

# The covered warrant market

technical guide



*London*  
**STOCK EXCHANGE**

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## 1. Introduction

The London Stock Exchange is launching a covered warrant market in the UK. This will comprise of automated and non-automated trading platforms on extraMARK“, the market for innovative and new investment products. Covered warrants will expand the range of products and opportunities not currently available in geared products to all investors, especially private clients.

This document contains the technical specifications required to configure the covered warrant market model. These changes relate to the configuration of the Exchange system and not associated pricing mechanisms, such as the RSP Gateway.

## 2. Overview of market model

Trading will take place on the Exchange, using Exchange infrastructure, across varying mechanisms that can be categorised as:

(1) Order Book

(2) Retail Service Provision

The varying market access mechanisms reflect the different ways market participants obtain instruments prices. From a systems perspective, the two mechanisms will sit within the same segment but different sectors, with sector characteristics being adjusted.

### 2.1 Order Book

Issuers will be able to place their warrants in a continuous execution environment where liquidity providers known as Committed Principals (CPs) have an obligation to provide two way prices throughout the trading day and for the lifetime of the covered warrant. Other market participants can execute against these orders using At Best, Fill or Kill or Execute and Eliminate aggressive order types. In effect, this provides an automated market making model. As with equity, covered warrants placed in these order enabled sectors can be traded through other mechanisms, be it the telephone, broker s proprietary platform or RSP Gateway.

The model for covered warrants in an order-enabled environment has the following characteristics:

- A pre-trade, price-orientation period between 8:05 and 8:15.
- A Mandatory Committed Principal period from 8:15, where market participants can only enter aggressive orders which execute against CP orders.

- Multiple Committed Principals can be registered for each covered warrant.
- If the underlying security on which the warrant is based is subject to a temporary suspension of automatic execution, the warrant will not be suspended.
- The market will close at 4:30pm, with the closing price being formed from the mid-price calculated at that time. After the market close, all CP orders will be automatically deleted.

## 2.2 Retail Service Provision

Issuers may request covered warrants to be admitted to the Exchange and have prices displayed through mechanisms other than the Order Book, such as the RSP Gateway. To facilitate this, these warrants will be placed in sectors with order entry functionality disabled.

The model for covered warrants facilitating Retail Service Provision only has the following characteristics:

- Order entry disabled.
- Multiple market makers may be enabled in each covered warrant
- Only one Committed Principal registered for each covered warrant for purposes of entering closing prices.
- Trade reporting between 07:15 and 17:15, to maintain trade transparency.
- Publication of reference data for warrants in these sectors.
- Ability to set closing prices: A period of order entry will exist at the end of the trading day to allow Issuers to enter orders for the purpose of setting closing prices. The entry of orders during this period is not obligatory.

These sectors will sit within the same segment as those sectors with order entry functionality enabled.

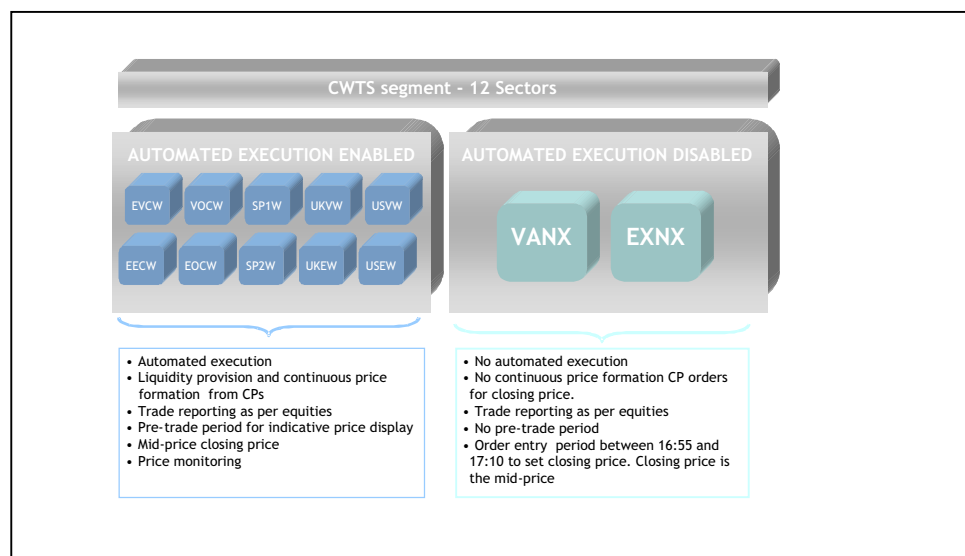


Figure 1: Interaction of automatic execution enabled and disabled sectors

### 3. Technical Implications – Order Book

The London Stock Exchange’s electronic trading platform will be used to facilitate a portion of covered warrant, with some minor configuration changes. These configuration changes are listed below and explained in the following sections.

