

## I. Basic information

This section addresses a number of fundamental features of the Securities Settlement System (SSS) and provides the market context for its operation. The questions establish the basic functions of the SSS, including the securities for which it provides settlement services, as well as whether the SSS offers other services. Questions on the organisational and ownership structure of the SSS elicit information on its legal basis and corporate governance.

A wide variety of organisational structures and business functions are possible for SSSs. For example, systems may be owned by central banks, by their participants or by an independent private sector entity that may or may not be operated for profit. As a first step in clarifying the respective responsibilities of all relevant parties, it is helpful to distinguish the type of ownership, the organisational and decision-making structure and the financial resources of the SSS, as well as the supervisory oversight to which the system is subject.

### A. *What is the name of the SSS?*

LuxCSD S.A..

LuxCSD is a société anonyme, incorporated in Luxembourg.

### B. *Where and in which time zone is the SSS located?*

LuxCSD S.A. registered address: 42 Avenue J F Kennedy, L-2163 Luxembourg.

LuxCSD S.A. postal address: L-2967 Luxembourg.

Time Zone 13: Central European Time (CET = GMT+1).

### C. *What functions does the SSS perform?*

A variety of functions are performed for financial institutions across selected markets and financial instruments. LuxCSD S.A. has outsourced its operations to the companies of the Clearstream group. LuxCSD S.A. clears and settles market transactions, ensuring that securities are promptly and effectively delivered between parties. LuxCSD S.A. takes care of any rights attached to the securities that our customers keep with us. LuxCSD S.A. also offers investment funds related services.

Functions include:

- Settlement;
- Comprehensive custody management, including withholding tax and proxy voting services;
- A Straight-Through Processing (STP) solution for investment fund processing (Vestima+);
- The Central Facility for Funds (CFF) which is a post-trade infrastructure.
- Related information distribution including customer reporting.
- Comprehensive New Issues services

#### C.1. *Does the SSS serve as a securities depository and/or provide securities settlement services?*

Yes, LuxCSD S.A. acts as an central securities depository and provides securities settlement services.

**C.1.(a) What types of instrument are eligible for deposit at the SSS (for example, debt, equities, warrants etc.)?**

Through its link with Clearstream Banking S.A. over 850,000 securities are currently accepted by LuxCSD S.A. for settlement. They include the following:

- Euro-instruments, including eurobonds (straight, floating rate, convertible etc.);
- Foreign bonds;
- Foreign-targeted bonds;
- Money market instruments, including short and medium term notes, commercial paper and certificates of deposit;
- Domestic bonds (government and corporate, including convertibles);
- Equities;
- Depository receipts;
- Investment funds;
- Warrants;
- Asset-backed securities and other collateralised debt securities.
- Gold bullion traded on the Luxembourg Stock Exchange.

**C.1.(b) What types of instrument are eligible for transfer within the SSS?**

All instruments referred to in [C.1.\(a\)](#) above are also eligible for transfer within the SSS.

**C.1.(c) Please describe whether eligible securities are dematerialised, immobilised or transferred physically.**

Within LuxCSD S.A., the Central Securities Depository (CSD), securities are held in book-entry form and transferred by book-entry. They are immobilised at least as long as they remain in LuxCSD S.A. Most securities held in LuxCSD S.A.'s system are subdeposited with Clearstream Banking S.A. Depending on the market served the underlying security may be held in certificated and/or immobilized form as well as being fully dematerialized.

Securities issued in LuxCSD S.A. may be represented by any of the following forms:

- Bearer instruments: represented by a global certificate that refers to the records of LuxCSD S.A. for evidence of the total IOA (Issue Outstanding Amount) of the issuer.
- Registered instruments: represented by a global certificate that shall be registered in the name of LuxCSD S.A. in the books of the registrar.

Qualifying securities in materialised form can be represented by the following types of global certificates:

- Temporary global (GT): global certificate issued for the period between the closing and the effective exchange for either a permanent global certificate or for definitive certificates in the denominations foreseen in the Terms and Conditions of such issue. The exchange of securities from global form into definitive form is total and irreversible.
- Permanent global (GP): global certificate representing the security until it is matured or terminated (for example early reimbursement). A permanent global certificate is normally not exchanged into securities in definitive form unless under limited circumstances as described in the Terms and Conditions of such issue.

Securities in semi-permanent global form or in definitive form are not accepted by LuxCSD S.A.

Information on LuxCSD S.A.'s links to the international market and domestic markets via Clearstream Banking S.A. is available in comprehensive Creation Link Guides (CLGs) and Market Profiles on the website, [www.clearstream.com](http://www.clearstream.com) in the Information Centre / Market Reference.

**C.1.(d) Does the SSS provide safekeeping for physical certificates?**

No, not directly. However via its link with Clearstream Banking S.A. physical securities are eligible for safekeeping in LuxCSD S.A.

**C.2. Does the SSS provide cash accounts and/or provide funds transfers in conjunction with securities transfers? If so, in what currencies?**

No, LuxCSD S.A. does not provide cash accounts. Settlement is available to all LuxCSD S.A. customers in EUR central bank money, and is supported by connecting the LuxCSD S.A. securities settlement process via the Banque centrale du Luxembourg (BCL) to TARGET2 using the TARGET2 Ancillary System Interface Procedure 6. The connected funding setup using T2 ASI Procedure 6 will be composed of one night-time funding cycle, with settlement beginning in the evening of the business day preceding the requested settlement date, and hourly funding cycles from the opening of T2 until 16:00 on settlement date. DVP settlement ends at 16:15 on settlement date.

**C.3. Does the SSS provide a trade matching service? Do others provide such services for securities settled at the SSS?**

LuxCSD S.A. provides settlement matching for instructions with LuxCSD S.A. and Clearstream Banking S.A. counterparties as a mandatory step prior to settlement. On receipt of a settlement instruction from a LuxCSD S.A. customer, mandatory fields are compared against those entered by the counterparty. If they do not match then the trade will not be considered for settlement and will be reported as unmatched. This will be reflected to customers on various reports sent by LuxCSD S.A. via the CreationConnect communication channels.

For domestic settlement, matching prior to settlement depends on market requirements.

Matching is not restricted to the day before the specified settlement. The Creation settlement platform allows matching very close to the respective market deadlines

**C.4. Does the SSS provide a trade netting service (as distinct from undertaking the settlement of securities transfers on a net basis)? Do others provide such services for securities settled at the SSS? In either case, what types of netting (bilateral or multilateral), if any, are performed?**

LuxCSD S.A. does not provide a trade netting service but may settle transactions that are the net obligations resulting from a trade netting service to which LuxCSD S.A. is not a party.

**C.5. Does the SSS offer a securities lending or borrowing programme?**

No. LuxCSD S.A. does not offer securities lending and borrowing services.

**C.6. Does the SSS provide custodial and/or related services such as the collection of interest, dividends, principal or withholding tax reclaims? Which types of service are provided?**

In addition to the safekeeping of securities, LuxCSD S.A., a function that LuxCSD S.A. has outsourced to the Clearstream group entities, offers a wide range of custodial services:

- Collection and processing of interest and dividend payments and of payments of principal, with pre-advice of such payments;
- Withholding tax services, including tax relief at source, withholding tax reclaims and reporting;
- Administration of securities events: subscription offers, choice dividends, exchanges, bonus issues, put options, anticipated redemption options, conversion options, detachment and re-attachment of warrants, exercise of warrants;
- Proxy voting service;

**C.7. Does the SSS act as a central counterparty or principal to transactions with its participants?**

LuxCSD S.A. does not act as a central counterparty or principal to securities transactions with its customers.

**C.8. Other? Please specify.**

In addition to the services referred to in [C.6.](#) above, Clearstream Banking S.A. provides:

- Vestima+ order routing services

LuxCSD S.A. offers order routing services for investment fund shares through Vestima+, an automated order routing service for the investment funds industry. Vestima+ provides a single entry and reception point for domestic, international and offshore funds, allowing orders and order confirmations to be submitted, validated and routed to the relevant recipient.

**D. What type of organisation is the SSS?**

LuxCSD S.A. is a duly licensed Professionnel du Secteur Financier, organised as a Société Anonyme (S.A.) under the laws of the Grand Duchy of Luxembourg.

**D.1. Please indicate whether the SSS is a public sector or private sector entity.**

LuxCSD S.A. is a joint venture of the public and private sectors. LuxCSD S.A. was incorporated as a legal entity jointly owned by the Banque centrale du Luxembourg (BcL) and Clearstream International - (50/50 % ownership).

**D.2. Please indicate whether the SSS is organised on a for-profit or a non-profit basis.**

LuxCSD S.A. is organised on a for-profit basis.

**D.3. What is the legal basis for the establishment of the SSS and for securities transfers made through it?**

LuxCSD S.A. is subject to the law of 5 April 1993 regarding the financial sector, as subsequently amended (hereinafter referred as to the "Banking Law"). The law sets forth the authorisation procedure and obligations of banks, operators of securities settlement systems, and other professionals of the financial sector established in Luxembourg, and the regime of prudential supervision to which they are subject.

LuxCSD S.A. as settlement system under Luxembourg law is also subject to the law of 10 November 2009 on relating to payment services, the business of electronic money and settlement finality in payment and securities settlement systems, as subsequently amended (hereinafter referred as to the "Payment Services Law"). This law sets forth the requirements for SSS.

The transfer of securities is mainly governed by the law of 1 August 2001 on the circulation of securities, as subsequently amended (hereinafter referred as to the "Securities Law"). The provisions of the Securities Law apply to securities and other financial instruments in the widest sense of the word, materialised or dematerialised, in bearer or nominative form, Luxembourg or foreign, and whatever the form in which they have been issued under their respective applicable legislation. The securities and other financial instruments are, or are deemed to be, fungible when they are held in custody or in accounts with custodians without any identification numbers or any other form of individual identification. Fungible securities are booked in accounts and may be transferred from one account to another by book entry.

LuxCSD S.A.'s General Terms and Conditions, governed by Luxembourg law, apply to all services including settlement, provided by LuxCSD S.A.

The law of 20 May 2011 transposes inter alia the directive 2009/44/EC which amended the Payment Services Law and the law of 5 August 2005 on financial collateral arrangements, as subsequently amended (hereinafter referred as to the "Collateral Law").

**E. Please describe and provide a diagram outlining the organisational and ownership structure of the SSS.**

LuxCSD S.A. is jointly owned by the Banque centrale du Luxembourg (BcL) and Clearstream International. LuxCSD S.A. was incorporated in the Grand Duchy of Luxembourg in July 2010.

LuxCSD S.A. also has a User Commission, comprising of key market participants, to advise on strategy.

See a diagram of the legal structure of ownership of LuxCSD S.A. below.



### E.1. Who are the owners of the SSS?

LuxCSD S.A.'s voting capital is held at 50% by the Banque centrale du Luxembourg and at 50% by Clearstream International S.A.. Clearstream International S.A. is, in turn, and via Clearstream Holding AG a wholly owned subsidiary of Deutsche Börse AG.

### E.2. What entity or entities operate the SSS? Which functions of the SSS, if any, are outsourced to third parties?

LuxCSD S.A. is the operator of the SSS. It has outsourced securities processing and related information technology processing and development as well as relationship management and business management functions to the Clearstream group, comprising Clearstream Banking S.A. and Clearstream Services S.A.

Corporate functions are provided on an outsourced basis by Clearstream International S.A.

### E.3. Does the SSS have a Board of Directors?

Yes.

#### E.3.(a) What is its composition?

As required by law, the Board of Directors is composed of a minimum of three members, each acting in an individual capacity.

For the time being the composition of the Board of Directors of LuxCSD S.A. is as follows:

Nr.	Board of Directors	Company
1	Seyll Philippe (Chairman)	Clearstream Banking S.A
2	Thissen Pierre (Vice-Chairman)	Banque centrale du Luxembourg
3	Tessler Jeffrey	Clearstream International SA
4	Berthold Kracké	Clearstream Banking AG
5	Banque central du Luxembourg	

### **E.3.(b) What are its responsibilities?**

The Board of Directors has the power to perform all acts that are necessary or useful for the achievement of the corporate purpose of the company except those that the law or LuxCSD S.A.'s by-laws expressly reserve to the General Meeting of Shareholders.

The day-to-day management of the Company is delegated by the Board of Directors, without loss of liability, to the General Manager according to a specific allocation of responsibilities.

The General Manager is responsible for the day-to-day management of the Company. In this role the general Manager coordinates his activities through weekly meetings with each of the Board members in line with their respective leading area. The General Manager will always engage the Company together with another authorised signature i.e. the signature of a Board member. Any changes in the person of the General Manager are subject to approval of the Board of Directors and, as a PSF, after the agreement of the CSSF.

## ***F. Please describe the financial resources of the SSS.***

LuxCSD S.A.'s financial resource is equity capital.

### **F.1. Amount of paid-in capital and retained earnings?**

Issued capital:

As at 31 December 2010, the issued share capital of LuxCSD S.A. consisted of 60,000 ordinary shares with a nominal value of EUR 100 per share, all fully paid.

