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STOCK EXCHANGE

SEDOL Masterfile™

CUSTOMER TEST SERVICE

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1 Introduction

1.1 Background

The Securities Masterfile™ service has been in operation for 30 years providing information (including global SEDOL codes) on over 400,000 securities traded on UK and International markets.

The current numbering convention is reaching capacity and following extensive market consultation, the service is undergoing a number of enhancements, and is being re-launched as the SEDOL Masterfile™ (SMF™) service. In particular, the consultation identified three industry issues that changes to the SMF service should address:

- identification of individual securities and the markets that they are traded on – reducing the estimated £100m lost each year by the industry as a result of trading errors caused by confusion over security identification;
- codes to be allocated on a real time basis; and
- a single code to cover all asset classes.

These enhancements will change the process and charging structure for the issuance, communication and use of SMF data within organisations and as such is being re-launched as the SEDOL Masterfile Service. Further details of these changes are included on the Exchange's website at www.londonstockexchange.com/sedol.

1.2 Purpose and Scope of Document

The purpose of this document is to provide the reader with further details of the SMF Customer Testing Service. The objectives are to present an overview of the service, data, test scripts and test conditions which customers will use during testing.

The majority of this document is aimed at direct subscribers to SMF data. However, section 2.2.3 details high level information regarding a test area of the SMF website, which replicates all functionality offered on the Live SMF Website (e.g. searching the SMF database, downloading sample data files, creating new SEDOL codes etc).

1.3 Document Structure

This document is structured as follows.

1. **Introduction:** This section describes the objectives and scope of this document.
2. **Testing Overview:** An overview of the customer test services.
3. **Scenario Testing: Test Data ;** An overview of the test data used.
4. **Scenario Testing: Test Cycles;** An overview of the test cycles.
5. **Service Support:** An overview of the support that the Exchange will provide customers with during testing.

6. **Customer Test Documentation:** Details on the documentation and files that will be provided to facilitate the customer test services.
7. **Appendices:** Test Conditions and Test Scripts.

2 Testing Overview

2.1 General Information

The SMF Testing Service detailed in 2.2.1 and 2.2.2 below is restricted to direct subscribers of the SMF data. However, market feedback indicates that data vendors should wherever possible use this test data with their customers.

The following range of alphanumeric SEDOL codes have been reserved for test purposes (full details provided in section 3.1):

- 5,000 codes reserved for the industry to conduct its own internal testing. This range is available on the Exchange's website, <http://www.londonstockexchange.com/sedol>
- 10 codes will be used by the Exchange's Trading and Information Customer Development Service environment.
- 24,781 codes will be used by the SMF Test Service, as detailed in this document.

The Exchange will not allocate any test SEDOL codes in live service, hence these codes will always be used for test purposes.

2.2 Customer Test Phases

Customer Testing divides into three separate phases.

2.2.1 Scenario Testing

Scenario Testing requires customers to follow Test Scripts and prove Test Conditions. Customers are required to book testing slots in advance. It is envisaged that customers will require 1 or 2 testing slots prior to go-live. Two testing slots per day will be provided running from 09:00 – 12:00 and 14:00 – 17:00. During these test slots customers will have exclusive use of the test website. **Note** : the contents of the SEDOL database will be re-set after each customer testing slot.

In addition, customers using the Scenario Testing service will also have access to the test website (detailed in section 2.2.3) to complete the test cycles outlined in Section 4 and view test results. Please note, these test cycles are only available for direct data subscribers during a reserved testing slot.

The Exchange will provide support during these tests to record the results and assist customers where required. Customers can book testing slots from Monday 18 August 2003 between the following hours 09:00 and 17:00 Monday – Friday by calling 020 7797 1112 (STX 31112).

2.2.2 Connectivity Testing

In addition to the Scenario Testing, customers will be provided with 2 connectivity tests to ensure their systems can interface to the new SMF live web server.

Connectivity Testing will require the Customers to connect to the live web server via the web interface and / or the SOAP interface and download a test file.