- A new Market Segment
- 10 New Market Sectors
- Existing and five new Period Names
- New and existing Broadcast Data Groups

#### 3.1 New market segments and sectors

The following table provides details of the new segment and the ten new sectors that have been introduced to support the covered warrant order book:

**Table 1: Market segments and sectors**

Service	Segment	Sector(s)	Description
Covered warrants	CWTS	EVCW	European vanilla covered warrants
		EECW	European exotic covered warrants
		VOCW	Other vanilla covered warrant
		EOCW	Other exotic covered warrants
		SP1W	Structured product 1
		SP2W	Structured product 2
		UKVW	UK vanilla covered warrants
		UKEW	UK exotic covered warrants
		USVW	US vanilla covered warrants
		USEW	US exotic covered warrants

Two additional sectors are also to be added, with automatic execution functionality disabled. See p12 for more information.

## 3.2 Period Schedule for Covered Warrants

The schedule of periods that will apply to the warrants on the order book will be made up of new and existing periods with start times specific to the service, relating in part to the home market of the underlying on which the covered warrant is based. Continuous execution will be available across all markets between 08:15 and 16:30 but CPs are only obliged to place two-way prices during the respective MCPP, which is timed to commence with the opening of the underlying market (currently applied to UK, US and European underlying).

The new period names are:

**Table 2: New period names**

Period name	Period description	Outline of period operation
AESF	AUTO.EX.SUSP	A temporary period that is utilised in the event of breaches in price monitoring threshold after 4pm for warrants on European underlying, and holds the 4pm closing price.
CWTE	CVRD.WRT.TRADING END	Closes the order book but does not set the closing price, which is done at the end of the MCPP.
CWTT	COVERED WRTS. TRADING	Allows for automatic execution of aggressor order against CPs ahead of a MCPP. The entry of CP orders is not obligatory and price monitoring is enabled.
CWUC	COVERED WRTS (UNCR)	A temporary period that complements an "AESP" by uncrossing the order book if a price monitoring suspension occurs outside a MCPP.
MCPE	MANDATORY CP END	A period of automated execution once a MCPP has ended. The entry of orders is not obligatory. Price monitoring is enabled.

The default schedules are shown below:

**Table 3: Default Schedule: Covered warrants on UK and non-US, non-European underlying**

Period start time	Period name	Period description
07:00	OPEN	Market open
08:05	PMCP	Pre mandatory committed principal period
08:15	MCPP	Mandatory committed principal period
16:30	EMCP	End of mandatory committed principal period
17:00	OBC	Order book close

17:15	CLOS	Market close
17:16	ADMN	Administration
17:30	EOA	End of administration

**Table 4: Default Schedule: Covered warrants on US underlying**

Sectors	Period start time	Period name	Period description
USVW USEW	07:00	OPEN	Market open
	08:05	PMCP	Pre mandatory committed principal period
	08:15	CWTT	Covered wrts. Trading
	14:45	MCPP	Mandatory committed principal period
	16:30	EMCP	End of Mandatory committed principal period
	17:00	OBC	Order book close
	17:15	CLOS	Market close
	17:16	ADMN	Administration
	17:30	EOA	End of administration

**Table 5: Default Schedule: Covered warrants on European underlying**

Sectors	Period start time	Period name	Period description
EVCW EECW	07:00	OPEN	Market open
	08:05	PMCP	Pre mandatory committed principal period
	08:15	MCPP	Mandatory committed principal period
	16:00	MCPE	Mandatory CP End
	16:30	CWTE	Cvrd. Wrt. Trading end
	17:00	OBC	Order book close
	17:15	CLOS	Market close
	17:16	ADMN	Administration
	17:30	EOA	End of administration

### 3.3 Temporary instrument schedules

It may be necessary for trading in an instrument on the order book to be interrupted and a temporary schedule invoked. The following are examples but not an exhaustive list.

- the listing of that instrument is suspended
- a trading halt is imposed by the Exchange



- the price monitoring limit is breached (automatic execution on order book only)

The Temporary period schedules for Covered Warrants are summarised in the table below:

**Table 6: Temporary instrument schedule\***

Temporary period	CWTS
Suspension	SUSP
Trading Halt	HALT
Price Monitoring Suspension	AESP
Covered wrts (uncr)	CWUC
Auto.Ex.Susp	AESF

\*Under exceptional circumstances the Exchange may use additional temporary periods not shown in this list.

### 3.4 Broadcast data groups

New broadcast data groups have been created for Order details, Best Price and Enhanced Best Price messages. All other Covered Warrant information will be disseminated over existing broadcast data groups. The broadcast data groups that will be used by the new service are detailed in the table below with the new broadcast data groups highlighted:

**Table 7: Broadcast data groups**

Message Type	Broadcast Data Group Name	Group	Bandwidth
Order details	Covered Warrant prices	B55	126 kbps
Best prices, including auction and closing prices	Covered Warrant bests	B56	148 kbps
Added Value Real Time Information	Covered Warrant Enhanced Best Price	B57	177 kbps
Market status messages	Market Status Indicators	B02	2 kbps
Trade Reports	UK Order Book Trades	B43	60kbps
Order Book Download	UK Order Book download	B40	35 kbps
Snapshots	UK Snapshots	B27	15 kbps
Closing Prices	UK Closing prices	B29	14.5 kbps
Market Reference Data	UK Order Book Market Reference Data Full	B41	2.0 kbps
	UK Order Book Market Reference Data Changes	B42	3.0 kbps

