in order to minimise any information leakage from the algo.	The NWM market making system cannot view the parent algo orders at any stage. This algo does not trade on any liquidity except NWM principal liquidity, and the hedging process to manage the principal positions is designed to cause the least market impact.	The NWM market making system cannot view the parent algo orders at any stage. If this algo places child orders into COMS, the COMS matching engine allows a child order from an algo to become part of our market-making price. Such a blended price is only shown to a heavily curated subset of 'taking' counterparties in order to minimise any information leakage from the algo.
26	Are algo order flows included in any market positioning tools or analyses that other clients may use?	We do not make available any market positioning tools or similar to clients. NWM Sales do share internally generated market position reports with clients, however these are aggregated at a sufficiently high level to ensure that no individual client flows can be discerned. Such reports will include trades from all NWM activity, including client algo orders.	NWM do share market positioning reports with clients, however they cannot use any tools themselves. The reports the clients see are at a high enough level to ensure a large degree of aggregation so that no individual client flows can be discerned.	NWM do share market positioning reports with clients, however they cannot use any tools themselves. The reports the clients see are at a high enough level to ensure a large degree of aggregation so that no individual client flows can be discerned.	NWM do share market positioning reports with clients, however they cannot use any tools themselves. The reports the clients see are at a high enough level to ensure a large degree of aggregation so that no individual client flows can be discerned.
<b>SAFETY FEATURES</b> Safety features might include fat-finger limits, kill switches or protections that automatically suspend the order when it trades too fast or in certain market conditions.					
27	Please describe any in-built safety features you have that may cause an order to be suspended or rejected.	This algo has a comprehensive set of safety features which are designed to pause or cancel the algo if they are triggered. These are separate to the usual credit controls and are intended to prevent 'fat finger' errors and other potential problems which could cause an unwanted outcome for the client. The controls cover but are not limited to the max size of parent order, the rate of execution, unexpected rejection or latency, price collars, and further details can be provided on request	This algo has a comprehensive set of safety features which are designed to pause or cancel the algo if they are triggered. These are separate to the usual credit controls and are intended to prevent 'fat finger' errors and other potential problems which could cause an unwanted outcome for the client. The controls cover but are not limited to the max size of parent order, the rate of execution, unexpected rejection or latency, price collars, and further details can be provided on request	This algo has a comprehensive set of safety features which are designed to pause or cancel the algo if they are triggered. These are separate to the usual credit controls and are intended to prevent 'fat finger' errors and other potential problems which could cause an unwanted outcome for the client. The controls cover but are not limited to the max size of parent order, the rate of execution, unexpected rejection or latency, price collars, and further details can be provided on request	This algo has a comprehensive set of safety features which are designed to pause or cancel the algo if they are triggered. These are separate to the usual credit controls and are intended to prevent 'fat finger' errors and other potential problems which could cause an unwanted outcome for the client. The controls cover but are not limited to the max size of parent order, the rate of execution, unexpected rejection or latency, price collars, and further details can be provided on request
28	Please explain what you have done, and will continue to do, to ensure the integrity of the electronic trading system you provide for clients to use (including the system's reliability, security, capacity and contingency measures).	NWM has a range of measures to ensure the reliability, security and capacity of our electronic trading systems as well as a variety of contingency measures, including (but not limited to) incident monitoring and reviews, controls/circuit breakers/throttles/limits to restrict usage/capacity utilisation/risk, audited and regularly reviewed permissioning and an IT resilience Policy with adequate disaster recovery plans/periodic testing	NWM has a range of measures to ensure the reliability, security and capacity of our electronic trading systems as well as a variety of contingency measures, including (but not limited to) incident monitoring and reviews, controls/circuit breakers/throttles/limits to restrict usage/capacity utilisation/risk, audited and regularly reviewed permissioning and an IT resilience Policy with adequate disaster recovery plans/periodic testing	NWM has a range of measures to ensure the reliability, security and capacity of our electronic trading systems as well as a variety of contingency measures, including (but not limited to) incident monitoring and reviews, controls/circuit breakers/throttles/limits to restrict usage/capacity utilisation/risk, audited and regularly reviewed permissioning and an IT resilience Policy with adequate disaster recovery plans/periodic testing	NWM has a range of measures to ensure the reliability, security and capacity of our electronic trading systems as well as a variety of contingency measures, including (but not limited to) incident monitoring and reviews, controls/circuit breakers/throttles/limits to restrict usage/capacity utilisation/risk, audited and regularly reviewed permissioning and an IT resilience Policy with adequate disaster recovery plans/periodic testing
<b>TCA</b> TCA is an increasingly important part of the service. Where the TCA is not third party it is important to understand internal metrics. For example, if you have 'beaten risk transfer price' by 3bp how is that risk transfer price calculated?					