Full details on the testing dates and connectivity details (e.g. live IP addresses) will be provided in August 2003.

2.2.3 Website Testing

A test SMF website, www.sedoltest.com is also available for all SMF licence holders. All customers are expected to use the test area of the website before logging onto the live SMF website. From these screens customers will be able to test all functionality offered on the Live SMF Website (e.g. searching the SMF database, downloading sample reference data and corporate action data files, creating new SEDOL codes etc).

2.3 Organised Industry Testing

As well as the testing service provided by the Exchange, market participants have expressed a requirement for the Global Reference Data Coalition (REDAC) to work with the Exchange to co-ordinate 2 industry testing days. This would ideally consist of all data vendors participating in 2 testing days with their customers to ensure that organisations that subscribe to multiple data vendor feeds are able to test all systems/data feeds in a live like environment.

Although these tests would not involve the Exchange, market participants have expressed a wish for all data vendors to use the test data/test SEDOL codes provided in the Exchange's Scenario Testing service.

As some organisations will introduce a code freeze period during December 2003, the preferred dates are likely to be in October / November. REDAC and the Exchange will confirm the preferred dates to data vendors shortly. Data vendors willing to take part in these testing days should contact Mike Atkin, matkin@sia.net and mhusler@londonstockexchange.com to confirm their participation. Further information on these testing arrangements will be made available on the Financial Information Services Division website, <http://www.fisd.net/>.

3 Scenario Testing – Test Data

3.1 Test SEDOL Codes

Currently SEDOL codes are seven character numeric codes. As part of the SEDOL enhancement project, the codes will become seven character alphanumeric codes (although existing SEDOL codes will not be replaced).

The SEDOL codes that will be reserved for Customer Testing are all codes that begin with “ZZZ”. These are:

ZZZ0005 through to ZZZZZZ0 (the last possible SEDOL code)

This reserved test SEDOL range covers **29,791 test codes**, or 0.005% of the 600 million codes available.

The first **5,000 test codes** have been reserved by the Exchange for customers to perform their own in-house testing (codes ZZZ0005 to ZZZ5680). These test SEDOL codes are provided in a document on the Exchange’s website, www.londonstockexchange.com/sedol.

The next **10 test codes** will be reserved by the Exchange’s Trading and Information Customer Development Service environment (codes ZZZ5691 to ZZZ56L3).

The remaining **24,781 test codes** will be used in the SEDOL Customer Testing service as described in this document (codes ZZZ56M4 to ZZZZZZ0).

3.2 SEDOL Comparison Data

Files will be produced containing 1,000 records, securities, and associated records as they currently exist in the current Securities Masterfile and as they will exist on the new SEDOL Masterfile.

These files will use the reserved customer test SEDOL codes and the names of the Issuers and Securities will be changed to incorporate the word “TEST”.

These files will be added to the Exchange’s website for Customers to download prior to testing.

The details of the pre-SEDOL enhancement and post-SEDOL enhancement files are as follows.

3.2.1 Pre-SEDOL Enhanced Files

The current SMF creates five file formats. Each format contains full SMF downloads, or the Changes since the last file was created. There are four Services in SMF, and the fields displayed in each file vary across the Services. Service 1 is the most comprehensive Service, and the file contents from the other Services are a subset of the contents of the Service 1 files.

All the files are in Tab Separated format.

For the purpose of Customer Testing, Daily Changes Files from Service 1 will be created in Tab Separated format. The details of these files are shown in Table 3.

File	File Name	Description
Security	Secc1.gz	Changes to Securities
Distribution	Disc1.gz	Changed distributions for a security
Element	Elec1.gz	Changed elements for a distribution
Accrued Interest	Accc.gz	Changes to the accrued interest dates for a security
Issuer	Issc.gz	Changed Issuer information

Table 3 – Pre-SEDOL Enhancement Files

3.2.2 Post-SEDOL Enhancement Files

The new SMF application will create seven file formats. Each format contains full SMF downloads, or the Changes since the last file was created.