System Rule Reference Data	UK System Rule Reference Data Full	B06	5 kbps
	UK System Rule Reference Data Changes	B07	2 kbps
Recovery Cycle	UK Recovery Cycle B	B32	6 kbps
Daily Official List	UK Official List (Full)	B38	20 kbps
	UK Official List (Changes)	B39	20 kbps
Cumulative number and volume of trades	SETS/IRS Cumulative Trades	B49	44 kbps
VWAP from trades	SETS/IRS VWAP	B47	43 kbps

A list of the messages sent out in each Broadcast Data Group can be found in the Trading and Information Services Service Description, which is available online at [http://www.londonstockexchange.com/techlib/sets/serdef\\_index.asp](http://www.londonstockexchange.com/techlib/sets/serdef_index.asp)

### 3.5 Use of auctions

There will be no pre-specified auctions throughout the trading day or at the open. Auctions may arise as a result of Price Monitoring, which will be used for covered warrant order book sectors.

### 3.6 Market mechanism types

The Covered Warrants service adopts those market mechanisms currently supported by the current trading services. Table 8 summarises the main attributes of the market mechanism types for the service:

**Table 8: Market mechanisms and attributes**

Market mechanism	Covered warrants
Aggressive Type A order (AA)	✓
Aggressive Type B order (AB)	✓
Limit order (LO)	✗
Market order (MO)	✗
Committed Principal (CP)	✓
Firm / Indicative exposure order (FE / IE)	✗
Hit orders (HO)	✗
Attributes	Covered warrants
Preferred Counterparty	✗
Single Fill Indicator	✗

### **3.7 Committed Principle order obligations**

Registered participants are committed to maintain buy and sell orders at a minimum size throughout the mandatory committed principal period. This is broadcast to the market via a **5OB** Tradable Instrument/Currency in Market Segment message with the Minimum Principal Size set to the minimum order size for that instrument.

If order execution on either the buy or sell side results in a CP order volume less than the minimum size, provided the CP does not change the price, they will not be obliged to refresh the size of the order. CPs are only obligated to refresh the size of the order if; 1) They were hit in full 2) If they changed the price of the order. If a participant tries to execute against a CP order on the book, which is subsequently filled just prior to execution, and assuming that there are no other CP orders on the book, then the incoming order will not be executed.

A **5E3** Acknowledge Order Details message will be sent with the advisory code set to **Q228I** No matching has occurred . The order must then be resubmitted.

### **3.8 Preferred Counterparties**

Preferred counterparties will not be recognised for any order types executed on the book.

### **3.9 Reference Data**

Reference data will be disseminated over existing broadcast data groups to support the new services. The reference data that will be published is contained in section 4 below.

### **3.10 Trade publication**

All electronically executed trades will automatically be reported to the Exchange and details of the trade published to the market immediately. The covered warrants market does not use a central counterparty (CCP) so the counterparty will be exposed once the trade has occurred.

Information contained in the trade publication to the market will include date/time warrant, trade price, trade size and type of trade. It will not contain details of the parties to the trade. All Off-Order Book trades will be published immediately on receipt of the trade report although they may have a trade date and time prior to the date of publication (e.g. late trades).

Trades conducted after 17:15 are published the next trading day between 07:15 and 07:45. On the day of publication the cumulative volume for these overnight trades (identified by Trade Time Indicator O ) should be calculated and displayed separately from other trades published during the day.

Trade reports are stored on the Exchange s trading system for three days following the day they are published. The participant is responsible for cancelling trades reported in error and submitting new ones if appropriate.

### **3.11 Contra trading**

#### **Trades automatically executed via the order book**

Participants can submit a contra request to correct a trade, where the contra is submitted on the same day as the original trade report. A contra trade is denoted by the use of a trade type indicator CT. For automated cancellation of trades, both counterparties will need to submit cancelled trade report messages to generate a CT. The Broadcast Update Action field for this trade type is set to D . Where a trade is corrected on a day later than the original trade date a manual trade report with a trade type indicator of PC must be submitted by the registered CP.

#### **Trades executed off order book**

The participant cancels the trade report using a **5CN** cancel trade report message. This will result in a Trade Report message being broadcast with the Broadcast Update Action field set to D followed, if appropriate, by the corrected trade report with the Broadcast Update Action field set to A . The new trade report will have a new trade code. If a trade report is cancelled later than three days after it was published (identified by Trade Type LC) a Trade Report in Error message is broadcast via Market Status at the discretion of the Exchange s Market Operations department.

### **3.12 Advisory codes**

The new release is a configuration change only and no new advisory codes will be created.