### **F.2. Guarantees, insurance coverage or other similar arrangements?**

LuxCSD S.A.'s activities are covered by comprehensive insurance policies, including:

- A comprehensive crime and depository indemnity, up to EUR 20 million, with a deductible of EUR 5 million; and
- An insurance policy covering all risks of physical loss or damage. Coverage is up to EUR 75 million each and every loss per transport or at premises. The level of deductible depends on the category risk.
- Additionally, LuxCSD S.A. has a line of cover for Directors and Officers of EUR 300 million.

### **F.3. Credit lines or letters of credit?**

LuxCSD S.A. does not have any credit lines or letters of credit in place.

### **F.4. Powers to assess participants or equity holders?**

Based on the contractual obligation of its customers and with regard to Article 52 of its General Terms and Conditions, LuxCSD S.A. reserves the right to assess the financial stability of its customers.

LuxCSD S.A. does not have powers to assess its shareholders.

## ***G. Please describe whether the SSS or its operator is subject to authorisation, supervision or oversight by an external authority.***

Holding and safekeeping of assets is an activity regulated by the CSSF under the Banking Law. Custody services require a license under the Banking Law.

The CSSF is the prudential regulator with authority over all banks and non-bank financial services providers (Professionnels du Secteur Financier (PSF)) headquartered in Luxembourg. In particular it implements the Banking Law and issues circulars applicable to the supervised entities. The CSSF also integrates the responsibilities of monitoring of the stock markets and supervision of the Luxembourg Stock Exchange (only Stock Exchange in operation).

LuxCSD S.A. has obtained the status of Securities Settlement System. As a consequence it falls under the oversight of the Central Bank of Luxembourg - Banque Centrale du Luxembourg (BCL) who is responsible for implementing the monetary policy decided by the Governing Council of the European Central Bank (ECB). To do this, it disposes of open market operations, standing facilities and minimum reserves, instruments available to ESCB as well as the oversight of the Securities Settlement Systems (SSSs) to ensure systemic stability of payment and securities settlement systems.

## II. Rules and procedures of the SSS

*It is important that SSSs have clear rules and procedures governing all major aspects of their operations. If participants have access to these rules and procedures, they will be able to form clear expectations about the actions of the SSS and will be able to use their understanding to make decisions on that basis. This is particularly important with regard to the resolution of failures to settle or other potential disruptions to the operation of the SSS.*

*The rules and procedures also typically describe the structures and processes for taking decisions that are at the core of any organisation's corporate governance. For SSS operators, the integrity of the decision-making processes and of the means for communicating decisions is important to the level of confidence that participants have in the system's ability to manage risk fairly and effectively.*

*The questions below focus broadly on how participants can obtain copies of the SSS's rules and procedures, how participants can provide input to the rules and procedures, how they are notified of changes, the applicability of the rules and procedures to the SSS as well as to its participants, and the circumstances under which the rules and procedures can be overridden. Taken together, the questions are intended to provide participants with an understanding of the role that the system's rules and procedures play within the operation of the SSS.*

### A. **Does the SSS maintain a complete list of the rules and procedures governing the rights and obligations of participants and the duties of the SSS?**

The rights and obligations of LuxCSD S.A.'s customers and LuxCSD S.A.'s duties are determined in Governing Documents, which include but are not limited to LuxCSD S.A.'s General Terms and Conditions. The customer is requested to acknowledge acceptance of the General Terms and Conditions when an account is opened.

General Terms and Conditions, Customer Handbook, Fee Schedule and other additional Governing Documents and updates are readily available on the website. Specific services provided by LuxCSD S.A. (for example, in relation to Vestima) are the object of separate agreements agreed upon between LuxCSD S.A. and its customers.

#### A.1. **How can participants obtain a copy of the rules and procedures?**

Documents governing the relationship between LuxCSD S.A. and its customers are available to customers who want to open an account on the web site [www.luxcsd.com](http://www.luxcsd.com) or as the case may be [www.clearstream.com](http://www.clearstream.com) (or, if only relevant to a particular service to which the customer is not obliged to subscribe, at the time when the customer applies to subscribe to such a service).

Subsequent updates and other customer information are made available to customers on the website [www.luxcsd.com](http://www.luxcsd.com) or as the case may be [www.clearstream.com](http://www.clearstream.com). The customer can subscribe via an alert service to receive the respective updates.

#### A.2. **Does other documentation provided to participants (for example, user guides) have the same status as the rules and procedures?**

Any document not labelled by LuxCSD S.A. or Clearstream Banking S.A. as a Governing Document (for example, most announcements) will not have the legal status of Governing Document and therefore cannot be considered as binding.

#### A.3. **Describe the process for changing rules and procedures, including any need for regulatory approval.**

Changes to LuxCSD S.A.'s rules and procedures are only possible within the limits of the PSF license granted to LuxCSD S.A. and the regulatory requirements of the CSSF. Changes to rules and procedures may be necessary as a result of the law, regulations, market practice, operational or business requirements.

LuxCSD S.A. reserves the right to amend the General Terms and Conditions as well as any other Governing Document at any time. Amendments to the General Terms and Conditions require the prior agreement of customers in accordance with the General Terms and Conditions. Amendments to other Governing Documents are notified to customers in accordance with the General Terms and Conditions.

**A.3.(a) What authority is required, and how does this differ depending on the type of change involved?**

Changes to rules and procedures require the approval of the managers responsible for any aspect of the services affected by the change. Depending on the nature of the change, the approval of the General Manager and the Board of Directors is required.

As mentioned above, amendments to the General Terms and Conditions require the prior agreement of customers.

Operational or market practice changes in the markets we serve will have to be reflected by LuxCSD S.A.

**A.3.(b) How are participants notified of changes in rules and procedures?**

For the General Terms and Conditions, LuxCSD S.A. notifies customers by registered mail of any such amendment and of the effective date thereof.

For the remaining Governing Documents, LuxCSD S.A. notifies customers by electronic means of any such amendments and of the effective date thereof in accordance with the General Terms and Conditions.

Subsequent updates and other customer information are made available to customers on the website [www.luxcsd.com](http://www.luxcsd.com) or as the case may be [www.clearstream.com](http://www.clearstream.com).

**A.3.(c) Is there a procedure for participants or others to comment on proposed rule changes?**

For the General Terms and Conditions, unless customers inform LuxCSD S.A. in writing to the contrary within ten business days following the date of receipt of LuxCSD S.A.'s notice, customers shall be deemed to have accepted such amendments, leaving thus the possibility for customers to comment, including refusal.

For the other Governing Documents, prior notification may be shorter but changes are usually explained to customers in advance by the relationship officers. Depending on the type of rules or procedures being amended and on the urgency of the change, customers may or may not be able to comment on changes prior to their becoming definitive.

Proposed changes of major importance may also be presented to and discussed with the User Commission, a group of representatives of the Luxembourg market community that advises LuxCSD S.A. on its services.

***B. Are the rules and procedures binding on the SSS as well as on its participants? Under what conditions and on whose authority can written rules and procedures be waived or suspended by the SSS?***

Governing Documents are binding on LuxCSD S.A. and its customers. They cannot be waived or suspended unilaterally by LuxCSD S.A. unless in accordance with the provisions mentioned in this [Section II](#).

### III. Relationships with participants

*In evaluating SSSs, it is essential that participants understand the nature of the relationships that the systems have with their participants. The different types of membership that are available as well as the requirements for admission as a participant should be understood.*

*A knowledge of the account structure of the SSS is also important for an informed evaluation of the system. Participants should understand whether this structure allows or requires the segregation of their customers' cash or securities in separate accounts or sub-accounts at the SSS.*

*This section addresses these issues, as well as the procedures for and consequences of terminating participation in the SSS. Because of loss-sharing or other arrangements, termination of membership may not extinguish all obligations of participants with respect to the SSS. General limitations on SSS liability to participants are the subject of the final question in this section. These questions are obviously important in enabling participants to establish the magnitude of their exposure to different risks associated with the SSS.*

*Although these questions provide the basic framework of the relationship between participants and the SSS, many of the most important aspects of these relationships concern the resolution of failures to settle or events of default. Specific questions on these topics are discussed in Section VII. Securities overdrafts, securities lending and back-to-back transactions below.*

#### A. **Please describe the types of membership offered by the SSS.**

LuxCSD S.A. does not have members; users of the LuxCSD S.A. settlement system are referred to as "customers".

In principle, all eligible customers are regulated financial institutions, including banks, supranationals, central banks and broker/dealers. All customers are bound by the General Terms and Conditions and Governing Documents.

##### A.1. **How do the types differ?**

There are no differing types or categories of customers. All customers are bound by the same General Terms and Conditions and Governing Documents.

##### A.2. **Within each membership category, are all participants subject to the same rules and procedures? Please describe important exceptions, including both differences in rules across participants and the rationale for these differences.**

All customers are subject to the same rules and procedures.

#### B. **Can participants establish accounts for their customers' assets that are segregated from their own asset accounts at the SSS?**

Customers of LuxCSD S.A. are permitted to establish separate accounts to segregate their clients' assets from their own assets.

##### B.1. **If so, is this accomplished through a single omnibus customer account or through a multiplicity of accounts and/or sub-accounts?**

The customer may open a segregated account or may operate with one omnibus account.

##### B.2. **Is the segregation optional or compulsory?**

Under LuxCSD S.A.'s General Terms and Conditions, segregation is optional unless laws or regulations in the customers jurisdiction require segregation.

However, under LuxCSD S.A.'s General Terms and Conditions, customers shall notify LuxCSD S.A. that the assets deposited in their accounts are held on behalf of their own clients and cannot be pledged in favour of LuxCSD S.A. to secure the customers' obligations towards LuxCSD S.A.

If this is the case, LuxCSD S.A. may require that the customers provide some other form of security or guarantee to LuxCSD S.A. Furthermore, LuxCSD S.A.'s customers may be obliged to have segregated accounts as a result of the laws or regulations to which LuxCSD S.A. customers are themselves subject.

**B.3. Does the fact that a sub-account at the SSS bears the name of a third party give any rights to that third party as a participant under the rules of the system?**

No, the right would remain vested with the main account holder. Third parties (the customer's clients) have no rights under the rules of the system as they are not the holders of the segregated account.

**C. *Please describe participant requirements for each type of membership.***

LuxCSD S.A. has only one type of participant: customers (see A. above).

The account opening process requires that extensive research and evaluation takes place prior to the opening of an account. The process largely involves sales and compliance functions as well as a review of the financial robustness of the customer. The final decision is based on the opinion of the Board of Directors and requires the submission and evaluation of comprehensive documentation including the list of authorized signatures, the company's and parent company's most recent Annual Report, and the originals or certified copies of Financial Licenses, Company By-laws, Statutes or Regulations. LuxCSD S.A. performs the following checks: that documents are up-to-date, that they are originals or certified copies, whether they are issued by the appropriate regulatory bodies and whether or not the existing governance structures are acceptable.

In addition to the set of required information stipulated above, supplementary information on the institution is assembled and reviewed. Once all the documentation has been received and examined and is judged satisfactory, the account opening is subject to approval by the Board of Directors.

**C.1. Are participants required to be domiciled or resident in a particular jurisdiction?**

No, although sovereign risk is a consideration during the acceptance process.

**C.2. Are participants required to be subject to a supervisory regime? If so, please describe.**

As a rule, LuxCSD S.A. only accepts Central Banks and AML regulated financial institutions (including banks, supranationals, central banks and broker/dealers).

**C.3. Are participants required to hold an equity stake in the SSS?**

No, there is no requirement for its customers to hold an equity stake in LuxCSD S.A.

**C.4. Are there financial, economic, personal or other requirements (for example, minimum capital requirements, "fit and proper" tests)? If so, please describe.**

Each potential customer undergoes a review prior to admission acceptance as a settlement participant in terms of financial robustness, sovereign risk and legal structure, as well as customer due diligence which with regards to financial crime.

**D. *Does the SSS engage in oversight of its participants to ensure that their actions are in accordance with its rules and procedures? If so, please describe.***

Yes. Ongoing checks of customers and their documentation available have to be carried out. Measures have been defined to allow that LuxCSD S.A. constantly has sufficient information on the customers' identity and transaction behaviour. Therefore the documentation, prepared within the customer acceptance process, has to be reviewed on a regular basis. The frequency of the review depends on the risk classification of the customers (country, customer group).

LuxCSD S.A. carefully examines customer transactions on an ongoing basis. Therefore, an adequate research and monitoring program, based on a comprehensive risk analysis, has been implemented. It will help to detect for all accounts unusual or suspicious patterns of activity while acknowledging the specific business of LuxCSD S.A.

***E. Under what conditions can participants terminate their membership in the SSS? Does this mark the end of all liabilities of the participant? If not, please describe what liabilities could remain.***

Customers of LuxCSD S.A. may terminate their relationship with LuxCSD S.A. upon one month's prior notice (Article 53, paragraph 1 of the General Terms and Conditions) for any reason. The customer is only released from its obligations vis-à-vis LuxCSD S.A. when LuxCSD S.A. has confirmed in writing to the customer that all fees, commissions and other charges due to LuxCSD S.A. have been paid and that all other obligations that LuxCSD S.A. requires the customer to discharge have been discharged (Article 54 of the General Terms and Conditions). Any liability due to the holding of securities may remain, such as, for example, when a stop order has been issued on securities previously held in the LuxCSD S.A. system by the customer that wishes to terminate the agreement.

