

**Nasdaq CSD SE**

---

**INTERNAL RECONCILIATION PROCEDURES AND MEASURES AIMED AT  
ENSURING THE INTEGRITY OF SECURITIES ISSUES**

---

## Document Revisions

<b>Version</b>	<b>Date</b>	<b>Revision Notes</b>
1	2017-09-18	1 <sup>st</sup> version
2	2018-09-08	Review
3	2018-12-31	Annual review

## 1. Reconciliation overview

**Article 37 (1)** A CSD shall take appropriate reconciliation measures to verify that the number of securities making up a securities issue or part of a securities issue submitted to the CSD is equal to the sum of securities recorded on the securities accounts of the participants of the securities settlement system operated by the CSD and, where relevant, on owner accounts maintained by the CSD. Such reconciliation measures shall be conducted at least daily.

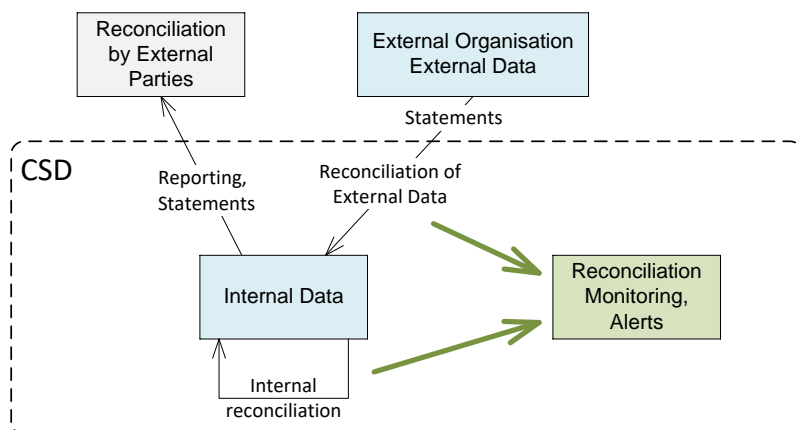
Regular consistency checks, called reconciliation, are required in order to ensure correctness of both cash and securities balances and transactions in the Nasdaq CSD SE (hereinafter “the Depository”) system internally and in relation to other systems.

The Depository will perform the reconciliation checks for each securities issue recorded in securities accounts maintained by the Depository:

- Checks of internal data within the Depository system;
- Checks of internal data in the Depository system compared to reports received from other systems (source of primary data);
- Checks of data in other systems compared to reports received from the Depository system (source of primary data).

Only the first two categories of reconciliation are considered for reconciliation requirements to the Depository system, as the third category is covered by reporting requirements – the actual reconciliation is done by recipient of statements.

**Figure 1 – Reconciliation Overview**



The Depository will compare the previous end-of-day balance with all the settlements processed during the day and the current end-of-day balance for each securities issue and securities account maintained by the Depository.

Depository will use double-entry accounting, according to which for each credit entry made on a securities account maintained by the Depository there is a corresponding debit entry on another securities account maintained by the same Depository.

According to the Rules of Nasdaq CSD (hereinafter “the Rules”), the Depository has the right to:

- Request that Participants or a particular Participant apply specific event-driven reconciliation measure(s) in a manner specified by the Depository;
- Subject Participants or particular Participant to audit control on the application of reconciliation measures.

For the purposes of reconciliation, the Depository will provide its participants (Account Operators, the Issuer Agents and the Fund Administrators) on a daily basis the following information specified for each securities account and for each securities issue:

- The aggregated balance of a securities account at the beginning of the respective business day;
- The individual transfers of securities in or from a securities account during the respective business day;
- The aggregated balance of a securities account at the end of the respective business day.

According to the Rules the Depository makes available such information and statements relating to the operational accounts, securities accounts, issuance accounts and the distribution accounts, respectively, in accordance with in the Operating Manual Section 3.10.

The Depository will provide the same information at the request of other holders of securities accounts maintained by the Depository where that information is necessary for the reconciliation of those holders' records with the records of the Depository.