29	Do you support any TCA or analytics? If so, please specify which providers.	NWM provide in-house TCA (Transaction Cost Analysis) and analytics as well as post trade TCA via SFTP (Secure File Transfer Protocol) to external providers: BestX, ITG, and Trade Feeder.	NWM provide in-house TCA and analytics as well as post trade TCA via SFTP to external providers: BestX, ITG, and Trade Feeder.	NWM provide in-house TCA and analytics as well as post trade TCA via SFTP to external providers: BestX, ITG, and Trade Feeder.	NWM provide in-house TCA and analytics as well as post trade TCA via SFTP to external providers: BestX, ITG, and Trade Feeder.
30	If you provide proprietary analytics, please describe how relevant metrics are calculated (mid-price, risk-transfer benchmarks, etc.).	he inception mid, inception bid-offer and child fill spread capture metrics are all calculated using the relevant primary market pricing data. The Risk-Transfer metrics use the NWM price at the time of the order inception. This is the same pricing feed that the algo uses if it fills any part on NWM principal liquidity.	he inception mid, inception bid-offer and child fill spread capture metrics are all calculated using the relevant primary market pricing data. The Risk-Transfer metrics use the NWM price at the time of the order inception. This is the same pricing feed that the algo uses if it fills any part on NWM principal liquidity.	he inception mid, inception bid-offer and child fill spread capture metrics are all calculated using the relevant primary market pricing data. The Risk-Transfer metrics use the NWM price at the time of the order inception. This is the same pricing feed that the algo uses if it fills any part on NWM principal liquidity.	he inception mid, inception bid-offer and child fill spread capture metrics are all calculated using the relevant primary market pricing data. The Risk-Transfer metrics use the NWM price at the time of the order inception. This is the same pricing feed that the algo uses if it fills any part on NWM principal liquidity.
31	If you provide proprietary analytics, is there a difference in data provided to different users? If so, please elaborate.	There is no difference in data when providing proprietary analytics to different users.	There is no difference in data when providing proprietary analytics to different users.	There is no difference in data when providing proprietary analytics to different users.	There is no difference in data when providing proprietary analytics to different users.
<b>SWAPS</b> Algo Users may have a need to roll an algo execution entirely/partially to one or more forward value date/s. If roll forwards are executed with the Algo Provider, it is crucial to understand if the respective swap prices are competitive and whether potentially sensitive order information is exposed. For example, does the swaps trader know which side of the quote the algo execution is on or do they receive a two-sided RFQ? Also, does the swap trader know they are quoting a captive spot fill or does it appear the same as RFQs that are priced in competition with other banks?					
32	What information is provided to the STIRT desk when there is a request for swap pricing from an algo order?	Any swap pricing associated with an algo order only takes place once the algo has completed and all the child fills have been netted into a single spot ticket. At this point the OMS will initiate an RFQ for the required swap, where size, direction, tenor and counterparty are provided for the swap pricing.	Any swap pricing associated with an algo order only takes place once the algo has completed and all the child fills have been netted into a single spot ticket. At this point the OMS will initiate an RFQ for the required swap, where size, direction, tenor and counterparty are provided for the swap pricing.	Any swap pricing associated with an algo order only takes place once the algo has completed and all the child fills have been netted into a single spot ticket. At this point the OMS will initiate an RFQ for the required swap, where size, direction, tenor and counterparty are provided for the swap pricing.	Any swap pricing associated with an algo order only takes place once the algo has completed and all the child fills have been netted into a single spot ticket. At this point the OMS will initiate an RFQ for the required swap, where size, direction, tenor and counterparty are provided for the swap pricing.