## 4. Technical Implications – Retail Service Provision

The covered warrants that will not operate in a continuous order book will be admitted to two alternative sectors in the Exchange system. Some minor configuration changes are required. These and are listed below and explained in the following sections:

- 2 new Market Sectors
- Existing Period Names and two new periods
- Same Broadcast Data Groups as used for automatic execution enabled

### 4.1 New market sectors

The following table provides details of the two new sectors that have been introduced to support the Retail Service Provision covered warrants:

**Table 9: Market segments and sectors**

Service	Segment	Sector(s)	Description
Covered warrants	CWTS	VANX	Vanilla CVD WTS (NO EX)
		EXNX	Exotic CVD WTS (NO EX)

### 4.2 Period Schedule for Covered Warrants

The schedule of periods that will apply to the covered warrants in the Retail Service Provision sectors will be made up of existing and two new periods ( PCWC and ECWF ) with start times specific to the service. The schedule is shown below:

**Table10: Default schedule**

Period start time	Period name	Period description
07:00	OPEN	Market open
16:55	PCWC	Pre-covered warrant closing price period
17:10	ECWF	End of covered warrant closing price period
17:11	OBC	Order book close
17:15	CLOS	Market close
17:16	ADMN	Administration
17:30	EOA	End of administration

### 4.3 Temporary instrument schedules

It may be necessary for trading in an instrument to be interrupted and a temporary schedule invoked. The Temporary period schedules for Covered Warrants are summarised in the table below:

**Table 11: Temporary instrument schedule\***

Temporary period	CWTS
Suspension	SUSP
Trading Halt	HALT

\*Under exceptional circumstances the Exchange may use additional temporary periods not shown in this list.

Price Monitoring will not be used in the automatic execution disabled sectors, VANX and EXNX.

### 4.4 Broadcast data groups

Covered warrants in the automatic execution disabled (AED) sectors will utilise the new broadcast data groups created for Order details, Best Price and Enhanced Best Price messages.

The broadcast data groups that will be used by AED sectors are detailed in the table below with the new broadcast data groups highlighted:

**Table 12: Broadcast data groups**

Message Type	Broadcast Data Group Name	Group	Bandwidth
Order details	Covered Warrant prices	B55	126 kbps
Best prices, including auction and closing prices	Covered Warrant bests	B56	148 kbps
Added Value Real Time Information	Covered Warrant Enhanced Best Price	B57	177 kbps
Market status messages	Market Status Indicators	B02	2 kbps
Trade Reports	UK Order Book Trades	B43	60kbps
Order Book Download	UK Order Book download	B40	35 kbps
Snapshots	UK Snapshots	B27	15 kbps
Closing Prices	UK Closing prices	B29	14.5 kbps
Market Reference Data	UK Order Book Market Reference Data Full	B41	2.0 kbps 3.0 kbps

	UK Order Book Market Reference Data Changes	B42	
System Rule Reference Data	UK System Rule Reference Data Full	B06	5 kbps
	UK System Rule Reference Data Changes	B07	2 kbps
Recovery Cycle	UK Recovery Cycle B	B32	6 kbps
Daily Official List	UK Official List (Full)	B38	20 kbps
	UK Official List (Changes)	B39	20 kbps
Cumulative number and volume of trades	SETS/IRS Cumulative Trades	B49	44 kbps
VWAP from trades	SETS/IRS VWAP	B47	43 kbps

#### 4.5 Use of auctions

There will no use of auction functionality in the Retail Service Provision sectors, VANX and EXNX.

#### 4.6 Market mechanism types

The covered warrants service adopts market mechanisms currently supported by the current trading services. Table 10 outlines the main attributes of the market mechanism types for the service.

**Table 13: Market mechanisms & Attributes**

Market mechanism	Covered warrants
Aggressive Type A order (AA)	X
Aggressive Type B order (AB)	X
Limit order (LO)	X
Market order (MO)	X
Committed Principal (CP)	✓
Firm / Indicative exposure order (FE / IE)	X
Hit orders (HO)	X
Attributes	Covered warrants
Preferred Counterparty	X
Single Fill Indicator	X

#### **4.7 Preferred Counterparties**

Preferred counterparties will not be recognised for any order types executed on the book.

#### **4.8 Reference Data**

Reference data will be disseminated over existing broadcast data groups to support the new services. Further details are contained in section 5.

#### **4.9 Trade publication**

All trades in covered warrant in the Retail Service Provision sectors will be published immediately on receipt of the trade report although they may have a trade date and time prior to the date of publication (e.g. late trades). Information contained in the trade publication to the market will include date/time warrant, trade price, trade size and type of trade. It will not contain details of the parties to the trade.

Trade reporting is available between 07:15 and 17:15. Trades conducted after 17:15 are published the next trading day between 07:15 and 07:45. On the day of publication the cumulative volume for these overnight trades (identified by Trade Time Indicator O ) should be calculated and displayed separately from other trades published during the day.

Trade reports are stored on the Exchange's trading system for three days following the day they are published. The participant is responsible for cancelling trades reported in error and submitting new ones if appropriate.

#### **4.10 Contra trading**

Trades in warrants in the Retail Service Provision sectors will effectively be traded off Order Book . The participant cancels the trade report using a **5CN** cancel trade report message. This will result in a Trade Report message being broadcast with the Broadcast Update Action field set to D followed, if appropriate, by the corrected trade report with the Broadcast Update Action field set to A . The new trade report will have a new trade code. If a trade report is cancelled later than three days after it was published (identified by Trade Type LC) a Trade Report in Error message is broadcast via Market Status at the discretion of the Exchange's Market Operations department.

#### **4.11 Advisory codes**

The new release is a configuration change only and no new advisory codes will be created.



## **5. Reference and associated information for all covered warrants**

### **5.1 NMS values**

A single NMS value of 10,000 will be used for all covered warrants.