The Account Operators, the Issuer Agents and the Fund Administrators are responsible for reconciling their records of securities accounts with the account statements provided by the Depository and to inform the Depository of any error or omission in the information with respect to any securities account or Issuance Account it becomes aware of.

The Depository Rules ensure that, upon its request, its participants, other holders of accounts in the Depository and the account operators provide the Depository with the information that the Depository deems necessary to ensure the integrity of the issue, in particular to solve any reconciliation problems.

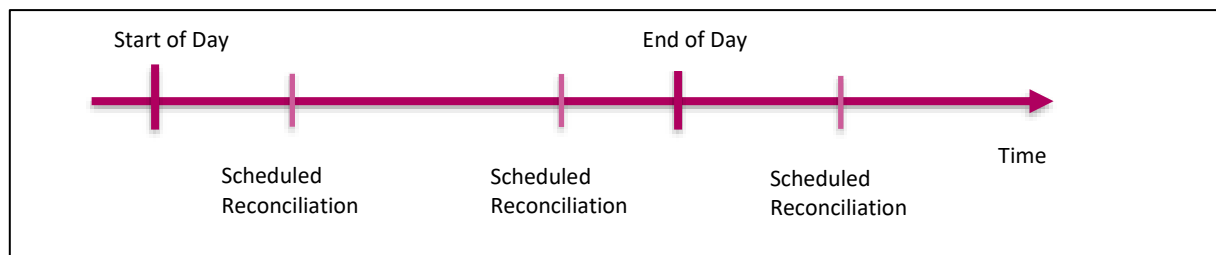
## 2. Execution of reconciliation

Reconciliation execution consists of carrying out the required consistency checks, reacting on any discovered problems and allowing the Depository Operations Department to monitor reconciliation process and discovered problems.

Reconciliation in the Depository will be carried out:

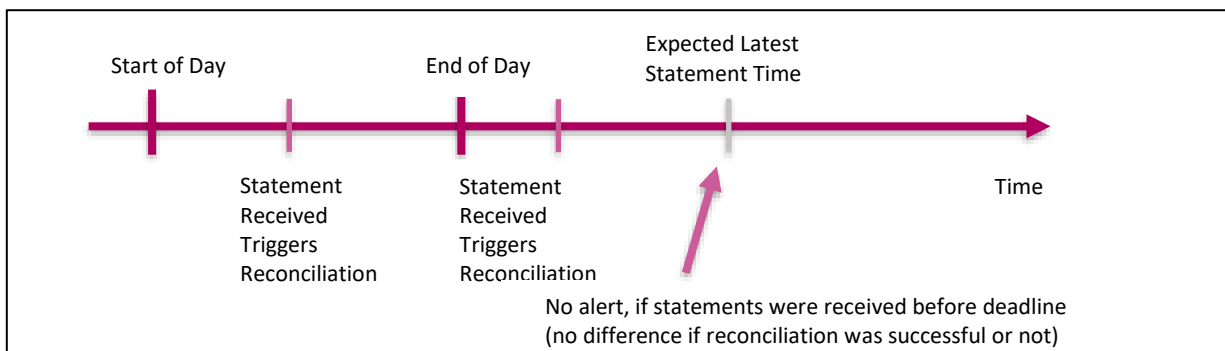
- At scheduled times with defined intervals – often daily, but other schedules are allowed; or
- Triggered by an regular event, such as the receipt of regular external statement; or
- Triggered by an ad hoc event, such as user request, Corporate Action (CA) processing.

