

Sponsored Access

Service Description

26 July 2019
Version 1.16



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1.0 About Turquoise

Turquoise Global Holdings Limited¹ (*TGHL or Turquoise UK*) is an investment firm authorised and regulated by the Financial Conduct Authority of the United Kingdom. Initially founded in 2006 by a consortium of nine investment banks, TGHL has been majority owned by London Stock Exchange Group (*LSEG*) in partnership with the user community since 2010.

Turquoise Global Holdings Europe B.V. (*TGHE or Turquoise Europe* and together with TGHL, *Turquoise*) is an investment firm authorised and regulated by the Autoriteit Financiële Markten (AFM) of the Netherlands. TGHE is a wholly-owned subsidiary of TGHL.

Turquoise operates two Multilateral Trading Facilities (*MTF*); one by TGHL; and one by TGHE, where both support the trading of UK, Swiss, US and EEA Financial Instruments. With a single connection, members of TGHL and members of TGHE can trade shares, depository receipts, ETFs, ETCs, and European Rights Issues of 19 European countries and the US, with an Open Access model that allows members to choose among 4 different CCPs to clear these trades on an interoperable and/or preferred basis.

Membership to TGHL and TGHE is open to eligible firms, with members including banks, brokers, specialist trading firms and retail intermediaries. Sponsored Access and Direct Market Access are available to non-member participants. Turquoise participants benefit from fully risk-managed clearing solutions, and market surveillance to ensure fair and orderly operations.

Turquoise features three types of Order books. **Turquoise Lit™** combines simple limit and iceberg orders with Large In Scale hidden Orders. **Turquoise Plato Lit Auctions™²** are price forming auctions within a Primary Market Best Bid and Offer (PBBO) Reference Price Collar, operating frequently and with pre-trade transparency throughout the trading day, supporting simple limit and PBBO midpoint pegged orders, and allows users to configure Minimum Execution Size. **Turquoise Plato™³** non-displayed midpoint prioritizes orders by size and allows users to configure Minimum Execution Size; it features two distinct mechanisms, each executing at the midpoint of the PBBO: Continuous matching and **Turquoise Plato Uncross™**, an innovation that provides randomised uncrossings during the trading day, ideal for larger and less time sensitive passive orders.

Turquoise Plato Block Discovery™ matches undisclosed Block Indications that execute in **Turquoise Plato Uncross™**, and **Turquoise SwapMatch™** is a neutral arranging mechanism for financial institutions to match block interests in equity total return swaps.

The Turquoise trading platform is hosted in LSEG data-centres and features interfaces common to other LSEG markets, including London Stock Exchange and Borsa Italiana, ensuring that customers accessing other LSEG markets can enjoy access to Turquoise with little incremental cost or effort.

¹ © 2019. Turquoise is a trademark of Turquoise Global Holdings Limited. SwapMatch is a trademark of Turquoise SwapMatch Limited.

² From 23 January 2019, Turquoise rebranded its **Turquoise Lit Auctions™** services as **Turquoise Plato Lit Auctions™**.

³ From 6 September 2016, Turquoise rebranded its non-displayed services as **Turquoise Plato™**. For further details see the press release, <http://www.lseg.com/resources/media-centre/press-releases/plato-partnership-enters-cooperation-agreement-turquoise>.

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2.0 About this Document

The objective of this document is to provide an understanding of the most relevant technical, operational and business features of the Sponsored Access service.

This document is not intended to be used as a Technical Specification for the development of any software application.

This document has been written to reflect the details of the Sponsored Access service as part of the Millennium Exchange platform used by Turquoise.

For any feedback or queries about this document please contact sales@tradeturquoise.com.

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3.0 Changes History

Date	Version	Changes
16/01/2015	1.9	<p>Section 1.0 – Added section ‘About this Document’</p> <p>Section 2.0 – Added this section ‘Changes History’</p> <p>Section 5.4 – Updated to reflect change in MGC behaviour – Validations will now apply when MGC = 0</p> <p>Section 5.4.1 – Added section for MGC Breach Alerts via Sponsor Portal and email</p> <p>Section 5.10 updated.</p> <p>Section 7.2 – Updated to reflect change in IE versions support from 7 & 8 to version 8 & 9.</p> <p>Sections 7.3 updated adding reference to ‘London time’.</p> <p>Section 8.0 – Updated Contact Details</p> <p>Updated links and references, including some minor updates/edits.</p>
27/10/2015	1.10	<p>Exchange Level Controls (ELCs) are now referred to as Turquoise Risk Controls (TRCs) and apply also to block indications, submitted to Turquoise Plato Block Discovery™. Minor edits also included. The following sections have been updated to add clarity:</p> <p>Sections 3.0, 3.1, 4.1, 4.2, 4.3, 5.0, 5.1, 5.2, 5.3, 5.4, 5.4.1, 5.6, 5.7, 5.8, 5.9, 5.10, 6.3 and 7.2 have been updated.</p> <p>Section 3.2 added.</p>
13/01/2016	1.11	<p>Section 5.8 updated to clarify pegged orders with or without a limit price are not supported for Sponsored Access Users.</p>
31/07/2016	1.12	<p>Section 5.6 updated (with sections 5.6.1 and 5.6.2 created), and Section 7.2 updated to reflect support of uploading a restricted instrument list via the Sponsor Portal. Section 5.6.1 updated to reflect the change in error handling for SFTP .csv file uploads.</p>
06/09/2016	1.13	<p>Updated Turquoise to Turquoise Plato™ where appropriate for Dark Midpoint Order Book and Turquoise Plato Block Discovery™ services, and updated Turquoise to Turquoise where appropriate.</p>
08/03/2017	1.14	<p>Various sections updated to reflect change in name of Sponsor Portal to Risk Controls Portal.</p>