### **5.2 Tick size values**

A single tick size of 0.01p (price code J ) will be used for all covered warrants.

### **5.3 Derivation and use of Covered Warrant Short Name**

For each covered warrant, the short name, which maybe the most prominently used, will comprise of a standard format and will include the following six data elements:

- Underlying on which the instrument is based
- Instrument's issuer
- Instrument's expiry style (i.e. European or American)
- Instrument's contract type (i.e. Call or Put)
- Instrument's sub-type (if applicable, and applies more to exotic warrants)
- Issue identifier (if applicable)

The short name will be composed from the following convention\*:

**Table 14: Short Name description**

Data Elements for Covered Warrants	Order	Length	Variables
Underlying	1st	4	4 character code that identifies the underlying using TIDM or 4 letter code in the case of instruments without TIDM (e.g. indices)
_	2nd	1	Underscore to separate the Underlying from the Issuer
Issuer	3rd	4	Market participant mnemonic up to 4 letters, allocated by the Exchange
_	4th	1	Underscore to separate the Issuer from the Instrument Type
Instrument Detail: Instrument Type	5 <sup>th</sup>	1	Two scenarios for Covered Warrants: <b>C</b> for calls <b>P</b> for puts
Instrument Detail: Expiry style	6 <sup>th</sup>	1	Two scenarios for Covered Warrants: <b>E</b> for European covered warrants** <b>A</b> for American covered warrants**
Instrument Sub-type	7 <sup>th</sup>	1	A set of Alpha characters that will define the type of warrant which is yet to be defined.
_	8 <sup>th</sup>	1	Underscore separates the Covered Warrant Type from the Covered warrant issue.
Issue Identifier	9 <sup>th</sup>	1	A letter that identifies the issue sequence, if applicable.

For more information please refer to the Recommended display and derived information guidelines for Covered Warrants.

\*\* European covered warrants can only be exercised at a specified date, whereas American covered warrants can be exercised at any time up to and including the specified date.

Example:

1. A European, Call Barrier covered warrant issued by ABCD Bank on Boots plc would be named: **BOOT\_ABCD\_CEB\_A** :

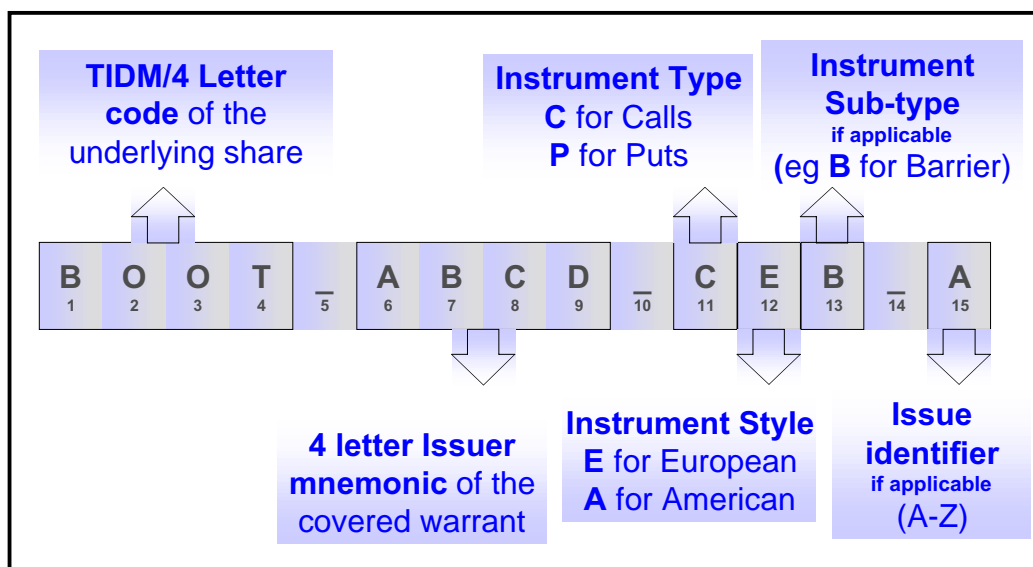


Figure 2

The order of the information in the short name is important to maintain consistency for parsing. The above does not apply to the Tradable Instrument Name field. (i.e. Long name).

#### 5.4 Usage of 50A Message for Covered Warrants

Covered Warrants require additional data to that currently disseminated for equity instruments.

In order to minimise the development required for the introduction of Covered Warrants, values for certain fields within the existing **50A** Tradable Instrument message will have a dual meaning, dependant on tradable instrument type.