**Figure 2 – Scheduled Reconciliation Execution**



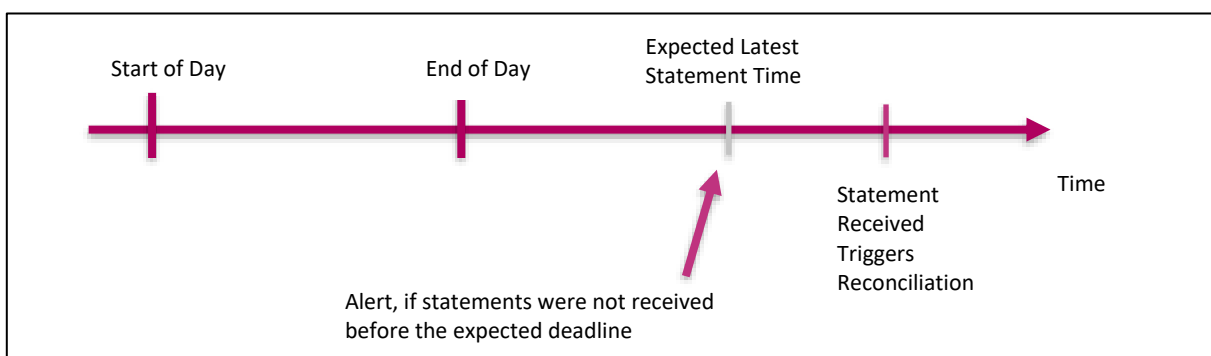
If a reconciliation check is triggered by an event then an expected latest schedule will be configured, which states the latest time by which the event is expected to be received in normal situation (but reconciliation can still be carried out after this time). The expected latest schedule is comprised of a calendar, expected interval (daily, weekly, monthly) and the latest time (e.g., the deadline by which a statement must be received) or a time difference (e.g. 30 minutes after, 15 minutes before) with some other event in the Depository schedule.

**Figure 3 – Reconciliation Executed On Time**



Reconciliation will be carried out even if a statement is received after the expected time.

**Figure 4 – Reconciliation Not Executed On Time**



All reconciliation executions (both successful and unsuccessful) together with results will be logged in the Depository system for monitoring and reporting purposes.

The Depository system will keep track that each reconciliation check is executed according to their assigned schedule; or according to assigned expected latest schedule if it is defined – if not then an alert must be logged and sent to configured alert recipients.

All reconciliation related alerts will be sent by e-mail to the Depository Operations Department address. All reconciliation related alerts will contain information to identify the exact timestamp and the nature of problem (e.g. that an expected statement receipt time was violated, or reconciliation failed) and what reconciliation check was affected. Additional information the Depository Operations Department will be able to receive from the reconciliation monitoring via the Depository system GUI.

### 3. Reconciliation Monitoring

Reconciliation monitoring and all functions within reconciliation monitoring will be accessible only to the Depository Operations Department.

The Depository system will display all defined reconciliation checks together with:

- The latest result of executed reconciliation checks, with the latest execution time;
- Next expected execution time (unless it is not available, like for ad hoc triggered reconciliations).

Reconciliation monitoring will allow querying historical reconciliation results by date and time range and will highlight unsuccessful reconciliation results and cases where reconciliation was not run at expected time.

### 4. Reconciliation Checks

A reconciliation check is a validation carried out during system reconciliation process. There are several different reconciliation checks, each for a different purpose.