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Date	Version	Changes
03/01/2018	1.15	<p>Document updated for MIT Release 9.2 (MiFID II).</p> <p>Section 3.0 updated to reflect Sponsored Users will not be able to access Turquoise Lit Auctions™.</p> <p>Section 3.2 updated to reflect that in order for firms to offer Sponsored Access or DMA, the member must be authorised as an investment firm or credit institution within the European Economic Area (EEA).</p> <p>Section 3.2 and 3.3 updated to reflect Turquoise Plato Block Discovery™ is now part of the MTF and a separate agreement is no longer needed.</p> <p>Section 5.1 updated – Price Band Validation renamed Reference Price Collars with content moving to the Turquoise Trading Service Description, as the Price Collars apply to all users.</p> <p>Section 5.4.1 updated to reference the Member Portal.</p> <p>Section 6.5 deleted and Section 7.4 updated, as Capacity CFD Give Up is not supported.</p> <p>Section 7.4 updated to reference TQ603 – Guide to Testing Services.</p> <p>Various sections: updated hyperlinks, Turquoise® branding updated to Turquoise, key Turquoise terms: Order, Block Indication and Trade updated.</p> <p>The Turquoise Integrated Order Book (sometimes referred to as the Lit Order Book) has been rebranded as the Turquoise Lit™ Order Book.</p>
21/06/2018		<p>New version for the introduction of Turquoise Global Holdings Europe B.V. (TGHE).</p> <p>Section 1.0 About Turquoise section added.</p> <p>Sections 4.0, 4.2, 5.1, 5.2, 5.3, 6.0 plus Disclaimer updated to reflect the above.</p> <p>Various Sections updated to refer to member firms, as members.</p> <p>References of various sections including Hyperlinks also updated.</p>
25/01/2019	1.16	<p>Sections 4.0, 6.0, 6.2 and 6.7 updated to reflect that Sponsored Access users can now access the Turquoise Lit Auctions™ Order Book.</p> <p>Section 6.8 – Kill Switch via Drop Copy Gateway (API) added.</p> <p>Sections 6.8, 6.9, 6.10 references updated, due to new Section 6.8 being added.</p> <p>Section 7.2 and 7.4 updated, to include the Kill Switch.</p> <p>Section 8.1 updated, to include reference to the Member Portal.</p> <p>Updated various sections to reflect Turquoise's rebrand of Turquoise Lit Auctions™ services as Turquoise Plato Lit Auctions™.</p>
26/07/2019		<p>Section 1.0 updated to reflect the introduction of TGHL and TGHE parallel Order Books.</p>

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4.0 Sponsored Access Overview

Sponsored Access is defined as a direct technical connection that enables a non member of TGHL or TGHE (the **Sponsored User**) to access the **Turquoise Lit™**, **Turquoise Plato Lit Auctions™** and **Turquoise Plato™** Order Books, and **Turquoise Plato Block Discovery™** directly under an existing TGHL or TGHE member's (the **Sponsoring Firm**) trading codes.

As all Orders and Block Indications submitted via this connection do not pass through the usual order management systems of the Sponsoring Firm, appropriate risk controls have to be in place to prevent the entry of erroneous Orders or Block Indications to **Turquoise Lit™** and **Turquoise Plato™** Order Books, and **Turquoise Plato Block Discovery™** respectively. Risk controls also prevent Sponsored Users from trading beyond the financial limits set by Sponsoring Firms, who are responsible for all trading activity under their trading codes.

Turquoise offers a series of Turquoise Risk Controls (TRCs) to assist Sponsoring Firms with Sponsored Access order flow validation.

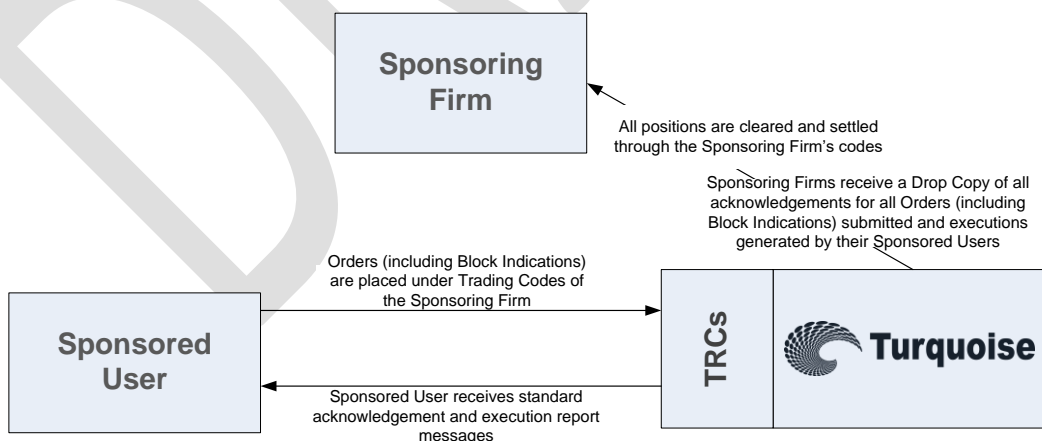
Turquoise will mandate that all Orders and Block Indications submitted via Sponsored Access will pass through these TRCs before being submitted to the relevant Order Book or **Turquoise Plato Block Discovery™**.

This document provides an overview of the functionality provided via Sponsored Access, including detail of the TRCs in place for all users of the service.

For all technical specification documentation please refer to the Turquoise website document library:

<http://www.lseg.com/markets-products-and-services/our-markets/turquoise/information-centre/document-library>

4.1 Sponsored Access Order Flow



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4.2 Access to Turquoise (TGHL and TGHE)

With the introduction of Sponsored Access there are three distinct ways to access the TGHL and TGHE:

- **Membership**
A trading participant connects to and trades directly on Turquoise as a TGHL or TGHE member, subject to all standard Turquoise validation; the TGHL or TGHE member will always be responsible for trading activity under its trading codes.
- **Direct Market Access (DMA)**
With DMA, a TGHL or TGHE member can allow a customer to submit orders to the trading system under the TGHL or TGHE member's trading codes and via the TGHL or TGHE member's order management systems.
- **Sponsored Access**
Unlike DMA, Sponsored Access allows a Sponsored User to submit orders under a TGHL or TGHE member's trading codes to the trading system without passing through a TGHL or TGHE member's order management systems; instead their Orders pass through a series of validation checks provided by Turquoise (the TRCs) whilst Orders are monitored by the TGHL or TGHE member in real-time.