The fields within the **50A** message, which will be used to carry Covered Warrants specific information, are:

- Subscription Price 1
- Subscription Price 2
- Expiry Date Rights Exercised
- Expiry Date Complement 1
- Expiry Date Complement 2

These fields are currently utilised for SEATS and AIM instruments and will be extended to covered warrants. The additional use of these fields is shown in Table 14 overleaf:

**Table 15: 50A Tradable Instrument message usage**

Data field name	Desired template display name	Current purpose of data field	Length	Format	Contents
Subscription Price 1	Strike price	This is a free format field used to enter the terms of subscription to an equity warrant.	8	A	Strike price e.g. GBX230
Subscription Price 2	Ratio	Free format fields used to enter the terms of subscription to an equity warrant.	8	A	Number of CWs to underlying, Warrant - Underlying — e.g. 5-1
Expiry Date Rights Exercised	Expiry date	The final date on which subscription rights can be exercised. This field has the format CCYYMMDD.	8	N	Expiry date — e.g. 20030902
Expiry Date Complement 1	Expiry source	A free format field used to provide further information about the expiry of warrants.	8	A	An indicator showing which price will be used at expiry. This can be CLOSE VWAP ; LAST AT or Other.
Expiry Date Complement 2	Settlement type	A free format field used to provide further information about the expiry of warrants.	8	A	Expiry settlement type, displaying whether cash or physical underlying is transferred at expiry. E.g. values will be CSH for cash or STK for stock

\* The information in this table refers to how the data is disseminated. Please refer to the Covered Warrants display guidelines for display information.

## **6. Implementation**

### **6.1 Implementation schedule**

The Covered Warrants service will go live in Q3 2002

- customer testing services will be launched during June 2002

### **6.2 Supporting documentation**

This guide provides sufficient technical information to enable customers to understand and develop their systems to support their enablements.

Participants may also wish to refer to Exchange s technical specifications (TIS101-104) for supporting information.

All technical documentation published for this release and information relating to RSP Gateway can be found on the London Stock Exchange website:

<http://www.londonstockexcahnge.com/techlib/default.asp>

### **6.3 Customer Testing**

The Exchange will provide the necessary testing framework to enable customers to test all functionality in the Covered Warrants service. This is catered within the Customer Development Service (CDS). The CDS will reflect all valid market mechanisms that will be used on the live service for this service.

### **6.4 Conformance**

Conformance testing will be required by those participants that have not already done so, especially for the Broadcast Data Groups.

## Appendix A – Trading Parameters

### A1 Trading parameters – Order Book sectors

Parameter	Covered Warrants
Dynamic price tolerance	500%
Automatic execution suspension period	5 minutes
Trade reporting deadline	3 minutes
Closing price determination	Closing price determined by the mid-price of the best CP prices
Price monitoring extensions	Not applicable
Market order extension	Not applicable
Currency code	All currency codes will be supported
Tradable instrument type	CW (Covered Warrant)
Lot size	N/A
CP unit size	Subject to regulatory guidance
Minimum order size	1
Maximum order / quote multiplier	99999.99
Tick size	0.01p

**Table 16** *These values are subject to change.*

### A2 Trading parameters – Retail Service Provision sectors

Parameter	Covered Warrants
Dynamic price tolerance	Not applicable
Automatic execution suspension period	Not applicable
Trade reporting deadline	3 minutes
Closing price determination	Closing price determined by the mid-price of the best CP prices
Price monitoring extensions	Not applicable
Market order extension	Not applicable
Currency code	All currency codes will be supported
Tradable instrument type	CW (Covered Warrant)
Lot size	Not applicable
CP unit size	Not applicable
Minimum order size	1
Maximum order / quote multiplier	99999.99
Tick size	0.01p

**Table 17** *These values are subject to change.*

## Appendix B – Test instrument details

### B1 Test instruments – Order Book

The information in this section applies to the Covered Warrants testing Environment. In lieu of live covered warrants, dummy instrument details have had to be created.

#### B1.1 Warrant names

Four generic firms, AAAA Bank, BBBB Bank, CCCC Bank and DDDD Bank will issue the dummy warrants. The warrant names to be used in each sector are listed below:

**Table 18: Warrant Names**

Sector	AAAA Bank	BBBB Bank	CCCC Bank	DDDD Bank
UKVE	VOD__AAAA_CA			
	VOD__AAAA_CA_A	VOD__BBBB_CE	BOOT__CCCC_CE	BOOT__DDDD_CA
	F100__AAAA_PA	F100__BBBB_PA	FTAS__CCCC_PA	FTAS__DDDD_PE
UKEW	MNU__AAAA_CEB	F100__BBBB_CEB	F100__CCCC_PEB	MNU__DDDD_PEB
USVW	MSF__AAAA_CE			
	MSF__AAAA_CE_A	MSF__BBBB_CE	CCA__CCCC_CA	CCA__DDDD_CE
	DJ30__AAAA_PA	S500__BBBB_PE	S500__CCCC_PA	DJ30__DDDD_PA
USEW	CSC__AAAA_CEB	SUW__BBBB_PEB	CSC__CCCC_CEB	SUW__DDDD_CEB
EVCW	NSTR__AAAA_CE			
	ESX5__AAAA_PA	NSTR__BBBB_CE	CFR__CCCC_CA	CFR__DDDD_CA
	ESX5__AAAA_PA_A	ESX5__BBBB_PE	ESX5__CCCC_PE	ESX5__DDDD_PE
EECW	OLI__AAAA_CEB	ETV__BBBB_CEB	OLI__CCCC_CEB	ETV__DDDD_CEB
VOCW	HTC__AAAA_CA			
	NIKK__AAAA_PE	HTC__BBBB_CA	CNI__CCCC_CE	CNI__DDDD_CA
	NIKK__AAAA_PE_A	NIKK__BBBB_PE	NIKK__CCCC_PA	NIKK__DDDD_PE
EOCW	HNDA__AAAA_CEB	CNI__BBBB_CEB	NIKK__CCCC_CEB	FUJ__DDDD_CEB