Notwithstanding termination, the customer may be held liable for a period of ten years for any negligence or fault committed during its contractual relationship with LuxCSD S.A.

***F. Under what conditions can the SSS terminate a participant's membership in the SSS?***

LuxCSD S.A., like its customers, may terminate the agreement upon one month's prior written notice. However, LuxCSD S.A. is also entitled to terminate the agreement with immediate effect and without prior notice if the customer would be in material breach of any obligation incumbent upon it, or in the event of circumstances that would materially affect the customer's ability to fulfil its obligations vis-à-vis LuxCSD S.A. (Article 53, paragraph 2 of the General Terms and Conditions).

***G. Please describe the scope of the SSS's liability to participants, including the standard of liability (negligence, gross negligence, wilful misconduct, strict liability or other), the "force majeure" standard and any limitation to the scope of liability of the SSS (for example, indirect or consequential damages). Where are these liabilities and their limitations set out (for example, in statute or contract)?***

LuxCSD S.A. undertakes to perform such duties and only such duties as are specifically set forth in these General Terms and Conditions or in the Governing Documents.

In the absence of gross negligence or wilful misconduct on its part, LuxCSD S.A. shall not be liable to the customer for any direct or any indirect or unforeseeable loss, claim, liability, expense or damage arising from any action taken or omitted to be taken by LuxCSD S.A., in connection with the provision of services contemplated hereby and by the Governing Documents.

LuxCSD S.A. shall not be liable for any action taken, or any failure to take any action required to be taken which fulfils its obligations hereunder in the event and to the extent that the taking of such action or such failure arises out of or is caused by events beyond LuxCSD S.A.'s reasonable control, including, without limitation, war, insurrection, riots, civil or military conflict, sabotage, labour unrest, strike, lock-out, fire, water damage, acts of God, accident, explosion, mechanical breakdown, computer or systems failure, failure of equipment, failure or malfunction of communications media, or interruption of power supplies; the failure to perform, for any reason, of the Customer's counterparty or of such counterparty's depository, custodian, or financial institution; acts or omissions of issuers and any entity acting for such issuers, order routers; the acts or omissions of (or the bankruptcy or insolvency of) any of LuxCSD S.A.'s depositories, subdepositories, custodians, sub-custodians or of any other clearance system or of any carrier transporting securities between LuxCSD S.A. and/or any of the foregoing; the failure to perform for any reason of, or the incorrect performance of, any financial institution used by and properly instructed by LuxCSD S.A. to carry out payment instructions; reversal order, law, judicial process, decree, regulation, order or other action of any government, governmental body (including any court or tribunal or central bank or military authority), or self-regulatory organisation.

If, however, a customer suffers any loss or liability as the result of any act or omission of, or the bankruptcy or insolvency of, any entity acting for issuers and in charge of such issuers register, LuxCSD S.A.'s depositories, subdepositories, custodians, sub-custodians or of any other clearance system or of any carrier transporting securities between LuxCSD S.A. and/or any of the foregoing.

LuxCSD S.A. shall take such steps in order to effect a recovery as it shall reasonably deem appropriate under all the circumstances. This is provided that LuxCSD S.A., unless it shall be liable for such loss or liability by virtue of its gross negligence or wilful misconduct, shall charge to the customer the amount of any cost or expense incurred in effecting, or attempting to effect, such recovery.

If, in LuxCSD S.A.'s judgement, one of the events described in article 46 of the General Terms & Conditions occurs or appears likely to occur, LuxCSD S.A. reserves the right to undertake such measures as it may deem necessary to protect the interests of LuxCSD S.A. and/or its customers.

## IV. Relationships with other SSSs and commercial intermediaries

Many SSSs have relationships with intermediaries that perform critical tasks for the SSS and indirectly, therefore, for the system's participants and their customers. In particular, relationships or linkages between SSSs can be important for an understanding of the implications of settlement arrangements. For example, in those instances where the linkage includes using another SSS or a commercial intermediary as a securities sub-custodian, the disclosure of information concerning the linkage would be essential for customers to fully evaluate the associated risks. The appraisal of risks may differ depending on whether the linkage allows only free deliveries or whether cash accounts at the two SSSs are also involved. The latter types of linkage deserve particular attention to ascertain whether they increase the potential for settlement disruptions to spread quickly between different systems.

Agreements are negotiated and concluded with third parties by the SSS and not by its participants. It is, therefore, important for customers to be fully advised on the relevant aspects of the system's various intermediary relationships, including the standards used by the SSS in the selection and monitoring of intermediaries, the functions that the intermediaries perform and any specific risk management mechanisms in place specifically to protect against the risks posed by these relationships. It is also important to identify instances in which the SSS advances funds or securities on behalf of third parties or intermediaries, as these actions can pose risks to the SSS and its participants.

### A. *Does the SSS maintain linkages (including sub-custodian or cash correspondent relationships) or other relationships with other SSSs?*

LuxCSD S.A. maintains a direct link to Clearstream Banking S.A.

LuxCSD S.A. also maintains a direct interface via the Banque centrale du Luxembourg (BCL) to TARGET2 for the cash settlement.

#### A.1. Please identify each of the other SSSs used and the type of securities transferred via the linkages.

Via its direct link to Clearstream Banking S.A. LuxCSD S.A. maintains relayed links to the international and 50 domestic markets. Further details on these links are available in the Creation Market Guide, which is constantly updated and can be accessed via LuxCSD S.A.'s website, [www.luxcsd.com](http://www.luxcsd.com) or directly at [www.clearstream.com](http://www.clearstream.com).

##### A.1.(a) What is the name of the other SSS? Where is it located?

See [A.1](#) above.

##### A.1.(b) What securities are eligible for transfer via the linkage to the other SSS?

See [A.1](#) above.

##### A.1.(c) Are transfers of securities made via the linkage to the other SSS limited to only those that are free of payment or are transfers against payment also made via the linkage to the other SSS? If against payment, please describe the timing of the transfers and the corresponding payments.

Transfers against payment are in principle possible for the international market. Free of payment transfers are possible for the domestic markets served by LuxCSD S.A. via its link to Clearstream Banking S.A. Please refer to the Settlement Timings Matrix within the Creation Market Guide. A continuously up-dated list can be accessed via LuxCSD S.A.'s website [www.luxcsd.com](http://www.luxcsd.com) or directly at [www.clearstream.com](http://www.clearstream.com).

##### A.1.(d) Does the other SSS provide custody services to the SSS and, if so, who bears any credit or custody risks?

Custody services are provided by Clearstream Banking S.A. both for the direct link and the relayed links.

LuxCSD S.A. uses its best effort to mitigate the custody risk at the SSS. It has policies in place to obtain representation from its custodians to protect the assets held in custody from the insolvency risk. LuxCSD S.A. has selected and works with a supervised and regulated entity as SSS (i.e. Clearstream Banking S.A.) complying with prudential principles and protecting the assets. LuxCSD S.A.'s customers are informed of where the assets are held in custody directly or indirectly. The custody risk of the deposit of assets with the other SSS is borne by LuxCSD S.A. customers.

**B. *Does the SSS use securities custodians (other than the other SSSs addressed in the previous question) and/or commercial cash correspondents? Please identify the custodians or cash correspondents used and the duties that each performs.***

Under Article 14 of the General Terms and Conditions, LuxCSD S.A. reserves the right to re-deposit securities elsewhere. Customer assets are deposited either directly in LuxCSD S.A.'s vaults (for securities primarily issued in and deposited with LuxCSD S.A.) or with at Clearstream Banking S.A. and Clearstream Banking S.A.'s world-wide network of designated depositories, according to the nature of the securities (eurobonds, domestic bonds, equities etc.). LuxCSD S.A.'s customers know where their securities are deposited.

LuxCSD S.A. monitors the relationship with Clearstream Banking S.A.. A continuously updated list of the indirect relationships can be accessed via LuxCSD S.A.'s website, [www.luxcsd.com](http://www.luxcsd.com) or directly at [www.clearstream.com](http://www.clearstream.com). The main duties of Clearstream Banking S.A. as LuxCSD S.A.'s securities custodian are summarised below:

- Liaison with relevant central securities depository (if applicable);
- Execution of securities transfers and settlement operations;
- Administration of LuxCSD S.A.'s securities account;
- Record keeping and reporting (transaction and holdings);
- Custody administration services (for example, collection of interest, dividend and redemption proceeds, handling of corporate events, physical custody where applicable);
- Proactive provision of information (for example, related to new issues, custody events); and
- Tax services.

**C. *Please describe the standards used in approving or reviewing relationships with other SSSs, custodians or cash correspondents, including any financial or operational requirements or the presence of insurance or public supervision.***

LuxCSD S.A. is using Clearstream Banking S.A. as its point of access to other SSSs and custodians. Once a market is made available by Clearstream Banking S.A. to its customers, LuxCSD S.A. performs an assessment in view of making such a market available to its customers.

Clearstream Banking S.A.'s Network Management team is constantly reviewing the existing relationships and analysing new business opportunities and service enhancements that can be considered.

Should Network Management decide to enter a new market, they will request proposals from leading banks in each country in this market, who meet stringent requirements for a securities depository bank, along with criteria such as rating, industry rank, management competence, liquidity, etc. Elements of the selection process include the candidate's operational efficiency (deadlines, turnaround times), credit lines granted, fees, the candidate's connectivity and STP standards (ISO15022 compliance) and his capacity to lobby the market on behalf of foreign market participants.

Upon review of the proposals received, a short list is formed, and Network Management then performs a physical due diligence visit to each organization in order to select a final candidate.

The contractual arrangements include:

The Legal Opinion

Clearstream Banking S.A., when setting up a new link, requires a legal opinion from external counsel to represent independent and neutral confirmation of the depository's ability to perform as required under the Depository Agreement and the Manual of Procedures without the risk of being superseded by local regulations or practices. It represents a confirmation of key legal requirements in respect to the market served, including:

- Enforceability of the depository's obligations;
- Enforceability of the judgment of the relevant Courts;
- Segregation from the depository's own assets and recoverability of assets in case of bankruptcy;
- Legal status and authority of the depository.

#### The Depository Agreement

The Depository Agreement sets forth the contractual expectations and responsibilities between the principal and the agent. It clarifies the choice of law and the potential risks assumed by the parties on each other as well as on agents outside the contract. The Agreement is the establishment of a legal framework that identifies and clarifies:

- Eligible instruments;
- Authorised parties;
- Defined terms and procedures for settlement, safekeeping and administration;
- Required insurance coverage;
- Establishing the depository's standard of care;
- Liability of depository to Clearstream Banking S.A.;
- Representation and warranties;
- Confidentiality requirements;
- Incorporation of Manual of Procedures.

#### The Service Level Agreement

This document sets forth the expected action, reaction, deadline and communication format for each individual operational process. It specifies procedures to help limit exposures and define responsibilities as an integral part of the Depository Agreement including:

- Authorised instructions and deadlines;
- Expected actions and contingency action plans;
- Reporting structures to manage positions, projections, exceptions with their resolution and inquiries. In this part LuxCSD S.A. clearly defines together with the agent the procedure how to deal with reconciliations.
- General announcements related to custody operations.

These relationships are reviewed on an on-going basis as needed based on Clearstream Banking S.A.'s continuous review of market developments in procedures, practices, regulations or other infrastructure-related developments. Clearstream Banking S.A. may choose to visit a supplier at any time to review the relationship and ascertain that all governing documents remain relevant to the activities and regulations of the market. The Service Level Agreement in particular is updated on an on-going basis that requires annual amendment, on average.

The performance of the network of supplier banks is monitored by maintaining various statistics on the performance of the supplier in relation to the Service Level Agreement and in relation to other providers. Clearstream Banking S.A. also maintains a data base of incident reports that are used to document deviations from expected procedure. These statistics and data are used in scheduled service reviews undertaken by Clearstream 's Network Management team.

***D. Does the SSS advance funds or securities to or on behalf of other intermediaries, such as issuing or paying agents? If so, please identify the circumstances in which such exposure could arise.***

LuxCSD S.A. does not credit securities to a customer's account unless LuxCSD S.A. has already received them. At the moment when the customer's account is credited, the receipt has already become final.

***E. Please describe measures in place to protect the SSS and its members against the failure of other SSSs or commercial intermediaries to meet obligations to the SSS, including risk controls and collateral or alternative sources of funds and securities.***

See [C.](#) above.