This Service Description only addresses Sponsored Access.

Please note that in order to offer Sponsored Access or Direct Market Access, a TGHE member must be authorised as an European Economic Area EEA regulated investment firm authorised under [Directive 2014/65/EU](#) or credit institution authorised under [Directive 2013/36/EU](#).

A full description of the trading services offered by Turquoise can be found in the Turquoise Trading Service Description.

The **Turquoise** UK or **Turquoise** Europe Rule Books, are both available in the Turquoise Document Library:

<http://www.lseg.com/markets-products-and-services/our-markets/turquoise/information-centre/document-library>

4.3 Access to Turquoise Plato Block Discovery™

Turquoise Plato Block Discovery™ is a service provided by Turquoise. The three distinct ways above, are equally applicable when accessing **Turquoise Plato Block Discovery™**.

A full description of the **Turquoise Plato Block Discovery™** service offered within **Turquoise Plato™** can be found in the **Turquoise Plato Block Discovery™** Trading Service Description available in the Turquoise Document Library:

<http://www.lseg.com/markets-products-and-services/our-markets/turquoise/information-centre/document-library>

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5.0 Responsibilities and Agreements

5.1 Turquoise

Turquoise is strongly committed to the:

- provision of a fair and orderly market, through the application and enforcement of rules, guidance, pre and post trade controls
- monitoring and surveillance of the market

In addition, for the purpose of Sponsored Access, Turquoise will:

- provide and manage Turquoise Risk Controls to assist TGHL and TGHE Members wishing to offer Sponsored Access to their clients, who are not Members of TGHL or TGHE
- have no direct agreements in place with Sponsored Users, but will review each application to provide a sponsored access connection; Turquoise, in its absolute discretion, reserves the right to refuse a Sponsored Access application.

5.2 Sponsoring Firm

A Sponsoring Firm (Member) wishing to provide Sponsored Access to its clients (Sponsored Users) must sign a Sponsored Access Agreement for TGHL or TGHE and submit an application form for every Sponsored User it wishes to connect directly to TGHL or TGHE. The Sponsoring Firm is required to carry out due diligence on all Sponsored Users to ensure they are fit and proper.

The Sponsoring Firm is ultimately responsible for all trading activity carried out under their membership TGHL or TGHE by Sponsored Users.

Turquoise mandates the use of TRCs for Sponsored order flow to monitor and intermediate the activity of all Sponsored Users. Sponsoring Firms are responsible for determining the limits of the configurable TRCs and should adjust them accordingly when required.

5.3 Sponsored User

Sponsored Users have no direct trading agreement in place with TGHL or TGHE, however they are required to be familiar with and adhere to all rules and regulations in place on Turquoise and the Sponsoring Firm should satisfy itself that this is the case.

The Sponsoring Firm may have a relationship in place with the London Stock Exchange Group (LSEG) for the provision of technology services such as taking hosting space in the LSEG managed data centre. This relationship sits outside the protection of a direct trading relationship with TGHL or TGHE.

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6.0 Turquoise Risk Controls

Sponsored Access is a service which is provided based on a set of Turquoise Risk Controls (Order and Block Indication validation checks), which are applied to all Orders and Block Indications submitted by Sponsored Users, in order to restrict and prevent trading beyond certain limits.

All Orders and Block Indications submitted via Sponsored Access will pass through the TRCs before reaching the **Turquoise Lit™**, **Turquoise Plato Lit Auctions™** and **Turquoise Plato™** Order Books and **Turquoise Plato Block Discovery™**. This validation is specific to Orders and Block Indications from Sponsored Users and is in addition to the standard checks in place on **Turquoise Lit™**, **Turquoise Plato Lit Auctions™**, **Turquoise Plato™** and **Turquoise Plato Block Discovery™** trading services, which are implemented and enforced for all TGHL and TGHE Members.

For more information on validation, please see the following service descriptions in the Turquoise Document Library:

- Turquoise Trading Service Description
- **Turquoise Plato Block Discovery™** Service Description

<http://www.lseg.com/markets-products-and-services/our-markets/turquoise/information-centre/document-library>

6.1 Reference Price Collars

Reference Price Collars prevent Orders with an overly aggressive limit price from entering the **Turquoise Lit™** Order Book and trading.

For more information on Reference Price Collars, please see Section 7.6 in the [Turquoise Trading Service Description](#).

6.2 Maximum Order Value

Maximum Order Value prevents uncommonly large valued Orders from entering the **Turquoise Lit™**, **Turquoise Plato Lit Auctions™** and **Turquoise Plato™** Order Books.

The limit is set per Sponsored User, in a base currency. A currency conversion rate is applied to the traded currency of the Order to give the value in the correct base currency. For more information, please see the [Section 6.11 Currency Conversion](#).

All Orders entered by the Sponsored User will be validated against the Maximum Order Value set up for the Sponsored User. If the Order value (price x Order size) is greater than the Maximum Order Value then the Order will be rejected.

The same logic will be applied for Order amendments. If the new Order value (new price x new Order size) in the Order amend (cancel/replace) request is greater than the Maximum Order Value set up for the Sponsored User the amend request will be rejected.

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If no Maximum Order Value is set, then no (Sponsored Access) Maximum Order Value validation is carried out on Orders submitted by that Sponsored User. However, there is a Turquoise system-wide Maximum Order Value, which is implemented in addition to the Sponsored Access validation, which supersedes this check:

- if no valid SA Maximum Order Value is in place, the Turquoise Maximum Order Value will be adhered to.
- if the SA Maximum Order Value > Turquoise Maximum Order Value, the Turquoise Maximum Order Value will be the valid limit.

The Turquoise Maximum Order Values can be found in Section 8.3 of the [Turquoise Trading Service Description](#).

The Maximum Order Value check equally applies to Block Indications, submitted to **Turquoise Plato Block Discovery™**.

Maximum Order Values can be set by Market Operations (MOPS):

- market.operations@tradeturquoise.com
- +44 (0)20 7382 7676

6.3 Maximum Order Quantity

Maximum Order Quantity prevents orders with an uncommonly large Order quantity (specified as a number of shares) from entering the Order Books. It is applicable to all Sponsored Users.