SP1W	MNU_AAAA_L	MSF_BBBB_L	ESX5_CCCC_L	F100_DDDD_L
SP2W	BP_AAAA_Z	F100_BBBB_Z	MWOR_CCCC_Z	NIKK_DDDD_Z

## B1.2 Warrant ISINs

The following table lists the Covered Warrant instruments and their ISIN codes that will be available on the test system:

**Table 19: Warrant ISINs**

Dummy warrant name	ISIN	Dummy warrant name	ISIN
VOD_AAAA_CA	GB0043846699	BOOT_CCCC_CE	GB0043817781
VOD_AAAA_CA_A	GB0043757821	FTAS_CCCC_PA	GB0043817898
F100_AAAA_PA	GB0063320971	F100_CCCC_PEB	GB0043817906
MNU_AAAA_CEB	GB0043847002	CCA_CCCC_CA	GB0043818086
MSF_AAAA_CE	GB0043848182	S500_CCCC_PA	GB0043818201
MSF_AAAA_CE_A	GB0043762359	CSC_CCCC_CEB	GB0043818532
DJ30_AAAA_PA	GB0043848414	CFR_CCCC_CA	GB0043819167
CSC_AAAA_CEB	GB0043855989	ESX5_CCCC_PE	GB0043819274
NSTR_AAAA_CE	GB0043859198	OLI_CCCC_CEB	GB0043819381
ESX5_AAAA_PA	GB0043861607	CNI_CCCC_CE	GB0043819498
ESX5_AAAA_PA_A	GB0043770345	NIKK_CCCC_PA	GB0043819506
OLI_AAAA_CEB	GB0043862340	NIKK_CCCC_CEB	GB0043819613
HTC_AAAA_CA	GB0040779927	ESX5_CCCC_L	GB0043823847
NIKK_AAAA_PE	GB0040778952	MWOR_CCCC_Z	GB0043824035
NIKK_AAAA_PE_A	GB0043771202		
HNDA_AAAA_CEB	GB0040772591		
MNU_AAAA_L	GB0040770223		
BP_AAAA_Z	GB0043862894		
VOD_BBBB_CE	GB0043862902	BOOT_DDDD_CA	GB0043829083
F100_BBBB_PA	GB0043863207	FTAS_DDDD_PE	GB0043829422
F100_BBBB_CEB	GB0043863751	MNU_DDDD_PEB	GB0043830313
MSF_BBBB_CE	GB0043864619	CCA_DDDD_CE	GB0043839678
S500_BBBB_PE	GB0047302954	DJ30_DDDD_PA	GB0043843803



SUW_BBBB_PEB	GB0043805711	SUW_DDDD_CEB	GB0043844769
NSTR_BBBB_CE	GB0043810463	CFR_DDDD_CA	GB0043845063
ESX5_BBBB_PE	GB0043811214	ESX5_DDDD_PE	GB0043845170
ETV_BBBB_CEB	GB0043811438	ETV_DDDD_CEB	GB0043846582
HTC_BBBB_CA	GB0043812402	CNI_DDDD_CA	GB0043733889
NIKK_BBBB_PE	GB0043817450	NIKK_DDDD_PE	GB0043740793
CNI_BBBB_CEB	GB0043817567	FUJ_DDDD_CEB	GB0043744001
MSF_BBBB_L	GB0046559455	F100_DDDD_L	GB0043754364
F100_BBBB_Z	GB0043817674	NIKK_DDDD_Z	GB0043757045

### B1.3 Dummy warrant TIDMs

The table below outlines the Covered Warrant Automatic Execution Enabled instruments on the test system by Issuer, Name and TIDM:

**Table 20: Warrant TIDMS**

Issuer	Dummy warrant name	TIDM	Issuer	Dummy warrant name	TIDM
AAAA Bank	VOD_AAAA_CA	XX01	CCCC Bank	BOOT_CCCC_CE	XX33
	VOD_AAAA_CA_A	XX02		FTAS_CCCC_PA	XX34
	F100_AAAA_PA	XX03		F100_CCCC_PEB	XX35
	MNU_AAAA_CEB	XX04		CCA_CCCC_CA	XX36
	MSF_AAAA_CE	XX05		S500_CCCC_PA	XX37
	MSF_AAAA_CE_A	XX06		CSC_CCCC_CEB	XX38
	DJ30_AAAA_PA	XX07		CFR_CCCC_CA	XX39
	CSC_AAAA_CEB	XX08		ESX5_CCCC_PE	XX40
	NSTR_AAAA_CE	XX09		OLI_CCCC_CEB	XX41
	ESX5_AAAA_PA	XX10		CNI_CCCC_CE	XX42
	ESX5_AAAA_PA_A	XX11		NIKK_CCCC_PA	XX43
	OLI_AAAA_CEB	XX12		NIKK_CCCC_CEB	XX44
	HTC_AAAA_CA	XX13		ESX5_CCCC_L	XX45
	NIKK_AAAA_PE	XX14		MWOR_CCCC_Z	XX46
	NIKK_AAAA_PE_A	XX15			
	HNDA_AAAA_CEB	XX16			
	MNU_AAAA_L	XX17			
	BP_AAAA_Z	XX18			