## V. Securities transfers, funds transfers and linkages between transfers

*At the heart of the operations of SSSs are the transfers of securities and funds that actually comprise the settlement process. The questions in this section begin by focusing on the process, if any, for matching settlement instructions prior to beginning the settlement process itself. In some markets, matched settlement instructions are binding, which may impose additional obligations on participants that are important for them to understand.*

*This section next considers issues raised by the practice of securities registration. Because the laws of different countries vary widely in this regard, this Disclosure Framework has not been designed to substitute for the legal analysis of the implications of registration; for example, the issue of the nature of the title to securities that is transferred in the SSS if the system itself is not also the registrar. The questions are instead focused on the circumstances in which the SSS itself becomes involved in the registration process, as well as the risks that may arise if participants fail while securities are in the process of being re-registered in the buyer's name. In particular, it is important to understand whether the rules and procedures of the SSS would require transactions to be unwound in such an event.*

*The mechanics of securities and funds transfers are then addressed, including the issue of where cash transfers associated with securities transfers at the SSS take place. These questions also address the circumstances under which the SSS extends credit to participants as an aspect of providing funds transfer capability at the SSS. It is clearly important for participants to understand what types of cash account are offered at the SSS and on whom they take a risk with respect to cash deposits, as well as whether the SSS itself bears credit risk in conjunction with these accounts.*

*The questions then explore the timing of processing within the SSS, whether the SSS is a DvP system, and what type of DvP model, if any, has been adopted by the SSS. DvP is a mechanism that ensures that final delivery occurs if and only if final payment occurs, which eliminates principal risk and contributes to reductions in liquidity risk.*

*The issues that arise in the practical implementation of DvP were outlined in the DvP Report referred to in the Introduction, and mainly concern the finality of the securities and funds transfers that together constitute DvP settlement. Transfers are final if they are both irrevocable and unconditional. A transfer is irrevocable when the parties to it can no longer revoke their instructions; and it becomes unconditional when there are no longer any circumstances that could cause the SSS to unwind it. If transfers are provisional at the time of processing, even if DvP is achieved, the risk remains that transfers may have to be unwound later if finality cannot be achieved.*

*If not properly recognised and controlled, this "finality risk" could have systemic effects. Customers of SSSs are often provided with immediate availability of securities received, even if the transfer is not final. If these customers then sell the securities again, or make them available to custodial customers, and the original transfer is subsequently unwound, additional transfers by the customer or the customer's clients may also have to be unwound, spreading the impact of the unwind to unrelated parties. It could also ultimately lead to losses to be shared among participants. For these reasons, the questions below attempt to clarify precisely the circumstances under which transfers become final.*

*The questions also address the provision of settlement guarantees by the SSS. If guarantees exist, it is necessary for participants to understand the events that trigger a guarantee as well as the coverage that is provided by the guarantee, including the liability of the SSS with respect to the guarantee.*

### A. ***Please discuss whether and how settlement instructions are matched between participants prior to processing by the SSS.***

On receipt of a settlement instruction from a customer, mandatory fields are compared against those entered by the counterparty. If they do not match, then the instruction will not be considered for settlement and will be reported as unmatched. Once scheduled for the reports, customers will be notified by MT536, MT537, MT548 and MT578 reporting through SWIFT or CreationOnline. It should be noted that there is a USD 25 tolerance or an equivalent amount in EUR in the cash consideration, applicable to internal instructions and to instructions with Clearstream Banking S.A.; the procedure applied for domestic markets might differ, details are available in the Creation Link Guides.

LuxCSD S.A.'s matching service is automatic and electronic for securities transactions that are due to settle between two accounts in LuxCSD S.A.

For external transactions (that is, transactions between a LuxCSD S.A. customer and a participant of another SSS), matching occurs, as a general rule, in such SSS and LuxCSD S.A. “adjusts” to the matching rules of such SSS. The process for external transactions is as follows:

- In the case of deliveries, securities provision must be available on the customer’s account.
- For non-binding markets, a pre-advise message is sent for matching purposes while a settlement instruction is sent after successful provisioning earliest with beginning of the provisioning period
- Matching with the corresponding domestic instructions is then performed by the local SSS according to the rules of the SSS.
- Thereby, the matching status is provided by the depository and LuxCSD S.A. updates the external instructions accordingly.

#### **A.1. Is matching required for all transactions without exception?**

No. Deliveries of securities free of payment between two LuxCSD S.A. customer accounts may be settled without matching being required, while LuxCSD S.A. recommends its customers to always use the matching facility, even for FoP transactions. If the two parties are both customers of LuxCSD S.A. and if the parties themselves require that a delivery free of payment should not settle unless their respective instructions are matched, they can use a receive free or deliver free instruction in LuxCSD S.A..

In the case of deliveries to or receipts from a counterparty outside LuxCSD S.A., LuxCSD S.A. will, if the customer has sufficient securities on his account, send settlement instructions via Clearstream Banking S.A. to the depository (another SSS or a depository bank) to participate in the matching of the domestic market if this is local market practice.

#### **A.2. What procedure is used when instructions do not match?**

Unmatched instructions for which matching is a prerequisite for settlement remain unsettled. Information on customer’s unmatched instructions, whether due for settlement already or in the future, is made available via MT537 and MT548 after each settlement processing.

If an instruction is received from another party, indicating the said customer as counterparty, but no instruction has been received from the customer, such received instruction is also reported to the customer in the MT578 Settlement Allegement. Furthermore, the MT536 and MT537 reports enable customers to monitor both the matching and the settlement status of the customer’s instructions.

#### **A.3. Are matched settlement instructions binding on participants?**

No, not in the case of instructions for settlement between two accounts in LuxCSD S.A. Whether they are binding in the case of deliveries to and receipts from counterparties in domestic markets via the Clearstream Banking S.A. link depends on the domestic market concerned.

For domestic instructions this depends on the domestic market rules.

##### **A.3.(a) If so, please describe the consequences of failure by participants to meet obligations (for example, forced settlement, penalties, short positions).**

As a rule this is not applicable in the case of internal instructions or for instructions between accounts at LuxCSD S.A..

For domestic settlement via the Clearstream Banking S.A. link this depends on the market where the settlement takes place. For example, in the UK, a matching fine must be paid if the receive/delivery instruction will fail.

##### **A.3.(b) Please describe whether this is a feature of the SSS's rules and procedures or of national law or regulations.**

If matching is binding in a domestic market via the Clearstream Banking S.A. link in which a transaction is settled between the account of a customer in LuxCSD S.A. and a domestic counterparty’s account, this is not a result of LuxCSD S.A.’s rules and procedures nor of Luxembourg law.

##### **A.3.(c) Please provide a time line indicating the points at which matched instructions become binding, as well as any pre-matching process that takes place.**

Domestic matching is binding, as soon as both instructions have been received, validated and matched by the SSS of the local market.

**B. Are securities transferred within the SSS registered?**

Yes.

**B.1. Who is the registrar?**

For registered securities issued in and primarily deposited with LuxCSD S.A., the role of registrar is fulfilled by the issuer or an agent appointed by him. These securities are registered in the name of LuxCSD S.A.

For international securities in registered form issued in and primarily deposited with Clearstream Banking S.A. through a specialised depository or a common depository, the role of registrar is fulfilled by the issuer or an agent appointed by him. These securities are registered in the name of the common depository's nominee company or in the name of Clearstream Banking S.A.'s /Euroclear Bank's nominee company.

For domestic instruments (deposited via Clearstream Banking S.A. with a depository located in a domestic market or a local SSS), it can be the issuer itself, a financial institution, agent or registrar appointed by the issuer or the local SSS.

**B.2. Is it normal practice to register the securities in the name of the SSS (or its nominee) or in the name of the beneficial owner? Are there instances in which securities housed within the SSS are registered to neither the SSS (or its nominee) nor the beneficial owner?**

Securities deposited in an omnibus account within LuxCSD S.A. are in principle registered either:

- In the name of LuxCSD S.A.;
- In the name of Clearstream Banking S.A., in which the securities are sub-deposited or its nominee; or if required, in the name of the final beneficiary (for example, in the case of Swiss registered shares or U.S. restricted securities).

In principle, LuxCSD S.A. uses an omnibus account at Clearstream Banking S.A. .

**B.3. If the SSS offers custodial services, will it hold securities registered in the name of the beneficial owner?**

Yes, if this is required as stated under [B.2.](#) above.

**B.4. Under what circumstances does the SSS initiate registration of securities in the buyer's name?**

This depends on the market practice. In some markets (for example, Spain), it is market practice that the delivering party must ensure that the securities are registered in the name of the receiver. Furthermore, if physical delivery to participants outside the custodian is required, securities are registered in the beneficiary's or receiver's name.

**B.5. How long does the registration process typically take? Are participants notified when registration is complete?**

The registration process can be immediate or take up to several weeks, depending on the market. Customers are notified via the confirmation that the securities have been credited on their account upon finalisation of registration.

**B.6. Can securities be transferred within the SSS before registration in the buyer's name is complete? If so, do the rules and procedures of the SSS provide for an unwind or reversal of such transfers in case of bankruptcy or other events that result in the buyer's name not being entered on the register?**

When the buyer is a LuxCSD S.A. customer, securities are credited into the customer account and a second instruction will block the concerned securities in order to avoid onward delivery before the registration process is completed. During the crediting and blocking, the depository arranges the re-registration in parallel. If registration cannot be completed, the receipt of the securities is reversed.

Along with the receipt of securities, a final and irrevocable credit is given to the customer. However, the instruction will be blocked during the registration process. If registration cannot be completed, the securities will be debited from the customer's account and the customer will be provided with a reason for the rejection.

**C. *Please describe how securities transfers are processed within the SSS.***

LuxCSD S.A. settles transactions between customers by simultaneous book-entry debits and credits in their respective securities accounts. These book entries are passed after completion of a processing run that considers customers' instructions transaction by transaction, in an iterative process, to determine which of the transactions can settle in such a way as to optimise settlement while remaining within predefined limits.

**C.1. *Please indicate whether the transfers are processed as debits and credits to members' accounts or via some other method.***

Transfers are processed as debits and credits to customers' securities accounts.

**C.2. *On a continuous (real-time) basis, or in one or more batches?***

The LuxCSD S.A. "settlement day" consists of one main settlement processing, the real-time processing, followed by the end of day processing.

Real-time processing begins after the scheduled start of the settlement cycles at 21:00 hrs (CET) in the evening of the business day preceding settlement date, and runs continuously until 18:00 hrs (CET) on settlement date, and is followed by the end of day processing, which is scheduled to be completed by 19:00 hrs (CET). It includes via Clearstream Banking S.A. exchanges of instructions with depository banks, domestic clearing systems and cash correspondent banks. Provided that the customer has selected the option to have their instructions considered for settlement beyond the mandatory period, all internal instructions that remain unsettled at the end of the mandatory settlement period are retried during the remaining real-time settlement cycles.

**C.3. *If continuous, during what hours does the processing occur? If in batches, at what time or times is the processing initiated and completed?***

LuxCSD S.A.'s real-time processing runs from approximately SD-1 at 21:00 hrs (CET) until approximately 19:00 hrs (CET) on SD.

**C.4. *Do securities settlements occur daily? Please identify securities for which settlement occurs only on specific days of the week or month.***

Securities settlement occurs daily for all eligible securities.

**D. *Please describe whether final funds transfers in conjunction with the SSS are made as debits and credits to balances held at the SSS, at one or more commercial banks, at the central bank or via some other method.***

The cash processing related to delivery versus payment in EUR is processed using TARGET2 Ancillary System Interface Procedure 6 via the Banque centrale du Luxembourg. The cash processing of custody related funds transfers is performed via cash accounts held by LuxCSD S.A. customers at Clearstream Banking S.A..

**D.1. *Does the SSS maintain cash accounts for its participants? Are these accounts equivalent to deposit accounts at a commercial or central bank or do they serve only as "cash memorandum" accounts?***

No, cash accounts are maintained by the LuxCSD S.A. customer's at Banque centrale du Luxembourg and at Clearstream Banking S.A..

**D.2. *On what entity (SSS or other) does the participant bear cash deposit risk?***

On the Eurosystem for securities settlement related cash flows and on Clearstream Banking S.A. for custody related cash flows.

**D.3. *Under what circumstances does the SSS provide credit extensions or advances of funds to its participants and thereby expose itself to credit risk?***

LuxCSD S.A. does not extend credit to its customers.

**D.4. *How long can such credit extensions last? How long do they typically last?***

Not applicable.

**E. *Is the SSS a DvP system? If so, please describe the DvP model used according to the models outlined in the DvP Report (see the Introduction). Please also provide a diagram indicating the timing of events in the processing of securities and funds transfers in the SSS. Where the SSS provides more than one alternative for settlement processing, please provide a response for each alternative and indicate the relative importance of each alternative.***

LuxCSD S.A. is a Model 1 DvP system combining securities settlement on accounts at LuxCSD S.A. with TARGET2 ASI procedure 6 to perform delivery of securities versus EUR central bank money.

**E.1. *Are funds transfers and securities transfers processed within the same system or in different systems? If different, how are they linked?***

Funds transfers and securities transfers are processed within different systems, securities within LuxCSD S.A. and the cash within TARGET2.

**E.1.(a) *Please describe whether each securities transfer is linked to a specific funds transfer on a trade-by-trade basis or on a net basis or via some other method.***

When customers give instructions to deliver or receive securities against payment, securities transfers are linked to the netted cash amount through TARGET2 ASI procedure 6.

**E.1.(b) *Does the SSS “split” large transactions into multiple transactions or require participants to do so?***

LuxCSD S.A. processes customers’ instructions as received and does not split transactions. However in some domestic markets there might be a requirement to split large transactions into multiple transactions. Details are available in the Creation Link Guides available via [www.luxcsd.com](http://www.luxcsd.com) or directly on [www.clearstream.com](http://www.clearstream.com).