The Maximum Order Quantity check equally applies to Block Indications, submitted to **Turquoise Plato Block Discovery™**.

The Maximum Order Quantity levels can be requested from the contact the Technical Account Management Team:

- londontam@lseg.com
- +44 (0)20 7797 3939

6.4 Maximum Gross Consideration

The Maximum Gross Consideration limit prevents Sponsored Users from trading beyond a financial limit set by the Sponsoring Firm. If a Sponsored User attempts to submit an Order or Block Indication which would result in the Current Gross Consideration exceeding the configured Maximum Gross Consideration, the Order or Block Indication will be rejected.

Current Gross Consideration (exposure) is defined as the sum of all Trades and value of all open Orders and open Block Indications:

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$$\text{Current Gross Consideration} = \text{Consideration of all Trades during the day} + \text{Value of all currently Open Orders and Open Block Indications}$$

The value is configured per Sponsored User per trading day, in a base currency for the Sponsored User. FX conversion will be carried out based on the trading currency of the instrument. For more information, please see the [Section 6.11 Currency Conversion](#).

The value is calculated as a cumulative value, i.e. a buy or sell Order or Block Indication will be added to the overall Current Gross Consideration and no netting of buy and sell positions will take place.

For example, a buy Order in Vodafone of 500 shares at 100p followed by a sell Order of 500 shares at 100p, will increase the overall Current Gross Consideration by 100,000p (compared with a net exposure position in Vodafone of 0).

All Sponsored Firms must set a Maximum Gross Consideration limit for each of their Sponsored Users (which is set at an individual Sponsored User level). If this is not defined (i.e. set to 0), the Sponsored User will not be able to trade as no limit is applied. This value can be either increased or decreased intra-day via the [Risk Controls Portal](#).

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6.4.1 Maximum Gross Consideration Alerting via Risk Controls Portal and email

Sponsoring Firms are able to receive advance warnings to alert them about their Sponsored Users Order and trading activity in relation to their Max Gross Consideration threshold via the [Risk Controls Portal](#) and via email (to an email group) when their Sponsored Users breach set thresholds.

Alerts are sent when a limit is breached for a Sponsored User and when a Sponsored User's Order or Block Indication is rejected due to an attempt to breach their Max Gross Consideration threshold.

e.g. When 50%, 75%, 90% and 100% of the Sponsored Users Max Gross Consideration is breached.

For Example:

A Sponsored User has a Max Gross Consideration of 100,000 Euros. An alert has been set up to warn the Sponsoring Firm (via the [Risk Controls Portal](#) and email) when the Sponsored User's Order, Block Indication and Trade consideration breaches 75% of their Max Gross Consideration threshold.

i.e. When the Sponsored User's Current Gross Consideration exceeds 75,000 Euros.

Where multiple thresholds are breached by a single Order or Block Indication, only the alert for the highest threshold will be sent. An alert will only be sent once during any given day, unless the Sponsored User's Max Gross Consideration is updated.

To opt and elect to receive these additional alerts, Sponsoring Firms can do so via the Member Portal. For more information on the Member Portal and how to register to gain access, please click the following link [here](#).

Alternatively, please contact the Membership Team:

- membership@lseg.com
- +44 (0) 20 7797 1900

Once set up, Sponsoring Firms will be able to maintain their alerts thresholds for their Sponsored Users via the [Risk Controls Portal](#).

6.5 Maximum Message Rate

Sponsoring Firms are required to apportion a maximum message rate threshold in order to prevent Sponsored Users from entering an overly large number of messages. The limit will be set as a maximum number of messages per second per Sponsored User and will be allocated from the total limit allowed for the Sponsoring Firm's allocation.

Turquoise applies a threshold to all Users (whether Sponsored or not), and Sponsoring Firms can request a more conservative threshold for Sponsored Users.

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6.6 Restricted Instrument List

The Restricted Instrument List allows the Sponsoring Firm to restrict Orders and Block Indications entered by a Sponsored User to a limited set of instruments, in the form of a negative permission list (set for an individual Sponsored User), i.e. the Restricted Instrument List is the list of instruments the Sponsored User **cannot** trade. If a Sponsored User attempts to submit an Order or Block Indication in a restricted instrument, it will be rejected.

Lists are created (following notification from the Sponsored Firm) by Turquoise MOPS. The restricted instruments on each list are then maintained either:

- by Turquoise MOPS;
 - Sponsoring Firms must submit a request to Turquoise MOPS for changes to the Restricted Instrument Lists of Sponsored Users. Please refer to section [8.3 Market Operations](#) for further information.
 - Where an instrument becomes restricted intraday by Turquoise MOPS, Turquoise will cancel any open Orders and open Block Indications of the Sponsored User in the restricted instrument. Until Turquoise MOPS cancels all open Orders and Block Indications, a Sponsored User will continue to be able to amend any open Orders and Block Indications on restricted instruments.
- or by the Sponsoring Firm by uploading a .csv file:
 - via SFTP/FTP (refer to [TQ102 - Connectivity Guide](#)),
 - or via the [Risk Controls Portal](#).

6.6.1 Updating a Restricted Instrument List via SFTP/FTP

Sponsoring Firms that would like to update their Restricted Lists themselves (intra or inter-day) using a .csv file can apply for a managed SFTP/FTP account.

Once the SFTP account has been set up and the Restricted List shell has been created and assigned to the Sponsored User (or Users) by Turquoise MOPS, Sponsoring Firms can upload .csv files to add or remove Instruments from a particular Restricted List.

Please note that when a new list is uploaded to the SFTP/FTP site for processing, existing Orders and Block Indications in the affected Instruments will not be automatically deleted and the Sponsoring Firm should arrange for existing Orders and Block Indications to be deleted themselves. Until such open Orders and Block Indications are deleted, a Sponsored User will continue to be able to amend any open Orders and Block Indications on Restricted Instruments.

The SFTP server is available 24 hours a day, 365 days a year for file submission but will only process files between 6am and 6pm (London time) on trading days. Files can be submitted outside of this time window.