BBBB Bank	VOD_BBBB_CE	XX19	DDDD Bank	BOOT_DDDD_CA	XX47
	F100_BBBB_PA	XX20		FTAS_DDDD_PE	XX48
	F100_BBBB_CEB	XX21		MNU_DDDD_PEB	XX49
	MSF_BBBB_CE	XX22		CCA_DDDD_CE	XX50
	S500_BBBB_PE	XX23		DJ30_DDDD_PA	XX51
	SUW_BBBB_PEB	XX24		SUW_DDDD_CEB	XX52
	NSTR_BBBB_CE	XX25		CFR_DDDD_CA	XX53
	ESX5_BBBB_PE	XX26		ESX5_DDDD_PE	XX54
	ETV_BBBB_CEB	XX27		ETV_DDDD_CEB	XX55
	HTC_BBBB_CA	XX28		CNI_DDDD_CA	XX56
	NIKK_BBBB_PE	XX29		NIKK_DDDD_PE	XX57
	CNI_BBBB_CEB	XX30		FUJ_DDDD_CEB	XX58
	MSF_BBBB_L	XX31		F100_DDDD_L	XX59
	F100_BBBB_Z	XX32		NIKK_DDDD_Z	XX60

## B2 Test instruments – Retail Service Provision

The information in this section applies to the Covered Warrants testing Environment. In lieu of live covered warrants, dummy instrument details have had to be created.

### B2.1 Warrant names

Two generic firms, AAAA Bank, BBBB Bank, will issue the dummy warrants in the Retail Service Provision sectors. The warrant names to be used in each sector are listed below:

**Table 21: Warrant Names**

Sector	AAAA Bank	BBBB Bank
CWTV	SHEL_AAAA_CE	TSCO_BBBB_CE
	FIA_AAAA_CE	LGEN_BBBB_CA
	IBM_AAAA_CE	MCD_BBBB_CA
	F100_AAAA_CE	SX50_BBBB_CE
	F100_AAAA_PE	S500_BBBB_CA
CWTX	F100_AAAA_CEB	S500_BBBB_CEB
	F100_AAAA_CEB_A	SX50_BBBB_Z
	VOD_AAAA_CEB	

## B2.2 Warrant ISINs

The following table lists the Covered Warrant instruments and their ISIN codes that will be available on the test system:

**Table 22: Warrant ISINs**

Sector	Dummy warrant name	ISIN
CWTV	SHEL_AAAA_CE	GB0054392906
CWTV	FIA_AAAA_CE	GB0060370680
CWTV	IBM_AAAA_CE	GB0053456652
CWTV	F100_AAAA_CE	GB0052958120
CWTV	F100_AAAA_PE	GB0054425110
CWTV	F100_AAAA_CEB	GB0054478622
CWTV	VOD_AAAA_CEB	GB0054640098
CWTV	TSCO_BBBB_CE	GB0023897522
CWTV	LGEN_BBBB_CA	GB0043454841
CWTV	MCD_BBBB_CA	GB0043509495
CWTV	SX50_BBBB_CE	GB0043630887
CWTV	S500_BBBB_CA	GB0043631638
CWTV	S500_BBBB_CEB	GB0043643260
CWTV	SX50_BBBB_Z	GB0054640106

## B2.3 Dummy warrant TIDMs

The table below outlines the Covered Warrant instruments on the test system by Issuer, Name and TIDM:

**Table 23: Warrant TIDMS**

Sector	Issuer	Dummy warrant name	TIDM
CWTV	AAAA Bank	SHEL_AAAA_CE	XX61
CWTV	AAAA Bank	FIA_AAAA_CE	XX62
CWTV	AAAA Bank	IBM_AAAA_CE	XX63
CWTV	AAAA Bank	F100_AAAA_CE	XX64
CWTV	AAAA Bank	F100_AAAA_PE	XX65
CWTV	AAAA Bank	F100_AAAA_CEB	XX66
CWTV	AAAA Bank	VOD_AAAA_CEB	XX67
CWTV	BBBB Bank	TSCO_BBBB_CE	XX68
CWTV	BBBB Bank	LGEN_BBBB_CA	XX69

CWTV	BBBB Bank	MCD_BBBB_CA	XX70
CWTV	BBBB Bank	SX50_BBBB_CE	XX71
CWTV	BBBB Bank	S500_BBBB_CA	XX72
CWTV	BBBB Bank	S500_BBBB_CEB	XX73
CWTV	BBBB Bank	SX50_BBBB_Z	XX74

### **B3 Uniform data across warrants**

Each warrant will have a minimum bargain size of 1 warrant.

All warrants are settled for cash at expiry.

The underlyings for all warrants will be valued at expiry using the closing price.

All warrants will have a conversion ratio of 1:1, unless based on an index when a ratio of 100:1 will be used.

NMS Bands - For the purposes of testing, all warrants will have an NMS value of 10,000 in CDS.

Tick sizes - For the purposes of testing, each warrant is assumed to have a tick size of 0.01p.

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