Reconciliation Check	Description	Timing
Mirror cash accounts vs external cash statement Section 5.1	This check is separately carried out for each mirror cash account. Reconciliation of cash transactions and balance on account by account basis between mirror cash accounts in the CSD system and CSD's corresponding external cash accounts [pivot cash accounts] with central and commercial banks.	Scheduled, daily (next operating day based on end of day balances of previous day), weekly
Mirror securities accounts vs external securities statement Section 6.2.1	This check is separately carried out for each mirror securities account. Reconciliation of securities transactions and holdings on account by account basis between mirror securities accounts in the CSD system and CSD's corresponding omnibus securities accounts with linked CSDs/ICSDs/custodians.	Scheduled, daily (next operating day based on end of day balances of previous day), weekly
Total holdings vs issued volume Section 5.2	Reconciliation between total holdings of a locally issued instrument on all securities accounts (except issuance) in the system and issued volume on issuance accounts.	Scheduled, daily, end of day
Securities transactions vs holdings Section 5.3	Reconciliation to check that bookings of instruments in each securities account in the system are consistent with the opening and closing balance of the instrument on these accounts.	Scheduled, daily, end of day
Total holdings vs mirror securities accounts Section 6.2.2	Reconciliation between total holdings of a foreign issued instrument on all securities accounts (except mirror) in the system and holdings on mirror securities accounts.	Schedule, daily, end of day
Transactions vs mirror securities accounts Section <b>Error! Reference source not found.</b>	Reconciliation of securities transactions between all securities accounts (except mirror) in the system and mirror securities accounts.	Scheduled, daily, end of day
<b>T2S specific reconciliation checks</b>		
Securities balances CSD system vs T2S Section 4	Reconciliation of securities balances on an account by account basis between the CSD application and T2S application.	Scheduled, daily (next operating day based on end of day balances of previous day), weekly
Extra CA-specific reconciliation Section 8	Full reconciliation of securities balances for instruments with ongoing CA events, between CSD application and T2S application.	Scheduled, daily (next operating day based on end of day balances of previous day), weekly for selected instruments only
<b>Other validation checks carried out together with reconciliation</b>		
Weekly reconciliation for T2S securities accounts Section 5.5	Check that all T2S balances (securities balances with T2S instruments) in CSD system are reconciled against T2S.	Scheduled, weekly

The Depository will be able carry out ad-hoc reconciliations if and when required with immediate execution. However, it will not be possible to force execution of reconciliation checks that do not have previous statement available.

## 5. Internal reconciliation within Depository system

### 5.1. Mirror cash accounts vs external cash statement

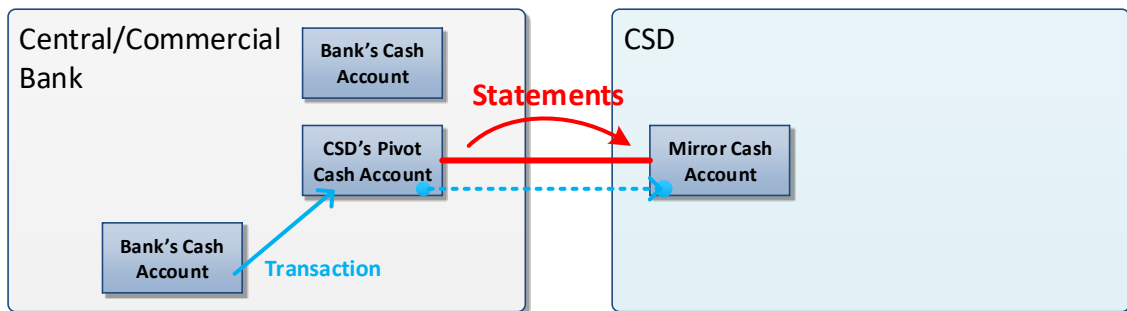
**Purpose:**

The purpose of the reconciliation is to make sure that the balance and transactions of a mirror cash account in Depository system correspond to the balance and transactions of mirrored external cash account (CSD’s pivot cash account) in central bank or commercial bank.

**What is reconciled:**

A statement of balance and/or transactions is sent by the account servicer (central bank or commercial bank) and received by the CSD (account owner). The CSD will then compare the balances and transactions in the statement to the balances of respective mirror account.