**E.2. *When do securities transfers and funds transfers become final?***

Settlement of instructions during any settlement cycle are final and, once settled, instructions related to such transactions cannot under any circumstance be amended or cancelled by the participant. Finality has been reached immediately upon simultaneous exchange of reserved cash versus securities between two counterparties.

If a transfer of securities against payment is settled between accounts in LuxCSD S.A. (internal settlement) , the transfer of securities and the transfer of funds become simultaneously final.

If a transfer of securities against payment is settled between an account in LuxCSD S.A. and a counterparty’s account outside LuxCSD S.A. via the Clearstream Banking S.A. link (external settlement), the transfer of securities and the transfer of funds each become final at the time they do become final in accordance with local rules in the domestic market in which they are settled. LuxCSD S.A. will confirm finality to its customers once such confirmation has been received from the local market.

LuxCSD S.A.’s Customer Handbook, which is available to all customers via [www.luxcsd.com](http://www.luxcsd.com), clearly defines “settlement finality” and applicable settlement procedures.

The Payment Services Law, as subsequently amended, includes provisions implementing the directives 98/26/EC and 2009/44/EC of settlement finality and provides in article 111 (1) of the Payment Services Law that a transfer order can no longer be cancelled by a participant of a Luxembourg agreed settlement and payment system or challenged by any third party as from the moment such transfer order is introduced in the settlement system. The Payment Services Law furthermore states that the moment where the transfer order is assumed or considered to have been introduced in the settlement system is defined through the governing documents of such settlement system itself.

Internal securities instructions are deemed to be entered into the settlement system and become irrevocable under the LuxCSD S.A. securities settlement system rules as of their extraction from the applicable transactional system for processing in the settlement system. Instructions cannot be unilaterally amended or cancelled by a customer beyond this point.

Customers can request a cancellation or amendment of all internal instructions already sent to LuxCSD S.A. that have not become irrevocable. Internal instructions that have been processed and settled in LuxCSD S.A. settlement system are final. Final instructions are reported to Customers as settled via CreationConnect MT536.

## Statement of Transactions.

Internal instructions that have not settled by the End of day processing (19:00) on a given Settlement Date (SD) are failed. In such cases, Customers can, until End of day reporting (19:30) of the initial SD planned for the failed instruction, request LuxCSD S.A. to initiate, in the name and on behalf of the customer, a new instruction for settlement on the next SD. This is the default option, applicable, unless specified otherwise on the Customer's Account Application Form, to all customer internal instructions. Customers who have elected to use this default option can, however, override it for a specific internal instruction by a request sent to LuxCSD S.A. between the time the instruction is issued and before the end of day reporting (19:30).

For customers who have not elected on their Account Application Form to use the default option, LuxCSD S.A. will not initiate a new instruction for the next SD for a failed instruction. For matched instructions between a customer that has selected the default option (the Default Option Customer) and a customer that has not selected the default option in the Account Application Form (the Non-Default Option Customer) at the end of SD, the instruction entered by the Non-Default Option Customer will reach its end of life and the new instruction initiated by LuxCSD S.A. in the name and on behalf of the Default Option Customer will have to match with another instruction of the Non-Default Option Customer before becoming eligible for the next SD.

### **E.2.(a) At what time do securities transfers become final? After what event or events?**

Please refer to the answer given to question no. E1 in this section.

### **E.2.(b) At what time do funds transfers become final? After what event or events? Does this timing allow for same-day re-transfer of funds received in exchange for securities?**

Please refer to the answer given to question no. E1 in this section. The cash processing is dealt with through TARGET2 ASI procedure 6.

### **E.2.(c) If final delivery of securities precedes the final transfer of funds, can participants dispose freely of such securities prior to funds finality? If so, what actions will be taken if funds are not received?**

Not applicable.

### **E.2.(d) If final delivery of funds precedes the final transfer of securities, can participants dispose freely of such funds prior to securities finality? If so, what actions will be taken if securities are not received?**

Not applicable.

### **E.2.(e) Does the timing of finality differ depending on the type of security transferred or the currency in which payment is to be made? Please describe.**

The timing of finality is determined first by the type of settlement.

If a transfer of securities against payment is settled between accounts in LuxCSD S.A., the transfer of securities and the transfer of funds become simultaneously final.

If a transfer of securities against payment is settled between an account in LuxCSD S.A. and a counterparty's account outside LuxCSD S.A. via the Clearstream Banking S.A. link (external settlement), the transfer of securities and the transfer of funds each become final at the time they do become final in accordance with local rules in the domestic market in which they are settled. LuxCSD S.A. will confirm finality to its customers once such confirmation has been received from the local market.

### **E.3. Please discuss whether participants are notified of securities or funds transfers while they are still provisional, only when they are final, or both.**

Customer will only be notified about the settlement of a transaction once it is final.

**F. Does the SSS itself “guarantee” funds or securities transfers?**

No.

**F.1. Under what circumstances and at what point are transfers guaranteed by the SSS?**

Not applicable, please refer to F. above.

**F.2. What actions does the guarantee obligate the SSS to take?**

Not applicable, please refer to F. above.

**F.3. Please indicate whether the guarantee is a feature of the SSS's rules and procedures or of national law or regulations.**

Not applicable, please refer to F. above.

## VI. Default procedures

*Events of default are among the most difficult and stressful occurrences that market participants and SSSs may experience. The IOSCO Report underscores the need for transparency in the area of default procedures on the grounds that it will provide more certainty in the operation of critical market mechanisms during these stressful events, and thereby reduce the risk that a single default will cause further disruptions.*

*Because the definition of a default event may differ across systems, the IOSCO Report recommends disclosure with regard to the circumstances in which action may be taken, as well as who may take it, and the scope of the actions that may be taken. In some cases, the term "default" may not be used by the SSS in its rules and procedures or in contracts with its participants. In these instances, SSSs should attempt to spell out for their participants both how they would address the insolvency of a participant and any other circumstances in which they would initiate exceptional measures to fulfil settlement or other obligations to their participants.*

*In this regard, this section attempts to lay out in one place the available resources of the SSS with respect to meeting obligations in the event of a default or other events that would trigger exceptional measures. It is important for participants to understand what these resources are as well as the order in which they will be accessed. The questions also address the possibility that securities or funds transfers will be unwound by the SSS. Because unwinds are a way to reallocate liquidity pressures and credit losses, it is vital that participants understand all the possible circumstances in which an unwind could occur.*

### **A. Please discuss the events or circumstances that would constitute default of a participant under the rules and procedures of the SSS or that would lead the SSS to make use of exceptional settlement arrangements or unwind procedures.**

Article 53, paragraph 2 of the General Terms and Conditions includes any circumstances that LuxCSD S.A. reasonably believes would materially affect the customer's ability to fulfil its obligations towards LuxCSD S.A. or any agreement between LuxCSD S.A. and the customer. Such events include, but are not limited to:

1. The commencement of any proceeding seeking liquidation or relief with respect to the customer or its debts under any bankruptcy, composition, receivership, conservatorship, insolvency or other similar law, or seeking the appointment of a trustee, receiver, conservator, liquidator, custodian administrator or other similar official of the customer or any substantial part of its property under any such law;
2. The authorisation of such a measure by a governing body of the customer;
3. An admission by the customer of its inability to pay its debts generally as they become due;
4. The calling by the customer of a general meeting of its creditors for the purpose of seeking a compromise of its debts;
5. A general assignment by the customer for the benefit of its creditors;
6. The attachment or execution upon or against any asset or property of the customer;
7. The suspension of operations, the assumption or substitution of management, or any other change in control in the affairs of the Customer resulting from the action of any court, tribunal, government, governmental authority, regulatory or administrative agency or governmental commission; or
8. Any other reason that LuxCSD S.A. may determine.

Under Articles 12, and 43 of the General Terms and Conditions, any debit balance on the customer's account would also be considered as a circumstance triggering specific measures, as detailed in the questions overleaf.

#### **A.1. Failure by a participant to meet a test of its solvency under the applicable laws of its jurisdiction?**

Such an event would fall under Article 53 of the General Terms and Conditions (as described in section A. above), allowing LuxCSD S.A. to terminate or suspend the provision of services to a customer with immediate effect and without prior notice.

**A.2. Failure to make payments or deliveries of securities within the time specified?**

Under Article 12 of the General Terms and Conditions, if a customer instructs LuxCSD S.A. to deliver or transfer an amount of securities of a given issue that, after giving effect to any outstanding credits or applicable securities lending provisions, exceeds the available and freely transferable amount of such securities standing to the customer's credit, LuxCSD S.A. may refuse to execute the instruction or execute it only to the extent of the securities standing to the credit of the customer's account.

More generally, LuxCSD S.A. reserves the right not to execute any instruction if it would cause a debit balance to exist in any customer's account (or any subdivision) or if a debit balance exists on one or more accounts (or any subdivision).

**A.3. To the extent that the rules and procedures grant discretion in the determination of the use of default or other exceptional procedures, please discuss where the authority to exercise such discretion resides and the circumstances in which this authority would be used.**

The source of such authority and circumstances where such authority can be exercised (General Terms and Conditions) has been indicated in the answers to the relevant questions above.

**B. What procedures are followed by the SSS once it has determined that a default event has occurred or that exceptional settlement arrangements are to be employed?**

**B.1. How and at what point are participants notified that this has occurred?**

The customer that has failed to fulfil its obligations is reminded of its obligations by telephone or fax and by authenticated SWIFT message as soon as he has exceeded his right. He is again notified when LuxCSD S.A. decides to adopt exceptional measures.

In the case described under [A.2.](#) above, LuxCSD S.A. will inform all potentially impacted customers holding securities of the measures it deems necessary to take after an initial investigation.

Typically, customers are always notified by the general statement and reporting regime about securities entries booked on the customers' accounts. Furthermore, customers will receive, where necessary, additional information about a default event.

**B.2. Would the SSS be expected to continue to meet all its obligations to participants under these circumstances? Please discuss the resources in place to ensure that this would occur (for example, collateral, participants' fund, insurance, loss-sharing arrangements etc.).**

Yes, for relevant provisions applicable to the customer in default (see above), LuxCSD S.A. would be expected to continue to operate its settlement system and to meet all its obligations to its customers, within the limits of the resources available to it.

In the case of a failure of a customer to meet its obligations towards LuxCSD S.A., any assets that are in the customers' accounts secure these obligations, unless the customer has given LuxCSD S.A. prior notification that the assets concerned are not its own and cannot be pledged to LuxCSD S.A. More details are provided under Section VIII. D.

LuxCSD S.A. activities are covered by comprehensive insurance policies, including a comprehensive crime and depository indemnity up to EUR 20 million and an insurance policy covering all risks of physical loss or damage up to EUR 75 million.

As at 31 December 2010, the issued share capital of LuxCSD S.A. consisted of 60,000 ordinary shares with a nominal value of EUR 100 per share, all fully paid.

**B.3. Please describe and provide a time line indicating the order in which these resources would be used as well as the timing of participant notifications and important deadlines (for example, when the SSS's obligations to participants would be met, when participants would need to cover their loss-sharing obligations).**

Please refer to [Section VI. B.2.](#)

**B.4. Please describe all conditions under which provisional transfers of securities or funds could be unwound by the SSS.**

Provisional transfer of securities and funds do not happen within LuxCSD S.A. The Model 1 DVP system ensures true delivery versus payment, eliminating the risk of unwinding.

**B.4.(a) How and on what authority would a decision to unwind securities or funds transfers be made by the SSS?**

Not applicable, please refer to [B.4.](#) above.

**B.4.(b) When and how would participants be notified of a decision to unwind provisional securities or funds transfers?**

Not applicable, please refer to [B.4.](#) above.

**B.4.(c) How long would participants have to cover any debit positions in their own securities or funds accounts resulting from an unwind?**

Not applicable, please refer to [B.4.](#) above.

**B.4.(d) In the event of an unwind, would all transfers be unwound or would only a subset of transfers (for example, only securities purchases or only those of a subset of participants) be unwound?**

Not applicable, please refer to [B.4.](#) above.

**B.4.(e) If only a subset of transfers, what procedure would be followed to determine which transfers and in what order?**

Not applicable, please refer to [B.4.](#) above.

**B.5. Can bankruptcy or insolvency be declared retrospectively in the SSS's jurisdiction (for example, under a "zero-hour" rule), and could this cause provisional securities or funds transfers to be unwound?**

The Payment Services Law provides that an insolvency procedure of a participant does not have any retroactive effect on the rights and obligations of a participant to a SSS

As LuxCSD S.A. operates a Model 1 DVP system ensuring simultaneous settlement of securities and funds transfers on a gross basis, there is no risk of unwinding in case of a customer default. Settlement would thus technically be ensured in such case.