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The SFTP will have the following directories:

Directories	Description
Outgoing (default home directory folder after login)	This is where users can upload updated Restricted List .csv files
Audit	This is where users can see what happened to every file (with a correct name and valid size) that they have asked Turquoise to process
Current	This is where users can see the most recent list successfully processed
Incoming/Inbox	Reserved for future use
Archive	Reserved for future use

The .csv file uploaded must adopt the following characteristics:

- The Restricted List name will be provided by the Turquoise MOPS team and must be used in the file name submitted and within the file itself.
- The file must have the following naming convention and be unique for a given business day:
 - *[RestrictedListName]_[YYYYMMDDHHMMSS].csv*
 - e.g. TQ_FirmName_RL1_20111130142535.csv
 - The timestamp used must be unique and should be current.
- The file must not exceed a size of 200KB.
- The file should contain a list of all the instruments that the Sponsoring Firm would like to restrict on a given Restricted List.
 - For example:
 - To add an instrument, the Sponsoring Firm should add it to the list of Instruments previously submitted.
 - To remove an instrument, the Sponsoring Firm should delete it from the list of Instruments previously submitted.
- All Restricted Lists will persist overnight, meaning a file should only be submitted if there is a change required to a given Restricted List. It is expected that each file will result in at least one addition or one removal of an Instrument from the specified Restricted List.
- A file should only include updates to a single Restricted List. It is **not** possible to update more than one Restricted List with a single file.

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- Each Restricted List can contain up to 100 Instruments.
- The .csv file should be comma delimited. The first row of the file should contain the following format:
 - <Restricted List Name>,<Instrument A>,<Instrument B>,...
 - The MTF Common Symbol should be used to identify the Instrument(s) to be restricted.
- Up to 10 attempts (with files that are not out of date) can be made to update each Restricted List per day.

Upon **successful** processing of a file, Turquoise will deliver:

- A file with the same name with a .ok file extension (replacing .csv) to the “Audit” directory;
AND
- If a file for the same Restricted List exists in the “Current” directory, it will be updated with the new Restricted List.
The content of the file in “Audit” and “Current” directories will contain the original contents provided on line 1 which have been successfully loaded.

Upon **partially successful** processing of a file, Turquoise will deliver:

- A file with the same name with a .ok file extension (replacing .csv) to the “Audit” directory. The file will contain the list of Instruments which were successful and a warning message “One or more entry uploads have failed.”
AND
- If a file for the same Restricted List exists in the “Current” directory, it will be updated with the new Restricted List.
The content of the file in “Audit” and “Current” directories will contain a list of successfully loaded restricted instruments on line 1.
- A file with the same name with a .err file extension to the “Audit” directory. The file will contain a list of Instruments which were unsuccessful, along with the reasons for failure.

Upon **unsuccessful** processing of a file, Turquoise will either:

- Do nothing (i.e. **not** provide an error file) where:
 - The file has been named with an incorrect Restricted List name prefix
 - A file exceeds the permitted size
 - On the second error where a firm has already exceeded their 10 attempts i.e. on the 12th attempt.

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- Deliver a file with the same name with a .err file extension (replacing .csv) to the “Audit” directory. Where a filename is **not** unique a timestamp will be added to the .err extension to make it unique

e.g. FirmName_RL1_20111130142535.err_20111130142540.

- The file will contain the original contents provided on line 1 and error codes and descriptions on lines 2 onwards. Each error line of the “.err” file will contain the error code, relevant description, the instrument group and the list of Instruments which got rejected under the particular error code. Where multiple entries are rejected under the same error code, they will be stated on the same line.

Please note: Instrument Group and Symbol will only be stamped if applicable to the error.

For **partially successful** and **unsuccessful** processing of file scenarios, the error file “.err” will be generated in the following format:

Line 1 of the file: <Content of the Original file>

Line 2 of the file: [Error Code A], <Description>, <Instrument Group>, <Symbol 1>, <Symbol 2>,.....,<Symbol N>]

Line 3 of the file: [Error Code A], <Description>, <Instrument Group>, <Symbol 1>, <Symbol 2>,.....,<Symbol N>]

The following table summarises all of the errors that can be provided.

Error Code	Description	Reason for error	Example entry on .err file
1	File cannot be processed	File is not formatted correctly or file is corrupt	0001, File cannot be processed
2	Instrument Group not found	Restricted list does not exist or is incorrect	0002, Instrument group not found, Inst_Grp_x
3	Instrument not found	Instrument provided is invalid	0003, Instrument not found, Inst_Grp_1, Inst_x
4	System unavailable	There was an error processing the file	0004, System unavailable
5	File contains expression based Instrument(s)	There is an issue in the way the Restricted List has been set up, as a query has been used. MOPS will need to be contacted to resolve this issue	0005, File contains expression based instrument(s), Inst_Grp_1, Inst_x
6	Out-dated file	File has an out of date timestamp	0006, Out-dated file

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Error Code	Description	Reason for error	Example entry on .err file
7	No update from previous file	File has not changed	0007, No update from previous file
8	Update Rejected by System	There was an error in processing the file	0008, Update rejected by System
9	Max Instrument Group Updates Exceeded	The maximum number of Restricted List updates has been exceeded for the day. No further updates will be accepted or .err files provided	0009, Max instrument group updates exceeded, InstGrp_20111103035100
10	Max Instruments per group Exceeded	The maximum number of Instruments within the file have been exceeded	0010, Max instruments per group exceeded
11	Instrument Group does not match File Name	The Instrument Group Name in the File Name, does not match the Instrument Group Name within the file	0011, Instrument group does not match file name
12	Duplicate file	The file is a duplicate	0012, Duplicate file

6.6.2 Updating a Restricted Instrument List via the Risk Controls Portal

Sponsoring Firms that would like to update their restricted lists themselves (intra or inter-day) using a .csv file can do so via the [Risk Controls Portal](#).

For characteristics and format requirements of the .csv file, please refer to the relevant part of [Section 6.6.1 Updating a Restricted Instrument List via SFTP/FTP](#).

Once the Restricted List shell has been created and assigned to the Sponsored User (or Users) by Turquoise MOPS, and such Sponsored User has been enabled with the appropriate privilege by Turquoise MOPS, the Sponsored User of a Sponsoring Firm can browse and upload a single .csv file every 20 seconds to add or remove Instruments from a particular Restricted List.