*Figure 5. Mirror cash account vs external cash statement*



### 5.2. Total Holdings vs Issued Volume

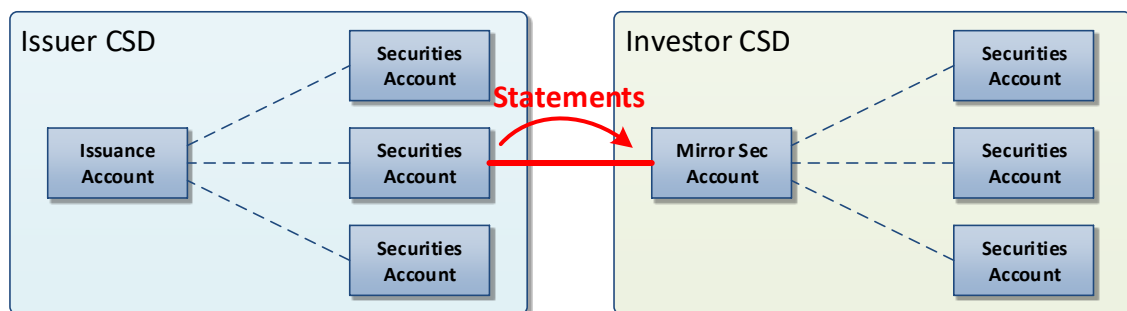
**Purpose:**

The purpose of the reconciliation is to make sure that the holdings in securities accounts in Depository system correspond to holdings that are actually issued in the Depository.

**What is reconciled:**

For this purpose, internal securities balances in the Depository system, for instruments that are issued in Depository system, are reconciled. The Securities Account has the same meaning as provided in the Rules Chapter I Section 5.2.

*Figure 6. Total Holdings vs Issued Volume*



### 5.3. Securities Transactions vs Holdings

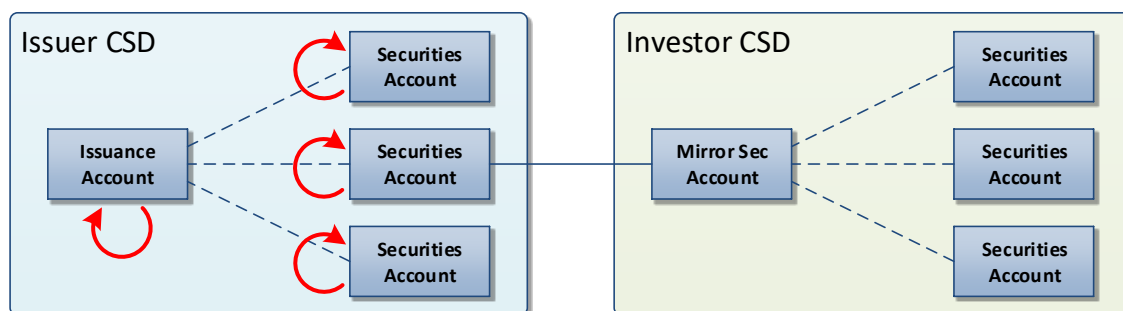
**Purpose:**

The purpose of the reconciliation is to make sure that the transactions posted on securities accounts in Depository system correspond to balances that are recorded on the same accounts.

**What is reconciled:**

For this purpose, the transactions and securities balances of all non-mirror securities accounts are reconciled.

Figure 7. Securities Transactions vs Holdings



#### 5.4. Securities Balances Depository system vs T2S

**Purpose:**

The purpose of the check is to make sure that securities balances for all of Depository’s accounts in T2S application have been fully replicated by end of day in Depository system application.

**What is reconciled:**

After end of day T2S sends a statement of holdings of securities accounts to the Depository. Securities accounts on which settlement were took place on that day are reconciled daily, other accounts - weekly or bi-weekly. The securities balances in the statements must match securities balances of respective accounts in the Depository system application.

#### 5.5. Weekly Reconciliation for T2S Securities Accounts

**Purpose:**

The purpose of the check is to make sure that securities balances of T2S instruments in Depository system application have been reconciled periodically, even if there has been no settlement on some of the accounts. Complete statements – allowing reconciliation of all securities accounts – are received from T2S on a weekly basis. The accounts without daily balance changes will be reconciled on a weekly basis.

**What is reconciled:**

For this purpose, it is checked that each of the T2S securities accounts in Depository system was reconciled against T2S sufficiently recently.

#### 5.6. Corporate Actions Specific Reconciliation

**Purpose:**

During CA processing Depository system must make sure that securities balances used in CA calculations (e.g. record date balances) are known to be correct.