**B.6. Please describe any circumstances in which transfers of securities or funds that were defined as final in response to question [V.E.2.](#) above would ever be unwound.**

As LuxCSD S.A. operates a Model 1 DVP system ensuring simultaneous settlement of securities and funds transfers on a gross basis, there is no risk of unwinding. However, under Article 48 of its General Terms and Conditions, "LuxCSD S.A. reserves the right to reverse any erroneous debit or credit entries to any account at any provision time. An erroneous debit or credit entry shall include, but not be limited to, a debit or credit made in connection with a transaction that becomes subject to a reversal order."

A reversal order as defined in Article 1 of the General Terms and Conditions is "any law, regulation, order, judgement, injunction, asset freeze or other action of, or by, any government, court or other instrumentality of government, the legal effect of which is to:

- (i) Deprive LuxCSD S.A., the customer, the customer's counterparty, or any clearance system, depository, sub-depository, custodian, sub-custodian or agent, acting on behalf of any of the foregoing, of the ability or authority to deliver securities, precious metals or other assets or to make credits or debits to the account of one of the foregoing;
- (ii) Constitute a determination that an entity listed in clause (i) did not have such ability or authority; and
- (iii) Require an entity listed in clause (i) to revoke, reverse, rescind or correct such debits or credits or both."

**C. *Has a participant in the SSS ever been declared in default or become insolvent?***

There have so far been no cases where customers have been insolvent or declared bankrupt.

**C.1. *Have loss-sharing procedures been invoked?***

Not applicable. Please refer to [C.](#) above.

**C.2. *Please describe whether any of these defaults or insolvencies resulted in losses for the SSS or its participants and how they were absorbed.***

Not applicable. Please refer to [C.](#) above.

## VII. Securities overdrafts, securities lending and back-to-back transactions

*In recent years, SSSs have implemented a variety of approaches aimed at satisfying increasing demands for more rapid securities settlement, particularly in the cross-border context. This section focuses on several related issues that can arise in conjunction with these procedures.*

*The first set of questions in this section relates to the possibility of debit positions in participants' securities accounts at the SSS. Because such positions indicate instances where participants have been allowed to transfer securities that they do not have on deposit at the SSS, they clearly involve substantial risk that the SSS may not be able to obtain the actual securities and complete all necessary settlements. For this reason, it is vital for participants to understand the conditions, if any, under which such debit positions can arise, and what actions the SSS will take to rectify them. The questions also address measures that SSSs can take to reduce or prevent such debit positions.*

*The existence of a securities lending programme at the SSS and the conditions under which securities loans are triggered represent another important topic covered by the questions in this section.*

*Participants need to understand both when the SSS will arrange for securities to be lent to them and when securities they hold on deposit at the SSS will be made available for lending to others. The existence and terms of a securities lending programme may also have implications for the SSS's ability to facilitate settlement in a variety of circumstances, particularly for back-to-back transactions.*

*Back-to-back transactions were a major focus of the Cross-Border Report and involve a pair of transactions that require a counterparty to receive and re-deliver the same securities on the same day. They have the major advantage of avoiding unnecessary funding costs to the party buying and then selling the securities.*

*This practice poses no particular risk when the delivery follows an actual final receipt of the securities, as there is then no risk that this receipt would have to be unwound. Especially in the cross-border context, differences in the timing of settlement cycles or of finality have led to the development of practices whereby SSSs in some circumstances allow onward-deliveries under back-to-back transactions before the initial securities receipts are final, in effect extending temporary (often intraday) securities loans. The questions in this section attempt to clarify the circumstances under which this occurs, so that participants can understand the risks entailed by these practices.*

### A. **Is it possible for debit positions (overdrafts) in securities accounts at the SSS to arise?**

LuxCSD S.A. systems will not debit a customer's account for securities that are not on the customer's account in order to settle a transfer of securities.

#### A.1. **Under what conditions could such debit positions occur?**

Not applicable. Please refer to [A.](#) above.

##### A.1.(a) **Do these conditions always result in debit positions in securities accounts rather than failed transactions? If not, please explain the basis for differential treatment by the SSS.**

Not applicable. Please refer to [A.](#) above.

##### A.1.(b) **Are these situations covered explicitly by the rules and procedures of the SSS?**

Not applicable. Please refer to [A.](#) above.

#### A.2. **How long can such debit positions last? How long do they typically last?**

Not applicable. Please refer to [A.](#) above.

#### A.3. **How are debit positions in securities accounts prevented, rectified or managed?**

Debit positions are generally prevented in the normal settlement process, as the customers cannot onward-deliver securities unless these have been credited in the customer's account.

**A.4. What procedures would be followed by the SSS in case the debit cannot be rectified (for example, failure by a participant with a debit balance in a securities account or unavailability of the securities in the market)?**

Not applicable. Please refer to [A.](#) above.

**A.4.(a) Application of loss-sharing provisions allocating the loss to participants?**

Not applicable. Please refer to [A.](#) above.

**A.4.(b) Absorption of the loss by the SSS?**

Not applicable. Please refer to [A.](#) above.

**A.4.(c) Other? Please specify.**

Not applicable.

**B. *Under what circumstances, does the SSS provide for the lending of securities to ensure settlement?***

LuxCSD S.A. does not provide securities lending and borrowing services to its customers.

**B.1. Is the process for lending securities automatic? If not, please describe the procedures used by the SSS to determine whether a securities loan will be made.**

Not applicable. Please refer to [B.](#) above.

**B.2. At what point are participants notified that securities are being lent to them in order to complete their settlements?**

Not applicable. Please refer to [B.](#) above.

**B.3. Which securities on deposit at the SSS are eligible for lending? Do participants have the option to make securities available for lending or is it mandatory?**

Not applicable. Please refer to [B.](#) above.

**B.4. Are lent securities identified by the SSS with specific participants as lenders or only with a common pool of securities available for lending? Does the participant whose securities are lent become a principal to the transaction?**

Not applicable. Please refer to [B.](#) above.

**C. *How does the SSS settle back-to-back transactions?***

The same securities can be received and delivered (“back-to-back”) several times during a settlement cycle. These transactions are processed in “transaction chains”. Transaction chains are made up of all transactions in the same security within the same settlement cycle. Unsettled securities transactions are recycled in several settlement cycles as new information is received.

If, in each chain, the initial deliverer has securities provision and the final receiver has cash reserved through TARGET2 ASI procedure 6, all internal transactions can be settled by netting through the flow of securities and cash in the chain. If provision is lacking on either side or on both sides, the chain is retried, taking the counterparty or counterparties next to the failing deliverer and/or receiver.

The domestic market back-to-back service comprises the following features for domestic transactions via the Clearstream Banking S.A. link:

- Linkage of a single domestic receipt with a single domestic delivery;
- Verification that the domestic receipt and delivery constitute a valid back-to-back transaction;
- Simultaneous release of the receipt and the delivery to the depository.

Settlement of delivery will only be possible once the related back-to-back receipt is confirmed. Settlement of both instructions will be achieved where both the LuxCSD S.A. customer and the domestic counterparty via the Clearstream Banking S.A. link meet their settlement obligations and fulfil the market back-to-back requirements within the relevant deadlines.

**C.1. Under what conditions are delivery instructions by participants receiving and re-delivering securities on the same day under back-to-back transactions settled for same-day value?**

LuxCSD S.A. settles transactions between customers by simultaneous book-entry debits and credits in their respective securities accounts. These book entries are passed after completion of a processing cycle that considers customers' instructions transaction by transaction in a reiterative process to determine which of the transactions can settle in such a way as to optimise settlement while remaining within predefined limits.

Assuming that the settlement instructions of the two parties are matched, a delivery of securities cannot settle unless:

- The delivering customer has the securities in its account, or receives them in its account in the same settlement processing run;
- The receiving customer has sufficient cash reserved through TARGET2 ASI procedure 6;

If the above conditions can be fulfilled for each of the two transactions, a back-to-back receipt and delivery can settle in the same settlement run or in separate settlement runs on the same day.

**C.1.(a) Only if the participant has securities on deposit with the SSS that have been received pursuant to a final securities transfer?**

Yes. Customers of LuxCSD S.A. can only onward-deliver securities if they have received them in their account.

**C.1.(b) If the participant has securities on deposit with the SSS that have been received pursuant to a provisional securities transfer?**

Not applicable as LuxCSD S.A. is a pure DVP model 1 settlement system.

**C.1.(c) Before securities have been received either provisionally or finally, but when a matched receipt instruction exists for the same or greater value? Is such a practice limited to markets where matching is binding?**

No, LuxCSD S.A. does not credit securities to a customer's account if they have not yet been received. Consequently, they cannot be onward-delivered either.

**C.1.(d) Before securities have been received either provisionally or finally, but when a third party has promised to deliver to the SSS securities of the same or greater value? Must the provider of the guarantee have itself received the securities through a final transfer? Please describe how the SSS evaluates such promises, and whether they are addressed by the written rules and procedures of the SSS.**

No, LuxCSD S.A. does not credit securities to a customer's account based on a third party's promise to deliver them. Only securities actually received are credited to customers' accounts and made available for onward-delivery.

**C.1.(e) Other? Please specify.**

Not applicable.

**C.2. Please describe limits or controls in place with respect to any of the above arrangements for the settlement of back-to-back transactions, including limits on amounts involved or related to the liquidity of the underlying securities.**

The limits are the conditions for settlement explained in [C.1.](#) above.

**C.3. Under what conditions are payment instructions by participants in the SSS under back-to-back transactions settled for same-day value? Can participants use the proceeds of an onward delivery of securities without the need for an extension of credit?**

Please refer to the answer given to question [C.1.](#) in this section.

## VIII. Risk control measures

*This section of the Disclosure Framework is intended to provide a description of the risk management systems employed by the SSS. Sound risk management encompasses a number of aspects, including assessment of risks and input into the risk management process from senior management and the Board of Directors, particularly with respect to the review of new products and services by the SSS. Internal and external audits as well as supervisory oversight can also play a vital role in ensuring that the risk management approach is sound and implemented with integrity.*

*A range of different risks can arise in conjunction with the different services that SSSs may provide. For example, in the course of providing settlement services, the SSS may become exposed to credit, custody or liquidity risks if, either explicitly or implicitly, it extends funds credit or lends securities to participants. In the provision of custody services, the SSS may take on credit risk if it extends funds to or on behalf of third parties. A variety of risk management approaches to these risks are possible, including in particular the use of collateral or limits on risk exposures. The questions also address several other provisions or tools that may be helpful to SSSs in managing or containing the different risks that they face, but are not meant to exhaust all the possible approaches that SSSs may employ.*

### **A. Please describe the roles and responsibilities of those areas of the SSS responsible for risk management and control.**

Risk management is an elementary component of the management and control of LuxCSD S.A.. Effective and efficient risk management is fundamental to safeguarding LuxCSD S.A.'s interests (both in terms of corporate goals and continued existence). Therefore, LuxCSD S.A. has established a comprehensive risk management concept in terms of processes, roles and responsibilities applicable to all staff and organisational areas including the outsourced activities of LuxCSD S.A.. to ensure that risk development can be identified and dealt with at an early stage.

The risk management framework of LuxCSD S.A. , aims at ensuring that all threats as well as causes of loss and potential disruption are properly and timely identified, centrally recorded, assessed (quantified in financial terms to the greatest extent possible), that the most adequate treatment is applied and that a consolidated report is submitted to the Board in a timely manner.

The members of the Board of LuxCSD S.A. together with the General Manager are responsible for the management of all risks. The organisation of LuxCSD S.A.'s risk management is decentralised in line with the outsourcing structure with Clearstream group companies. The insourcing business areas are responsible for identifying risks and for reporting them promptly to the Risk Management function.

The Risk Management function assesses all new and existing risks. It also reports on a monthly basis and, if necessary, ad-hoc to the Board of Directors and the General Manager.

Risk control in the insourcing Clearstream operational units was enhanced by nominating "Operational Risk Representatives", who are responsible, as mentioned above, for identifying, notifying and controlling any risk in their area whereas the Risk Management function is responsible for the assessment and reporting of risks.

The risk management framework of LuxCSD S.A., aims at ensuring that all threats, causes of loss and potential disruptions are properly identified as soon as possible, centrally recorded, assessed (that is, quantified in financial terms to the greatest possible extent), reported in a timely manner and consistently, together with suitable recommendations to the respective Board of Directors and the General Manager, and controlled.

The risk management processes are: the identification, notification, assessment, control and reporting of risks.

Risk identification involves - to the most complete extent possible - the identification of all threats, as well as causes, of loss and potential disruption as described in the risk tree. Risks may arise as a result of internal activities or external factors and, when concluding new business or entering new service areas, risk examination must be performed with regard to both existing and new processes.

The risk identification process can be reactive, following an incident. It should also be proactive, based on the regular review of processes in order to identify weak areas, or based on scenarios of failure taking into consideration all sources of issues.

All insourcing organisational units of the Clearstream group companies and individual employees are in principle required to identify and quantify by themselves potential risks in their area of responsibility.

Risk notification is the step in the risk management process that ensures that risks are centrally recorded.

Risk assessment of an incident or of a potential risk development aims at quantifying the risk in financial terms using the “Value at Risk” methodology and comparing the result with the available risk cover. It takes into account mitigation measures currently in place, such as business continuity measures, insurance policies etc.

A qualitative approach may be used whenever it adds value or is deemed more adequate.