Please note that when a new list is uploaded via the Risk Controls Portal, existing Orders and Block Indications in the affected instruments will not be automatically deleted and firms should arrange for existing Orders and Block Indications to be deleted themselves. Until such open Orders and Block Indications are deleted, a Sponsored User will continue to be able to amend any open Orders and Block Indications on restricted instruments.

The Risk Controls Portal will carry out the following validations before attempting to upload a file. When validations fail, a pop-up message will be displayed in the Risk Controls Portal with one of the following reject messages:

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Scenario	Reject Message
File size is too large for the frame work to process (in the megabyte range)	The file upload failed.
File name length is less than 20 characters	File name is too short.
File name length is more 49 characters	File name is too long.
Invalid file type (Only .csv files are allowed.)	An invalid file type.
File content longer than 4000 characters	File content is too long.
File contains data in multiple lines. File can contain data in only one line.	File contains data in multiple lines
Another file exists with the same file name.	Duplicate file name.

As per [Section 6.6.1 Updating a Restricted Instrument List via SFTP/FTP](#), Sponsoring Firms can expect to receive the same .ok and .err files, as appropriate for the **successful**, **partially successful** and **unsuccessful** processing of restricted instrument lists uploaded via the Risk Controls Portal, “Remarks” column (see table below).

Once a file has been uploaded, the system will indicate the request is being processed in the Risk Controls Portal and have the status of ‘Processing’. Once processed, the “Status” of the file uploaded will be updated.

The following table provides a complete set of Risk Controls Portal “Status”, descriptions and “Remarks” provided:

Status	Description	Remarks
Processing	The file has successfully passed the basic validations and has been uploaded ready for the processing.	n/a
Partially successful	The file has been uploaded and one or more entries have been processed successfully.	For “Partially Successful” processed files, the remark column will state: “One / or more entry uploads have failed.” By clicking on the download links, users can download the .ok. and .err. files.
Successful	The file upload has been successfully processed.	By clicking on the download links, users can download the .ok. file.
System unavailable	The file upload request has been in a “Processing” state for longer than 30 seconds.	n/a

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Status	Description	Remarks
Failed	The file upload has been rejected due to one of the reasons that follows in the Error Code table below.	<p>For “Failed” processed files which generate a single error code, the remark column will state: “Error Information: <Description>”</p> <p>For “Failed” processed files which generate multiple error codes, the remark column will state: “File processing failed due to multiple errors.”</p> <p>By clicking on the download links, users can download the .err. file.</p>

The following table summarises all of the errors that can be provided:

Error Code	Description	Reason for error	Example entry on .err file and ‘Remarks’ column
0001	File cannot be processed	File is not formatted correctly, or file is corrupt	0001, File cannot be processed
0002	Instrument Group not found	Restricted list does not exist or is incorrect	0002, Instrument group not found, Inst_Grp_x
0003	Instrument not found	Instrument provided is invalid	0003, Instrument not found, Inst_Grp_1, Inst_x
0004	System unavailable	There was an error processing the file or the file has taken longer than 30 seconds to process	0004, System unavailable
0005	File contains expression based Instrument(s)	<p>There is an issue in the way the Restricted List has been set up, as a query has been used</p> <p>MOPS will need to be contacted to resolve this issue</p>	0005, File contains expression based instrument(s), Inst_Grp_1, Inst_x
0006	Out-dated file	File has an out of date timestamp	0006, Out-dated file
0007	No update from previous file	File has not changed	0007, No update from previous file
0008	Update Rejected by System	There was an error in processing the file	0008, Update rejected by System
0009	Max Instrument Group Updates Exceeded	The maximum number of Restricted List updates has been exceeded for the day. No further updates will be accepted or .err files provided	0009, Max instrument group updates exceeded, InstGrp_20111103035100

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Error Code	Description	Reason for error	Example entry on .err file and 'Remarks' column
0010	Max Instruments per group Exceeded	The maximum number of Instruments within the file have been exceeded	0010, Max instruments per group exceeded
0011	Instrument Group does not match File Name	The Instrument Group Name in the File Name, does not match the Instrument Group Name within the file	0011, Instrument group does not match file name
0012	Duplicate file	The file is a duplicate	0012, Duplicate file
0013	File cannot be processed due to system error	The file cannot be processed due to a system error	0013, File cannot be processed due to system error

6.7 Cancel on Disconnect

Turquoise has Cancel on Disconnect functionality. Within the Sponsored Access model Turquoise mandates the usage of this functionality for Sponsoring Firms and Users.

All Sponsored Users' Orders and Block Indications will be cancelled from the **Turquoise Lit™**, **Turquoise Plato Lit Auctions™**, and **Turquoise Plato™** Order Book and **Turquoise Plato Block Discovery™**, and all new Orders / Block Indications, and Order / Block Indication amendments rejected, under the following three circumstances:

1. Sponsoring Firm activates the Kill Switch for a given Sponsored User from the [Risk Controls Portal](#).
2. Sponsoring Firm disconnects from the FIX Drop Copy Gateway for a longer than agreed configured time, resulting in the suspension of trading services for all associated Sponsored Users (e.g. Submitting Orders).
3. Sponsored User disconnects from Turquoise for longer than an agreed configurable time.

All new Orders / Block Indications, and Order / Block Indication amendments will be rejected, until the Sponsoring Firm or Sponsored User reconnects.

All Sponsored Access Firms and Users will need to prove via our test environment that they are able to receive and interpret these messages.

6.8 Kill Switch (Suspension and Reactivation)

A Kill Switch is available to Sponsoring Firms to "Suspend" a selected Sponsored User. It can be activated manually via the Risk Controls Portal or automatically via sending a message via the Drop Copy Gateway.

All Sponsored User's orders will be deleted from the order book automatically under the following circumstances:

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- a) Sponsoring Firm activates the Kill Switch for a given Sponsored User from the Risk Controls Portal.
- b) Sponsoring Firm activates the Kill Switch for a given Sponsored User via the Drop Copy Gateway.