The formats of the files can be Tab Separated format, MDDL format, or MT 564 format.

For the purpose of customer testing, the contents of the pre-SEDOL Enhancement files will be displayed in the post-SEDOL Enhancement files in each of the available format. The details of these files are shown in Table 4.

File	File Name	Formats
Issuer	Iss_fdc_4.gz	Tab Separated, MDDL
Security	Sec_fdc_4.gz	Tab Separated, MDDL
Market Security	Mkt_fdc_4.gz	Tab Separated, MDDL
Distribution	Dis_fdc_4.gz	Tab Separated, MDDL, MT 564
Element	Ele_fdc_4.gz	Tab Separated, MDDL, MT 564
Local Code	Loc_fdc_4.gz	Tab Separated, MDDL
Accrual	Acc_fdc_4.gz	Tab Separated, MDDL, MT 564

Table 4 – Post-SEDOL Enhancement Files

4 Scenario Testing – Test Cycles

The Scenario Testing Service is broken down into 3 Test Cycles, each with multiple test sub-cycles. Test Cycle 1 is mandatory to all users and must be successfully completed before progressing to other test cycles. Customers are only expected to successfully complete other test sub-cycles that replicate their live service data format and interface configurations.

In addition, Appendix A details a list of Test Conditions that these test cycles aim to satisfy.

4.1 Test Cycle 1 – Web Pages

This test cycle tests the SEDOL external user screens, except the “Bulk Upload” and “Request Download” screens that are tested in test cycles 2 and 3.

Test cycle 1 comprises of nine sub-cycles.

4.1.1 Sub-Cycle 1.1 – Quick Search

Tests customers can interact with the Quick Search screen.

4.1.2 Sub-Cycle 1.2 – Advanced Search

Tests customers can interact with the Advanced Search screen.

4.1.3 Sub-Cycle 1.3 – View Issuer Details

Tests customers can interact with the View Issuer Details screen.

4.1.4 Sub-Cycle 1.4 – View Security Details

Tests customers can interact with the View Security Details screen.

4.1.5 Sub-Cycle 1.5 – Create Issuer

Tests customers can interact with the Create Issuer screen.

4.1.6 Sub-Cycle 1.6 – Create Security

Tests customer can interact with the Create Security screen.

4.1.7 Sub-Cycle 1.7 – Create Enhanced Security Details

Tests customer can interact with the Create Enhanced Security Details screen.

4.1.8 Sub-Cycle 1.8 – Create Market Level Details

Tests customers can interact with the Create Market Level Details screen.

4.1.9 Sub-Cycle 1.9 – Request Update

Tests customers can interact with the Request Update screen.

4.2 Test Cycle 2 – Data Download

These tests will instruct customers to request data, which will result in the database being queried and files generated which customers will download. It comprises of the following sub-cycles.

4.2.1 Sub-Cycle 2.1 – Download Formats

Tests customers can download data using their chosen file format (tab separated, MDDL, MT 564) and interface preference (web, SOAP, FTP).

4.2.2 Sub-Cycle 2.2 – Specific Scenarios

Tests customers can download data that covers all scenarios that result in a change to a SEDOL code. This data will be downloaded via the Customer's preferred file format and interface.

The scenarios are:

- Merger (SEDOL remains alphanumeric)
- New IPO (London ISIN, London OPOL, London MIC)
- New IPO (German ISIN, Frankfurt OPOL, Berlin MIC)
- New IPO (German ISIN, Frankfurt OPOL, Munich MIC)
- New Unlisted instrument set up with no MIC
- New currency code being added to SMF, with a number of instruments changing from old currency code to new currency code.
- Capital reorganisation resulting in increase in number of shares issued (new SEDOL)
- Consolidation resulting in less shares in existence (new SEDOL)
- Depository receipts (new SEDOL)
- Liquidation (SEDOL becomes inactive)
- Renominalisation where number shares changes (new SEDOL)
- Stock Split (new SEDOL)
- Capital Repayment (no new SEDOL)
- Change of Country Domicile (no new SEDOL)
- Change of Security Form (no new SEDOL)
- Interest Rate Change (no new SEDOL)
- Name Change (no new SEDOL)

- Par Value Change (no new SEDOL)
- Redenomination (no new SEDOL)
- New Berlin MIC allocated to existing Frankfurt instrument (no new SEDOL)
- New New York MIC allocated to existing London instrument (no new SEDOL)

4.2.3 *Sub-Cycle 2.3 – High Volume Changes / New Securities*

The high volume download files detailed below will be made available for download via FTP and the website. These files cannot be downloaded via the SOAP interface.