Risk control involves determining and implementing the most appropriate treatment for the identified risk. It encompasses the following: risk avoidance, risk reduction, risk transfer and intentional risk acceptance.

All insourcing Clearstream group organisation units and employees must perform risk control and implement mitigating action according to the established escalation process.

Risk reporting

Risk reporting of any material risks to the General Manager and the Board of Directors is performed by Risk Management, a function that LuxCSD S.A. has outsourced to Clearstream International S.A.. Reporting to the Board of Directors covers all areas where risk might occur.

Internal Audit, a function that LuxCSD S.A. has outsourced to Clearstream International S.A., ensures through independent audits, that the adequacy of risk control and management functions is monitored. The result of these audits is also fed into the risk management system.

**A.1. Please describe the process for the internal review of risk management policies and procedures.**

The risk management policies and procedures are regularly reviewed by Risk Management, a function that LuxCSD S.A. has outsourced to Clearstream International S.A.. If necessary, changes are approved by the Board of Directors. Furthermore, results are confirmed and discussed with the General Manager and the Board of Directors.

**A.2. Is there a risk management policy that addresses the review and approval of new products and services offered by the SSS? At what level of the organisation is risk management approval given for a new product or service?**

According to the Risk Management Policy, all insourcing Clearstream group organisational units and individual employees must in principle notify Risk Management in a timely manner of the risks they have identified and quantified. This also applies to the development of new products and services or alterations to existing products and services.

In all cases, the proposed change must also be submitted to the management of the areas affected by the change, including the relevant units in Operations, and must ultimately be reviewed and approved by the General Manager and the Board of Directors.

While primary responsibility lies with the business units for the monitoring of their own risks (identification, notification to Risk Management and risk control), Risk Management, whether routinely or on an ad-hoc basis, performs risk assessments and is in charge of producing adequate reporting to the General Manager and the Board of Directors.

**A.3. Does the SSS have a risk management function with clear independence from and authority over operational or marketing functions?**

Yes. LuxCSD S.A. follows a holistic risk management approach as described in the Group Risk Policy.

The Board of Directors covers all areas where risk might occur. The Chief Auditor, a function that LuxCSD S.A. has outsourced to Clearstream International S.A., and the External Auditor will attend the meetings at the request of the chairman of the committee..

The Board of Directors reviews the Company’s financial statements, approves annually the internal audit functions (outsourced to Clearstream International S.A.), objectives, the audit plan, staffing and financial budgets, ensures true and proper accounting and reporting of financial results, oversees the proper financial management of LuxCSD S.A., reviews the adequacy and effectiveness of accounting systems and internal financial controls, monitors the efficiency and independence of the internal audit function and meets regularly with the external auditor.

**A.4. Does the Board of Directors review risk management policies and procedures? Does the Board have a risk management or audit committee?**

Yes, please refer to the answer above.

**B. *Please describe any internal or external audits or supervisory/regulatory examinations that are performed with respect to the SSS. For each such audit or examination, please address the following questions.***

As a Professionnel du Secteur Financier, LuxCSD S.A. is subject to the prudential supervision of the Commission de Surveillance du Secteur Financier (CSSF) and as SSS to the supervision of the the Banque centrale du Luxembourg (BCL).

LuxCSD S.A. must provide all reporting required for PSFs by CSSF regulations and for SSS by BCL regulations and Luxembourg legislation, in line with EU legislation. In addition to the regular audit by the external auditor (KPMG) of the annual report (short form), KPMG also prepares an analytical report (long form).

Reporting requirements include the following, among other things:

- Balance sheet (monthly);
- Profit and loss account (quarterly);
- Number of employees (quarterly)
- Ad hoc statistics (quarterly);

Furthermore, LuxCSD S.A. must provide the CSSF and/or BCL with the following:

- Chief auditor's report;
- Management report on internal controls;
- Annual report, including management report, audited by statutory external auditors;
- Confirmation by the external auditors of compliance with applicable CSSF circulars;
- Management letter from external auditors or confirmation that no management letter has been issued.

In addition to the regulatory reporting LuxCSD S.A. conducts audits for the following reasons:

- At the request of the Board of Directors;
- Self-assessments against international securities settlement systems standards (to the BCL).

**B.1. Who performs the audit or examination?**

Audit and examination are performed by a) LuxCSD S.A.'s Audit section, a function that LuxCSD S.A. has outsourced to Clearstream International, b) KPMG as the external auditors appointed by the Board of Directors, and c) the institutions mentioned in [B.](#) above.

**B.2. What is the scope of the audit or examination?**

Internal Audit, a function that LuxCSD S.A. has outsourced to Clearstream International S.A., is an independent, objective assurance and consulting function designed to add value and improve the operations of LuxCSD S.A.. It helps LuxCSD S.A. to accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of risk management, control and governance processes.

The objective of Internal Audit is to assist the General Manager and the Board of Directors in the effective discharge of its responsibilities. The internal audit function provides management with analysis, appraisals, recommendations counsel and information concerning the risk management and control framework and governance processes covering all business activities.

Towards the achievement of this objective, Internal Audit is authorised to have unrestricted access to all records, personnel and physical properties.

The Chief Auditor, a function that LuxCSD S.A. has outsourced to Clearstream International S.A., prepares a rotational Audit Plan based on a risk analysis that ensures that all areas are covered on a three-year cycle, in accordance with regulatory requirements, and that focuses coverage on high-risk areas each year.

1. Internal Audit is authorised with unrestricted access to all records, personnel and physical properties determined relevant to the performance of assigned audits.
2. The scope of audits by LuxCSD S.A.'s statutory external auditors is determined in accordance with International Standards on Auditing and specific regulatory requirements of the CSSF. Those standards require that they plan and perform the audit to obtain reasonable assurance about whether the annual accounts are free of material misstatement.
3. There is no limit to the scope of audits that may be requested by the Board of Directors.
4. External audits by the LuxCSD S.A. statutory auditors carried out at the request and with the mandate of the supervisory authority of LuxCSD S.A. and the CSSF, include annual audits and exceptional audits of specific areas. The scope of the former is set by CSSF regulations; the scope of the latter is set by the CSSF on a case-by-case basis.

**B.2.(a) Please indicate whether and how it addresses the sufficiency of and compliance with internal controls.**

Management is responsible for establishing operating objectives, developing and implementing control procedures and accomplishing appropriate operating results.

Internal Auditing ascertains whether such objectives have been defined, the controls are implemented and effective and the operating results are met by;

- The review of the viability, effectiveness, efficiency and adequacy of the internal control systems, of the processes for the management of risks, and the governance framework;
- The review of the reliability, integrity, and confidentiality of management, operating and financial information systems;
- The review of the financial and operating records and reports containing accurate, reliable, timely, complete and useful information;
- The review of compliance with applicable legal and regulatory requirements including reporting, codes of conduct etc;
- The review of compliance with operational guidelines, instructions and standards as well as the orderliness of all operational and business procedures and the rules and precautions taken to protect assets;
- The review of the efficiency of business management processes;
- The review of the existence, and the means of safeguarding assets, including fraud aspects, of LuxCSD S.A. and of its customers;
- The review of the adequacy of Business Continuity Management;

In addition, the internal audit function is responsible for providing:

- Objective and independent evaluations of internal controls;
- Recommendations to improve controls and processes;
- Suggestions to improve the economy, efficiency and effectiveness of controls and procedures within the units' activities;
- Regular updates of the status of open audit recommendations.

**B.2.(b) Please indicate whether and how it addresses the SSS's compliance with its own rules and procedures.**

LuxCSD S.A. (or Clearstream group companies as insourcer of LuxCSD S.A. activities) has implemented a variety of policies and procedures to ensure that the management within each department implements and monitors the effectiveness of the control environment and that the internal audit functions in an appropriate capacity.

LuxCSD S.A. has an Internal Audit Section, a function that LuxCSD S.A. has outsourced to Clearstream International S.A., which is created as an independent appraisal function to provide the General Manager and the Board of Directors with the relevant information concerning adequacy and effectiveness of the risk management, control framework and governance processes. The Chief Auditor is independent and reports directly to the General Manager and the Board of Directors.

**B.3. What is the frequency of the audit or examination?**

1. Internal audits are carried out according to the annual internal audit plan and, in addition, whenever the Chief Auditor considers that an audit is necessary. Detailed findings and recommendations are distributed to Line Management. All major items are reported to the General Manager and Board of Directors.
2. External audits are undertaken at least annually by the LuxCSD S.A. statutory external auditors and include detailed analytical requirements determined by the CSSF.
3. External audits of specific areas may be undertaken on a case-by-case basis at the request of the Board of Directors.
4. External audits by the LuxCSD S.A. statutory auditors at the request and with the mandate of the LuxCSD S.A. supervisory authorities may be undertaken at any time.
5. Examinations by the supervisory authority of LuxCSD S.A., the CSSF, may occur at any time.

**B.4. Are audit or examination reports available for review by participants?**

In principle, any audit and other examination reports are not available for review by participants. The Annual Accounts, reviewed by the the external auditor will though be made available.

**C. *Please discuss whether the SSS has the capacity to value (that is, mark to market) the securities that it holds.***

LuxCSD S.A. has the capacity to revalue the securities that it holds on a daily basis.

Most of prices are updated once a day, in the morning, but

- Some securities are priced in different Bloomberg files, so they are updated once a day
- Pricing users can update prices at any time

**C.1. Please describe how these valuations are used by risk control systems at the SSS.**

Not applicable.

**C.2. How frequently are securities revalued?**

The LuxCSD S.A. system updates securities prices at least daily.

LuxCSD S.A. has subscribed to the services of several information providers. If no price is provided by these information services or by market customers (for example, depositories) the price of a security will be the issue price.

If a price is not listed on a stock exchange, then prices provided by market makers are used for the acceptance of such a security. For equity instruments, the issue price is required at the initial set-up of the security.

**C.3. What are the sources for security valuations?**

The valuation of securities is based on prices obtained from external independent sources.

**C.3.(a) What outside price or data sources are used?**

LuxCSD S.A. has outsourced its securities processing to Clearstream Services S.A. who obtains price information from the following independent external sources:

- IDC (Interactive Data Corporation) which sends a pricing file per day from Monday to Friday and on public holidays. Prices are globally collected during a business day.
- Bloomberg Generic Prices: BBG provided multiples files, according to instrument type (Debt, Equity,...) and geographic zone (Europe, North America,etc.)
- Reuters, which has been implemented for an automatic research of prices to compare the feeds received through external sources.
- Telekurs' stand-alone workstations, enabling the manual research of prices

IDC and Telekurs provides theoretically evaluated prices. If a security cannot be priced by the regular data feed

(IDC Market price - BBG), an evaluated price is requested from IDC. If IDC is not in the position to provide a price, the request will be re-routed to Telekurs.

The most appropriate price provided by several data vendors is selected and promoted as Silver Copy.

**C.3.(b) If pricing models are used, please describe how the models are chosen and how the model inputs are obtained.**

Theoretical prices are obtained from IDC and Telekurs.

**D. Please discuss whether the SSS has a lien on the securities held in or transferred through it.**

Article 1948 of the Luxembourg Civil Code grants the depository a right of retention over the deposit that is owed to it for reasons of the deposit being unpaid. It should be noted that the amounts due to the depository must directly relate to the deposit. This includes the fees to the depository.

Under Article 17 of the Securities Law, LuxCSD S.A. enjoys the benefit of a privilege over all securities, claims, assets and other rights booked to accounts held with LuxCSD S.A., as own assets of a customer, to the extent that such assets are free of any collateral security notified to or accepted by LuxCSD S.A. This privilege secures the claims of LuxCSD S.A. against a customer that have arisen in connection with the clearing or settlement of transactions on securities or other financial instruments or of the netting of such transactions effected by the customer for its own account or for account of its clients, including claims arising under loans or advances.

Under the same provision LuxCSD S.A. equally enjoys the benefit of a privilege over all securities, claims, assets and other rights booked to "client assets" accounts of its customers. This privilege exclusively secures the claims of LuxCSD S.A. against the customer arising in connection with the settlement or liquidation of transactions on securities or other financial instruments or of the netting of such transactions effected by the customer for the account of its clients, including claims arising under loans or advances.

Article 41 of the General Terms and Conditions foresees that all securities, currencies and precious metals held by the customer within the LuxCSD S.A. system, now or in the future, whether at LuxCSD S.A. or at another location, are pledged in favour of LuxCSD S.A. to secure the entire present or future obligations of the customer towards LuxCSD S.A. If deposited securities, currencies and precious metals are held by the customer on behalf of its clients and may not be pledged, then the customer must notify LuxCSD S.A. In the absence of such notification, LuxCSD S.A. shall be entitled to assume that all securities, currencies and precious metals are held for the account of the customer.

**D.1. Does the lien apply only to the securities owned by the participants themselves or does it extend to the securities beneficially owned by customers of participants?**

If the customer does not notify LuxCSD S.A. that the securities are held in the LuxCSD S.A. system on behalf of one of the customer's clients, the general pledge granted to LuxCSD S.A. under Article 41 of the General Terms and Conditions (see D. above) applies. In the absence of such notification, LuxCSD S.A. is entitled to assume that those securities are held for the account of the customer.