Sponsoring Firms can also:

- “Activate” Sponsored Users to allow them to resubmit orders via the Risk Controls Portal or via the Drop Copy Gateway.
- See the “Status” of their Sponsored Users via the Risk Controls Portal or request the “Status” of a Sponsored User via the Drop Copy Gateway.

All Sponsored Access Firms will need to prove via our test environment that they are able to send, receive and interpret Kill Switch messages (suspend, activate, and status) via the Drop Copy Gateway.

6.9 Rejecting Un-priced Orders, Un-priced Block Indications and Pegged Orders

All Orders and Block Indications entered without a Limit Price (e.g. Market Orders and Market Block Indications) by Sponsored Users will be rejected.

All Pegged Orders entered with or without a Limit Price by Sponsored Users will be rejected.

This validation will by default be applied to all Sponsored Users, but can in certain circumstances, at the discretion of Turquoise and the Sponsoring Firm, be disabled for certain Sponsored Users, allowing them to enter these Order and Block Indication types.

6.10 Validation Parameters: Summary

As described above, TRC check/limits are set either at an instrument group level (to be applicable to all Sponsored Users), or at a Sponsored User specific level, or as checks imposed on Sponsored Users at system level by Turquoise.

We have also included more information on the validations that are able to be controlled via the [Risk Controls Portal](#).

This is summarised below:

	User	Instrument/ Instrument Group	System	Amendable via Risk Controls Portal
Price Band Validation		X		
Max Order Value	X		X	
Max Order Quantity		X	X	
Restricted Instrument List	X			

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	User	Instrument/ Instrument Group	System	Amendable via Risk Controls Portal
Max Gross Consideration	X			X
Max Message Rate	X		X	
Reject Un-priced Order	X		X	

6.11 Currency Conversion

All nominal validation limits (Maximum Order Value and Maximum Gross Consideration) are specified in a base currency for the Sponsored User. All Orders and Block Indications submitted will be converted from the traded currency to the base currency before these limits are applied.

The exchange rates for this currency conversion are obtained from a mainstream third-party data provider and are maintained by Turquoise via a daily file upload.

For more information on exchange rates, please contact Turquoise MOPS.

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7.0 Protocol

7.1 Sponsored Access Gateway

Sponsored Access is supported on the Turquoise Native Trading Gateway only, therefore all clients (Sponsored Users) wishing to connect via Sponsored Access must do so with the Native protocol.

Sponsored Users wishing to connect to the Native Trading Gateway need to do so by using certified software. Details on the certification of software can be found in the [TQ601 – Guide to Certification](#).

7.2 FIX Drop Copy Gateway

A FIX drop copy of all trading activity by Sponsored Users is provided to Sponsoring Firms in real time.

All Sponsoring Firms must have an active FIX Drop Copy session at all times in order to provide Sponsored Access. Should this connection fail, all Sponsored Access orders will be cancelled and Sponsored Access users will be suspended from accessing trading services (e.g. Submitting Orders).

Sponsoring Firms can monitor and maintain the status of their Sponsoring Users. Sponsoring Firms can “Suspend”, “Activate” and request the “Status” of their Sponsoring Users. Should a Sponsoring Firm “Suspend” a Sponsored User, all the Sponsored User’s orders will be deleted and the Sponsored User will be suspended from accessing trading services (e.g. Submitting Orders). Should a Sponsoring Firm “Activate” a Sponsored User, they will be able to access trading services and resubmit orders.

Each Sponsoring Firm’s Drop Copy Gateway is limited to a maximum number of “Suspend” requests and a maximum number of “Activate” requests, for all their Sponsored Users assigned to the Drop Copy Gateway. The counts both include any rejected requests. Details of these settings are available on request the Technical Account Management team londontam@lseg.com.

Sponsoring Firms need to pass conformance to prove they are able to receive and interpret the Drop Copy feed covering the activities undertaken by their Sponsored Users.

For more information on the FIX Drop Copy Gateway please see [TQ203 – Drop Copy Gateway \(FIX 5.0\)](#).

7.3 Failover

In the event of a Primary Data Centre failure, and a failover to the Secondary Data Centre, all Sponsored Access will be suspended (i.e. all open orders and block indications from Sponsored Users will be cancelled, and no new orders or block indications will be accepted) until Turquoise can verify all TRC limits and adjust accordingly if required.

Turquoise will notify all Sponsoring Firms once Sponsored Access has been reinstated.

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7.4 Error Codes

The following error codes will be utilised by the Sponsored Access controls:

Validation (Trading Gateway)	Error Code	Error Message
Price Bands	129201	Failed price band validation
Max Order Value	1005	Invalid Order size (> maximum Order value)
Max Order Quantity	111001	Invalid qty (>max Order qty)
Max Gross Consideration	1006	Invalid Order size (will breach Maximum Gross Consideration)
Restricted Instrument	1800	User not registered to submit interest for instrument
Reject Unpriced Orders	1802	Invalid Order type for user (market order)
	1400	Invalid Order type (unknown)
Sponsored Access Gateway	9904	Invalid gateway (not configured for sponsored access)
No Drop Copy Connection	1912	Monitoring user form sponsoring firm not connected

For a complete list of error codes please see [TQ301 – Trading Gateway \(Native\)](#).

'Max Activation Requests'	0	Maximum allowed activate count breached
'Max Suspension Requests'	0	Maximum allowed suspension count breached

Validation (Drop Copy)	User Status	User Status Text
User recognized	3	User not recognized
Trading System available	4	Application is not available
'Risk Managed By' permissioned	6	Not permissioned to manage the risk of the user
'Manage User Status' permissioned	6	Not permissioned to manage user status
User Status change request is invalid	6	No change to user status

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8.0 Providing Sponsored Access

8.1 Sponsored User Setup

Sponsoring Firms must complete a Sponsored Access Application Form for each prospective Sponsored User and return this to the Turquoise Membership Team – contact details are in [Section 8](#).

In addition, the Sponsoring Firm should request a native Trader Group ID(s)/ User ID(s) for the sponsored connection via the [Member Portal](#). The sponsored connection ID(s) will be appended with the letters “SPO” as a suffix. All SPO UserIDs will have cancel on disconnect configured by default with a timer of Immediate. Own Trade Book Download (OTBD) will need to be supported by both the Sponsoring Firm and Sponsored User unless the Sponsoring Firm will support it on behalf of the Sponsored User.