**What is reconciled:**

Depository system will explicitly do with T2S a full reconciliation of balances for instruments involved in CA processing during specific dates, such as record date.

### 6. Reconciliation Processes against other Entities



**Article 48 (6)** Linked CSDs shall have robust reconciliation procedures to ensure that their respective records are accurate.

### 6.1. Linked CSDs Reconciliation Procedures

The Depository will carry out reconciliations against other CSDs that act as Issuer CSDs or Investor CSD against the Depository. The Depository currently has two link arrangements:

- The Depository and Polish CSD (KDPW) have entered into a free-of-payment link arrangement, in which KDPW has opened a Securities Account with the Depository, on which securities held by the investors acting on the Polish market has been recorded. KDPW also have the status of an account operator, which entitles it to intermediate services specified below to the members and other clients of KDPW. The Link Agreement between the Depository and KDPW represents a contract of a one-way nature in the sense that the Depository is the provider (*Issuer CSD*) of the services specified below and KDPW the recipient (*Investor CSD*);
- The Depository and Clearstream Luxembourg (CBL) have entered into a unilateral link arrangement. The Agreement with the CBL has the form of an application to open an account and a written Depository obligation to comply with General terms and conditions, which can be periodically reviewed and changed by CBL. The Depository as Investor CSD has opened omnibus and segregated accounts for securities and cash in CBL as the Issuer CSD, allowing the Depository to act as custodian with regard to the financial instruments registered with a counterpart depository.

Reconciliation procedures for linked CSDs will include the following measures:

- The receiving Depository shall transmit to the requesting Depository daily statements with information specifying the following, per securities account and per securities issue:
  - The individual movements of cash and securities during the day;
  - The aggregated closing balance of securities;
- The requesting Depository shall conduct a daily comparison of the closing balance communicated to it by the receiving Depository or by the intermediary with the records maintained by the requesting Depository itself.

Where the Depository suspends a securities issue for settlement all investor CSDs that are participants of or have a link with the Depository have to subsequently suspend the securities issue for settlement.

In the event of a corporate action that reduces the balances of securities accounts held by the Depository as the investor CSD with CBL, settlement instructions in the relevant securities issues shall not be processed by the Depository until the corporate action has been fully processed by the CBL.

The Depository as the issuer CSD shall ensure the timely transmission to all its participants, including KDPW as investor CSD, of information on the processing of corporate actions for a specific securities issue. KDPW as the investor CSD shall in turn transmit the information to their participants.

## 6.2. Reconciliations Checks with Linked CSDs

### 6.2.1. Mirror Securities Accounts vs External Statement

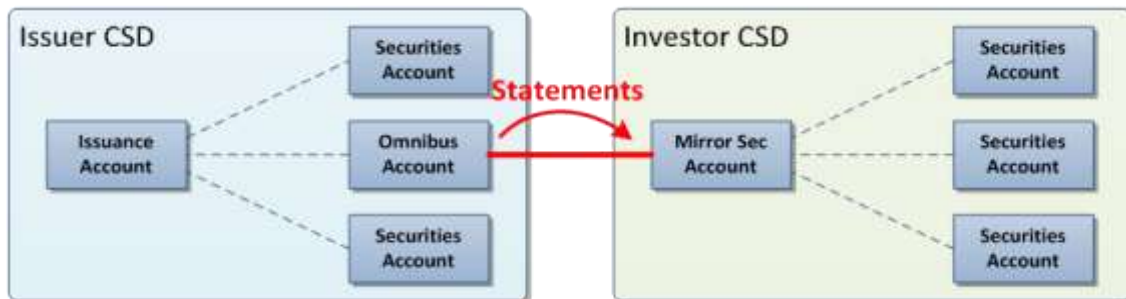
#### Purpose:

The purpose of the reconciliation is to make sure that the transactions in mirror securities and cash accounts in Depository system correspond to transactions of the mirrored external securities and cash accounts (Depository's omnibus or owner accounts) in CBL as linked (technical) issuer CSD.