The privilege under Article 17 of the Securities Law applies in the terms and under the conditions mentioned in D. above.

**D.2. Under what circumstances and in what manner would such a lien allow the SSS to use the securities?**

If the customer defaults on the execution of its obligations towards LuxCSD S.A., the general pledge granted to LuxCSD S.A. under Article 41 of the General Terms and Conditions (see D. above) can be enforced. The pledge grants a right of retention to LuxCSD S.A. and can be enforced in accordance with the Collateral Law; that is, without prior notice to the pledger or by way of appropriation, sale over an exchange, private sale or netting. The privilege under Article 17 of the Securities Law applies in the terms and under the conditions mentioned in D. above.

**E. Please discuss the circumstances in which the SSS requires collateral to limit or mitigate risks.**

Given that cash processing is handled in central bank money, LuxCSD S.A. does not require any collateral in the

context of its securities settlement services.

**E.1. Does the SSS manage its own collateral system?**

Not applicable. Please refer to E. above.

**E.2. Does the SSS share a collateral system with another SSS or payment system?**

Not applicable. Please refer to E. above.

**E.3. Can collateral at the SSS be posted and returned on the same day?**

Not applicable. Please refer to E. above.

**E.4. What types of transaction at the SSS involve the use of collateral?**

Not applicable. Please refer to E. above.

**E.5. What are the policies with regard to the type of collateral used or haircuts required?**

Not applicable. Please refer to E. above.

**E.6. How are collateral valuation methodologies developed and reviewed?**

Not applicable. Please refer to E. above.

**E.7. To what extent are collateral policies described in the written rules and procedures of the SSS?**

Not applicable. Please refer to E. above.

***F. Please describe the SSS's use of limits on exposures to monitor or control risks.***

LuxCSD S.A. does not grant any credit lines, does not offer securities lending and borrowing services to customers and hence does not require an exposure limit monitoring in the context of its settlement activities.

**F.1. Please explain the types of limit used and the exposures to which they apply.**

Not applicable. Please refer to F. above.

**F.2. Do the limits apply to all participants and/or to other SSSs with which the SSS is linked? What are the exceptions to the limits?**

Not applicable. Please refer to F. above.

**F.3. Do limits apply to participants individually or in the aggregate or both?**

Not applicable. Please refer to F. above.

**F.4. Do limits apply to implicit as well as explicit extensions of credit or securities (for example, when onward deliveries of securities are permitted pursuant to provisional XXX but not final delivery of securities)?**

Not applicable. Please refer to F. above.

**F.5. Does the SSS automatically reject transactions that exceed limits or is compliance determined ex post?**

Not applicable. Please refer to F. above.

**F.6. How are limit policies developed and reviewed?**

Not applicable. Please refer to F. above.

**F.7. To what extent are limit policies described in the written rules and procedures of the SSS? Where does additional authority to set or amend limit policies reside?**

Not applicable. Please refer to F. above.

**G. *Please describe other controls to mitigate or reduce risks at the SSS.***

**G.1. Does the SSS or its participants have the capacity to monitor participants' accounts continuously during processing?**

The LuxCSD S.A. settlement system checks the situation of the customer's account each time it considers settling a transaction in that account. LuxCSD S.A. staff can consult customers' accounts between settlement runs. Each customer can check his own account(s) between settlement runs.

**G.2. Is there a special risk control regime that the SSS would apply to a participant known to be experiencing financial difficulties?**

Yes, LuxCSD S.A. can unilaterally block the account of the customer.

**G.3. Does the SSS maintain or administer loss-sharing arrangements other than those applicable to events of default and addressed in [Section VI.](#) above? Are these loss-sharing pools pre-funded by participants?**

No.

## IX. Operational risks

*Operational failures at the SSS could limit the ability of participants to access their assets held at the SSS and prevent them from honouring their commitments to others, with potential spill-over effects on other payment, clearance and settlement systems. Furthermore, prolonged problems could reduce or eliminate trading activity with respect to the affected securities, with substantial consequences for market participants.*

*It is good practice to mitigate operational risks through redundancy and the maintenance of strong internal controls over the operations of the SSS. In the event of an unavoidable problem or natural disaster, the SSS should also have in place a well-rehearsed plan for business continuity that addresses all the business functions and resources that the SSS would need in order to renew operations.*

### **A. Please provide assessments of the operational reliability of the computer and other systems used by the SSS, including any criteria that the SSS uses internally for this purpose.**

The Risk Management function, a function that LuxCSD S.A. has outsourced to Clearstream International S.A., assesses all new and existing risks. It also reports on a monthly basis and, if necessary, ad-hoc to the General Manager and the Board of Directors. Risk control is performed in the decentralised business areas, that is, in the areas where the risks occur.

Risk control in the insourcing Clearstream group operational units was enhanced by nominating “Operational Risk Representatives”, who are responsible, as mentioned above, for identifying, notifying and controlling any risk in their area whereas the Risk Management function is responsible for the assessment and reporting of risks.

The risk management framework of LuxCSD S.A. aims at ensuring that all threats, causes of loss and potential disruptions are properly identified as soon as possible, centrally recorded, assessed (that is, quantified in financial terms to the greatest possible extent), reported in a timely manner and consistently, together with suitable recommendations to the General Manager and the Board of Directors, and controlled.

#### **A.1. What is the percentage uptime of the systems used by the SSS?**

There are no historical figures on settlement efficiency available.

##### **A.1.(a) Whole system overall?**

Not applicable. Please refer to A.1. above.

##### **A.1.(b) Broken down by major components? (for example, communications network, central processing facility)**

Not applicable. Please refer to A.1. above.

##### **A.1.(c) During critical processing periods?**

Not applicable. Please refer to A.1. above.

#### **A.2. Has the SSS experienced major operational problems during the past two years?**

Not applicable. Please refer to A.1. above.

##### **A.2.(a) Have settlements been delayed, been disrupted or otherwise failed because of operational problems during this period?**

Not applicable. Please refer to A.1. above.

##### **A.2.(b) Please describe the nature of any such problems.**

Not applicable. Please refer to A.1. above.

**B. *Please describe contingency or disaster recovery planning at the SSS.***

A business continuity management policy exists that outlines the objectives to be able to continue to operate under adverse conditions and in the face of unexpected events or disasters.

The policy prescribes a business continuity organisation, a function that LuxCSD S.A. has outsourced to the Clearstream International S.A., with defined responsibilities. This includes a central team, organisationally independent from the Operations and IT departments, whose responsibilities include the direction and co-ordination of a business continuity plan and the provision of a framework for coherent planning in all other units and departments.

Business functions and systems are classified by varying degrees of criticality in accordance with the risk management framework. This analysis identifies the point in time when non-delivery of all or part of a service will have a non-tolerable impact on the business. It also determines services, staff, systems, facilities and other dependencies that are mission-critical and that must be included in the business continuity plan.

**B.1. Does the SSS have a formal plan for business continuity in place?**

Yes, as defined by the insourcing Clearstream group entities.

**B.2. Is this plan available for review by participants?**

Specific information not disclosed in this document can be requested and will typically be shared with customers in their routine due-diligence reviews.

**B.3. How often is this plan tested? Does this involve participants in the SSS?**

Business continuity plans are planned to be tested at least annually. LuxCSD S.A. (or Clearstream group entities as insourcer as the case may be) will apply a component-based approach that includes technical infrastructure testing, data centre disaster recovery testing, backup processing and customer connectivity testing, backup workspace testing, internal user training and testing. Based on this approach, a test program will be established for each year and includes planned as well as unannounced live activities. Customers will regularly be invited to participate in the technical infrastructure testing. Findings will be reported to the General Manager and the Board of Directors.

**B.4. What are the major elements of the business continuity plan?**

The LuxCSD S.A. business continuity plan (or Clearstream group entities's business continuity plan as insourcer as the case may be) contains information, guidelines and procedures that are developed and maintained for use in the event of an emergency or disaster, including the loss of IT, workspace, staff or suppliers, in order to maintain the continuity of critical services. It comprises a crisis management process, business unit, IT and facilities recovery plans.

The data centres are duplicated remotely to form primary and secondary centres acting as backup to each other. The data centres are equipped with similar capacity data processing and communications equipment and are inter-connected with high-speed optical data links that are themselves duplicated. Communications networks are routed via separate exchanges of the network provider to allow for the failure of one exchange. Data is written to multiple disks in real time across the two data centres. Should an event occur that disables the primary data centre, the secondary could be brought into operation without loss of data. The data centres are equipped with environmental protection devices including intrusion, fire and humidity detectors, fire suppression systems, UPS and backup generators.

Moreover, dedicated backup facilities are established to provide backup office space for mission critical staff in the event that their normal office location would become unavailable. The backup office facilities are fully equipped and networked to both the primary and the backup data centre.

Business continuity measures have also been developed to address the loss of very significant numbers of staff in order to ensure the continuity of the most critical operations also in catastrophic scenarios.

Service Level Agreements and/or Manual of Procedures describe the minimum service level expected from, and the contingency procedures with, suppliers, such as cash correspondent banks or depositories.

**B.5. How long would it take the SSS to resume operations if primary systems become unusable?**

The business continuity plan recovery time objective is 4 hours. Depending on the nature of the incident, recovery can be achieved more quickly or may be influenced by factors not under the control of LuxCSD S.A. or the Clearstream group as the case may be.

**C. What are the key features of the internal controls covering operations and security at the SSS (for example, change controls or those covering remote access)?**

Physical and logical access to systems is controlled by both technical and organisational means. Access right management is formalised. Access right changes can only be approved by the line manager and where applicable, the business, system or application owner must also give prior approval. Password management restrictions have been defined. Security is monitored by the use of tools.

The IT security architecture implemented consists of a number of components:

- The native operating system, including security subsystems, provides a secure operative basis.
- Features of the operating system and/or application provide authentication and authorisation mechanisms.
- Network traffic is segregated by the use of firewalls, where sensible (for example, internet).
- Intrusion detection is performed as a second level of defence for incoming connection.
- A control framework is in place to protect against malicious code, where applicable.
- Switched network and VLAN technology is used internally to reduce the risk associated with “sniffing”.
- A cryptographic architecture based on PKI technologies is in use in certain applications.

**C.1. Please describe controls or security procedures in place to ensure that the SSS acts only on authentic settlement instructions from valid participants.**

LuxCSD S.A. accepts settlement instructions through CreationConnect, a proprietary communications system, by authenticated SWIFT and through CPU-CPU links. CreationConnect products provide real-time access to enhanced information provision, instruction input, position and transaction reporting and offer a choice of web browser (CreationOnline), file transfer (CreationDirect) and SWIFT access (Creation via SWIFT).

Most instructions are processed without human intervention. Certain transactions may be processed or entered into the system by LuxCSD S.A. staff (or Clearstream group staff as the case may be), based on the customer’s instructions; any such entries must be keyed and re-keyed and authorised by authorised persons. Policies and procedures are implemented to ensure segregation of tasks and to reinforce controls.

**C.2. Are internal operational and security controls included in the internal and/or external audits of the SSS?**

Yes.

**C.3. Are internal operational and security controls covered by regulatory requirements applicable to the SSS?**

Yes.

**D. Does the SSS impose minimum operational or performance standards on third parties (for example, communications providers)?**

LuxCSD S.A. has outsourced all securities processing functions to Clearstream Services S.A. in Luxembourg. IT development and maintenance for systems are being handled directly by Clearstream Services S.A. Luxembourg.

**D.1. How does the SSS ensure that such standards are met on a continuing basis and what sanctions are available to the SSS if they are not?**

LuxCSD S.A.’s relationships are reviewed on an on-going basis as needed based on a continuous review of market developments in procedures, practices, regulations or other infrastructure-related developments. LuxCSD S.A. may choose to visit a supplier at any time to review the relationship and ascertain that all governing documents remain relevant to the activities and.

**D.2. How would the SSS allocate losses incurred due to operational problems caused by third parties?**

LuxCSD S.A. has covered the risks inherent to its activities with a very broad insurance programme. As stated in D. above, the coverage is satisfactory where LuxCSD S.A. has concluded specific procurement agreements. Operational losses resulting in customer claims or other losses suffered by LuxCSD S.A., incurred due to deficiencies from providers lead to:

1. An indemnification in compliance with the contract terms; or
2. Where the contract does not foresee an indemnification, an amicable settlement; or
3. If a settlement cannot be reached, to a court's allocation of damage awards. Such cases have not occurred since the incorporation of LuxCSD S.A.

However, it may be realistically stated that indirect losses (that is, losses that cannot be immediately and naturally attributed to the event having caused the loss) will not be indemnified by those providers and will not be awarded by a court. Only direct losses will be likely to be considered.

According to Article 46 of the LuxCSD S.A. General Terms and Conditions, LuxCSD S.A. shall not be liable towards its customers for losses that would result from any act or omission of, or the bankruptcy or insolvency of, any of the LuxCSD S.A. depositories, sub-depositories, custodians, sub-custodians, or of any other clearance system, or of any carrier transporting securities between LuxCSD S.A. and/or any of the foregoing, provided LuxCSD S.A. has not acted with gross negligence or with wilful misconduct.