- 10,000 SMF changes, allowing users to download changes made in the previous day, week, month, and user defined period.
- 10,000 new instruments, allowing users to download changes made in the previous day, week, month, and user defined period.

4.2.4 *Sub-Cycle 2.4 – Change of Status*

This download will demonstrate the use of the “Provisional” flag to detail when an external user has made a change to SMF but the SMF team have not yet “Confirmed” the details.

- An external user sets up a new instrument. The Exchange will confirm the details of the instrument and the flag changes from “Provisional” to “Confirmed”
- An external user sets up a duplicate instrument (one character typing mistake in the long name). The Exchange deletes this instrument

Note: sub-cycle 3.1 must be completed before taking this test.

4.2.5 *Sub-Cycle 2.5 – Customer Defined Time Intervals*

Tests customers can configure the system to download files to only show the changes that occurred between the customers defined time parameters OR just the changes since their previous download.

4.2.6 *Sub-Cycle 2.6 – Reference Data via Web Services*

Tests customers can download data via their web services interface.

4.3 Test Cycle 3 – Data Upload

4.3.1 Sub-Cycle 3.1 – Successful Bulk Upload

Tests customers can successfully upload Issuers and Securities. This sub-cycle will use the data file containing 1,002 new Securities.

These files will be added to the Exchange's website for customers to download prior to testing.

These files will use the reserved test SEDOL codes and the names of the Issuers and Securities will be changed to incorporate the word "TEST".

4.3.2 Sub-Cycle 3.2 – Unsuccessful Bulk Upload

Tests error handling when a customer attempts to upload invalid data. This sub-cycle will use the data file containing 1,000 new Securities with some invalid data.

The unsuccessful test file will mostly contain valid data. However, the file will also contain the following invalid data:

- Upload with mandatory fields missing
- Upload with invalid field formats
- Uploads with duplicate rows
- Uploads with incorrect Action Indicators
- Uploads which do not obey the Validation Rules

4.3.3 Sub-Cycle 3.3 – Add Reference Data via Web Services

Tests customers can create new instruments via their web services interface.

5 Service Support

5.1 Introduction

The Exchange will provide full-time support during the booked customer test slots for scenario testing.

5.2 Support During Testing

During a booked customer test slot, the Exchange will constantly be available on the telephone to support the testing and will provide the following:

- Guide the Customer through the Test Scripts
- Offer assistance if the Customer experiences problems
- Monitor and record the results of the Test sub-cycles

5.3 Post Test Procedures

The results from each Customer Test slot will be recorded, and the Exchange will activate direct customer accounts once the necessary tests are passed.

6 Customer Test Documentation

6.1 Test Documentation

The following documentation and datasets will be provided to facilitate Customer Testing.

- Test Conditions (see Appendix A)
- Test Scripts (see Appendix B)
- Test files containing 1,000 Securities as they appear in the current Securities Masterfile and as they will appear in the SEDOL Masterfile. These files will be available to the customers by 1 September 2003.
- Two data files containing 1,002 and 1000 new Securities for the Customers to test bulk uploads. One file will contain invalid data to facilitate error testing. Again, this data will be available by 1 September 2003.

6.2 Test Conditions

The Test Conditions in Appendix A detail:

- Column 1– Test Condition ID
- Column 2– Test Condition description

6.3 Test Scripts

The Test Scripts in Appendix B are written in an Excel spreadsheet.

Each script will guide the customers through a test sub-cycle, and will satisfy a subset of the Test Conditions.