For Test (CDS) access and configuration the Sponsoring Firm will need to contact their Technical Account Manager or the Technical Account Management team londontam@lseg.com. Sponsoring Firm and Sponsored User will need to complete a Daily Life Cycle Test (DLC) with a certified Drop Copy application for the Sponsoring Firm and certified Native application for the Sponsored User.

Once the DLC is successfully completed, the Sponsoring Firm can request the production Native ID, OTBD and Monitoring Drop Copy configurations on [Member Portal](#).

For information on requesting technical configuration in the [Member Portal](#) please refer to the Technical Configuration User Guide:

<https://www.lseg.com/sites/default/files/content/documents/Technical%20Configuration%20User%20Guide.pdf>

For more information on Firm, Node and User setup please refer to the Turquoise Trading Service Description.

For Sponsoring Firms requesting Risk Management Drop Copy functionality, this can be enabled on the Monitoring Drop Copy or on a new dedicated Risk Management Drop Copy. Currently enablement of the Risk Management functionality is requested outside of the [Member Portal](#). The request should go to the Technical Account Manager or the Technical Account Management team londontam@lseg.com.

8.2 Risk Controls Portal (Previously named Sponsors Portal)

The Risk Controls Portal is a secure web based GUI tool accessed via a secure login (accessible via LSEG infrastructure), which allows the Sponsoring Firm to monitor and amend certain trading activities of associated Sponsored Users.

The Sponsoring Firm can view Current Gross Consideration and Maximum Gross Consideration for all their Sponsored Users in the Risk Controls Portal, and if necessary the Sponsoring Firm can modify (increase or decrease) the Maximum Gross Consideration.

If required, a Sponsoring Firm can suspend any of their Sponsored Users from trading. Upon the suspension, via the pro-active Kill Switch, all open Orders and Block Indications for a Sponsored User will be cancelled and all new Orders and Block Indications will be rejected. Subsequently, a Sponsoring Firm can lift the suspension of a Sponsored User and allow them to Trade again.

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There is no “Master” Kill Switch on the Portal for all Sponsored Users of a Sponsoring Firm therefore individual firms will need to be managed.

The Risk Controls Portal does support the ability to upload .csv files to update restricted instrument lists. For more information, please see section [6.6.2 Updating a Restricted Instrument List via the Risk Controls Portal](#).

The [Risk Controls Portal](#) does not support the maintenance of the Restricted Instrument Lists on a per instrument basis – this will be managed by the Market Operations team as per details below.

Access to the Risk Controls Portal will require the use of LSEG provided RSA tokens. These will be provided as part of the enablement process.

The links for CDS and Production Risk Controls Portals are listed below:

CDS - <https://cds-sponsored-access.tradeturquoise.com>

Production - <https://sponsored-access.tradeturquoise.com>

The Risk Controls Portal is compatible with Windows Internet Explorer Version 11.

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8.3 Market Operations

8.3.1 Risk Controls Portal Administration

Turquoise MOPS acts as an Administrative User who can also log in to the [Risk Controls Portal](#) and view the details of all Sponsored Users for all Sponsoring Firms. In the event that a Sponsoring Firm cannot access the [Risk Controls Portal](#) to monitor Sponsored Users or adjust limits, they can contact Turquoise MOPS and request that they intervene on their behalf to suspend/activate Sponsored Users, or to adjust the Maximum Gross Consideration limit.

8.3.2 Restricted Instrument Lists

Turquoise MOPS can also maintain the Restricted Instruments Lists (RILs) for validation.

All changes must be submitted to Turquoise MOPS via email in the provided format.

- Turquoise MOPS will endeavour to make any intraday changes within a reasonable time frame and will confirm via email when the adjustments have been made. The validation against the updated list will only be carried out after such confirmation has been issued to the Sponsoring Firm.
- Planned inter day changes to RILs should be submitted to MOPS by 17:30 (London time) to be implemented for the following business day.
- Inter day changes to the RILs will be accepted until 07:15 (London time). Any changes submitted after this will be treated as an intraday request.
- If an instrument is added to a RIL intraday, MOPS will manually cancel any open Orders and Block Indications for that instrument. Until MOPS cancels all open Orders and Block Indications, a Sponsored User will continue to be able to amend any open Orders and Block Indications on restricted instruments.

Any requests for amendments to validation limits, RILs, creation of a new Sponsored User, amendments to or suspension of Sponsored Users, must come from an Authorised User of the Sponsoring Firm.

8.4 Testing Requirements

Sponsored Users and Sponsoring Firms need to ensure they are using certified software for the relevant gateways. Both the Sponsored User and Sponsoring Firm need to demonstrate that they have tested the functions associated with a daily life cycle of the service on the Turquoise CDS environment prior to go-live on production.

For further details, please refer to [TQ603 – Guide to Testing Services](#).

8.5 Production Access

Once certification has been completed, the Sponsored User will be allowed to connect to Production.

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8.6 Post Trade

Sponsored Users' post trade activities are managed between the Sponsoring Firm and the Sponsored Users. All positions are cleared and settled through the Sponsoring Firm's codes.

Sponsored Access is exempt from stamp duty and Stamp Duty Reserve Tax (SDRT).

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9.0 Contact

For any further information, or to discuss connection to Turquoise via Sponsored Access, please contact the Technical Account Management team.

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10 Paternoster Square
London
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F: +44 (0) 20 7382 7690

W: www.tradeturquoise.com

Sponsored Access Enquiries and Client Relationship Management

T: +44 (0) 20 7382 7650

E: sales@tradeturquoise.com

Membership Team

T: +44 (0) 20 7797 1900

E: membership@lseg.com

Technical Account Management

T: +44 (0) 20 7797 3939

E: londontam@lseg.com

Market Operations (MOPS)

T: +44 (0) 20 7382 7676

E: market.operations@tradeturquoise.com

Incident Management (Live Service and CDS)

T: +44 (0) 20 7797 1500

E: support@lseg.com

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