#### What is reconciled:

CBL provides a statement of transactions of the mirrored securities and account to the Depository. The transactions in the statements must match and the transactions of the respective mirror account in the Depository system. According to CBL General terms and Conditions the statements are considered to have been accepted and approved unless the Depository notifies CBL to the contrary within fifteen calendar days after the statement has been made available.

Figure 8. Mirror Securities Accounts vs External Statement



### 6.2.2. Total Holdings vs Mirror Securities Accounts

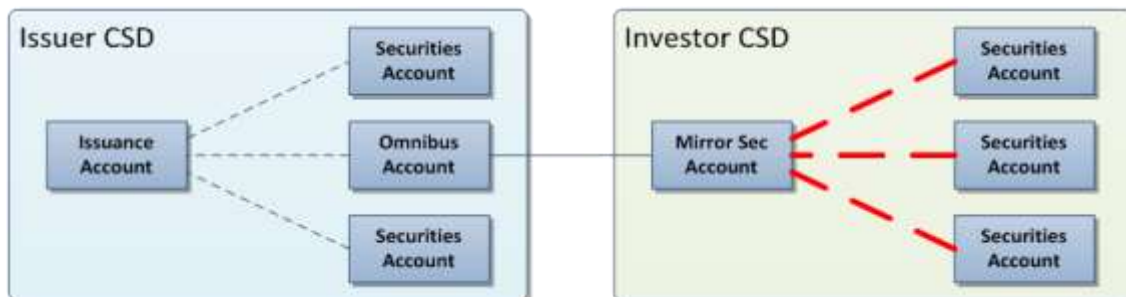
#### Purpose:

The purpose of the reconciliation is to make sure that the holdings in securities accounts in Depository system correspond to holdings of mirror securities accounts, which reflect holdings in CBL as linked (technical) issuer CSD.

#### What is reconciled:

For this purpose, internal securities balances in Depository system, for instruments that are not issued in the local Depository, are reconciled.

Figure 9. Total Holdings vs Mirror Securities Accounts



## 6.3. Reconciliation with KDPW as Investor CSD

An account statement regarding KDPW's account in the Depository system will be sent by the Depository to KDPW as investor CSD once a day at close of business, if there are any operations to report on such a day. This statement will include the closing balance of KDPW's account. Additional reports may also be delivered upon separate request.

KDPW shall verify the correctness and completeness of account statements. Objections to the statements shall be made immediately upon receiving the statement.

## **7. Securities Overdrafts, Debit Balances and Securities Creation**

**Article 37 (3)** Securities overdrafts, debit balances or securities creation shall not be allowed in a securities settlement system operated by a CSD.

Where the reconciliation process reveals an undue creation or deletion of securities, the Depository shall suspend the affected securities account or the securities issue for settlement Rules Chapter I Section 4.3 until the undue creation or deletion of securities has been remedied.

The Depository will immediately inform:

- The Account Operator of the suspended securities account about such suspension;
- The Issuer of the suspended securities issue and the affected Participants about the suspension of the securities issue.

The Depository will provide the competent authority with the number of reconciliation processes revealing undue creations or deletions of securities where those processes concern securities issues recorded in securities accounts maintained by the Depository.

The Depository will take without undue delay all the necessary measures to remedy the undue creation or deletion of securities including:

- Request participant to make corrective measures, e.g. make FOP transfers of cash and/or securities;
- Make corrective measures by itself.

The Depository will resume settlement as soon as the undue creation or deletion of securities has been remedied.

Where the number of instances of undue creation or deletion of securities is higher than five per month the Depository will send within one month the competent authority and the relevant authorities a proposed plan of measures for mitigating the occurrence of similar instances. The Depository will update the plan and provide a report on its implementation to the competent authority and the relevant authorities on a monthly basis, until the number of instances falls below five per month.