The format of the spreadsheets will be as follows:

- Column 1– Step ID
- Column 2– Step Action
- Column 3– Test Conditions Reference (maps to Test Condition ID in the Test Conditions)
- Column 4– Test Conditions (maps to Test Condition description in the Test Conditions)
- Column 5– Expected Results (qualitative results only – not expected contents of download files).

7 Appendices

7.1 Appendix A – Test Conditions

Test Condition ID	Test Condition Description
1	Customers can use the Quick Search web page
2	Customers can use the Advanced Search web page
3	Customers can use the View Issuer Details web page
4	Customers can use the View Security Details web page
5	Customers can use the Create Issuer web page
6	Customers can use the Create Security web page
7	Customers can use the Create Enhanced Security Details web page
8	Customers can use the Create Market Level Details web page
9	Customers can use the Request Update web page
10	Customers can download data via the web interface
11	Customers can download data via the FTP interface
12	Customers can download data via the SOAP interface
13	Customers can download data in Tab Separated Format
14	Customers can download data in MDDL (XML) Format
15	Customers can download data in MT 564 Format
16	Customers can download data in Tab Separated Format across the Web Interface
17	Customers can download data in Tab Separated Format across the FTP Interface
18	Customers can download data in Tab Separated Format across the SOAP Interface
19	Customers can download data in MDDL Format across the Web Interface
20	Customers can download data in MDDL Format across the FTP Interface
21	Customers can download data in MDDL Format across the SOAP Interface
22	Customers can download data in MT 564 Format across the Web Interface
23	Customers can download data in MT 564 Format across the FTP Interface
24	Customers can download data in MT 564 Format across the SOAP Interface
25	Customers can download an End of Day Changes file
26	Customers can download an End of Week Changes file
27	Customers can download an End of Month Changes file
28	Customers can download data between User specified time parameters
29	Customers can search for data via the web interface
30	Customers can search for data via the XML interface
31	Customers can download high volumes of new Securities
32	Customers can download high volumes of database changes
33	Customers can download data describing a Merger
34	Customers can download data describing a New IPO (London ISIN, London OPOL, London MIC)

35	Customers can download data describing a New IPO (German ISIN, Frankfurt OPOL, Berlin MIC)
36	Customers can download data describing a New IPO (German ISIN, Frankfurt OPOL, Munich MIC)
37	Customers can download data describing a New Unlisted instrument set up with no MIC
38	Customers can download data describing a New currency code being added to SMF, with a number of instruments changing from old currency code to new currency code.
39	Customers can download data describing a Capital reorganisation resulting in increase in number of shares issued
40	Customers can download data describing a Consolidation resulting in less shares in existence
41	Customers can download data describing a Depository receipts
42	Customers can download data describing a Liquidation
43	Customers can download data describing a Renominalisation where number shares changes
44	Customers can download data describing a Stock Split
45	Customers can download data describing a Capital Repayment
46	Customers can download data describing a Change of country domicile
47	Customers can download data describing a Change of Security Form
48	Customers can download data describing an Interest Rate Change
49	Customers can download data describing a Name Change
50	Customers can download data describing a Par Value Change
51	Customers can download data describing a Redenomination
52	Customers can download data describing a New Berlin MIC code being allocated to an existing Frankfurt instrument
53	Customers can download data describing a New New York MIC code being allocated to an existing London instrument
54	Customers can see the status of a new instrument change from Provisional to Confirmed
55	Customers can see the Exchange delete an instrument with a Provisional status
56	Customers can add reference data via the SOAP interface
57	Customers can add reference data via the web interface
58	Customers can upload high volumes of new instruments
59	Customers can see errors when uploading invalid data
60	Customers cannot upload data with mandatory fields missing
61	Customers cannot upload data with invalid field formats
62	Customers cannot upload data with duplicate rows
63	Customers cannot upload data with incorrect Action Indicators

7.2 Appendix B – Test Scripts

See attached document SEDOL Customer Test Service Test Scripts.xls