



Fixed Income CCP

Service Standards & Information for Industry Clearing Members

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1. Introduction

1.1 Objectives

Canadian Derivatives Clearing Corporation (CDCC) acts as the central clearing counterparty for exchange-traded derivative products in Canada and for a growing range of customized financial instruments. An opportunity was identified for increased efficiency in the Repo market through a more robust Central Counterparty (CCP) and netting of fixed income securities traded in the Canadian cash and repurchase markets.

Primary objectives for CDCC are to:

- Provide balance sheet relief for market Clearing Members through the provision of trade netting and trade novation functionality at a Central Counterparty (CCP) utility.
- Enable Clearing Members in the Canadian Repo market to achieve the goals of having a deeper, more transparent, and efficient market that effectively mitigates counterparty risk, even under extreme circumstances.
- Provide a Risk model that aligns well with international standards for CCP's performing similar functions.
- Provide flexibility from a technology standpoint for the introduction of new products and/or to adjust to regulatory protocols.

1.2 Audience

This document is intended as a reference for the back office staff that interfaces with CDCC Corporate Operations.

This is a consolidation of numerous source documents.

Note: **Additional Documentation** – as an individual that interfaces with the Clearinghouse, it is imperative that a working understanding of the Rules and Operations Manual is obtained.

Both of these documents are available on CDCC's web-site (www.cdcc.ca) at the direct link below:

http://www.cdcc.ca/publications_rules_en

2. Day-to-Day Services Support

2.1 Corporate Operations Team

“Corporate Operations is the single point of contact for the Clearing Members.”

The Corporate Operations team is a group of 14 individuals in two centres (Toronto and Montréal). When a question or inquiry is presented to CDCC (via phone or e-mail) Corporate Operations will:

- Respond to e-mail inquiries within 15 minutes during business hours
- On the vast majority of calls or e-mails: address the inquiry immediately
- If a question requires other resources within CDCC, Corporate Operations will follow the inquiry and will supply the answer when available. All inquiries from the Clearing Members are addressed via a “best efforts” basis. CDCC expects all inquiries to be answered same day, however if this is not possible, a status at the end of the business day will be given.

Corporate Operations will reach out to the Clearing Members via phone or email for:

- Intra-Day Margin Call shortfalls
- Settlements
- Collateral maturing
- Pending with insufficient funds
- Gridlock
- Exceptional issues such as ‘exception monitoring’
- General CCP Service Issues

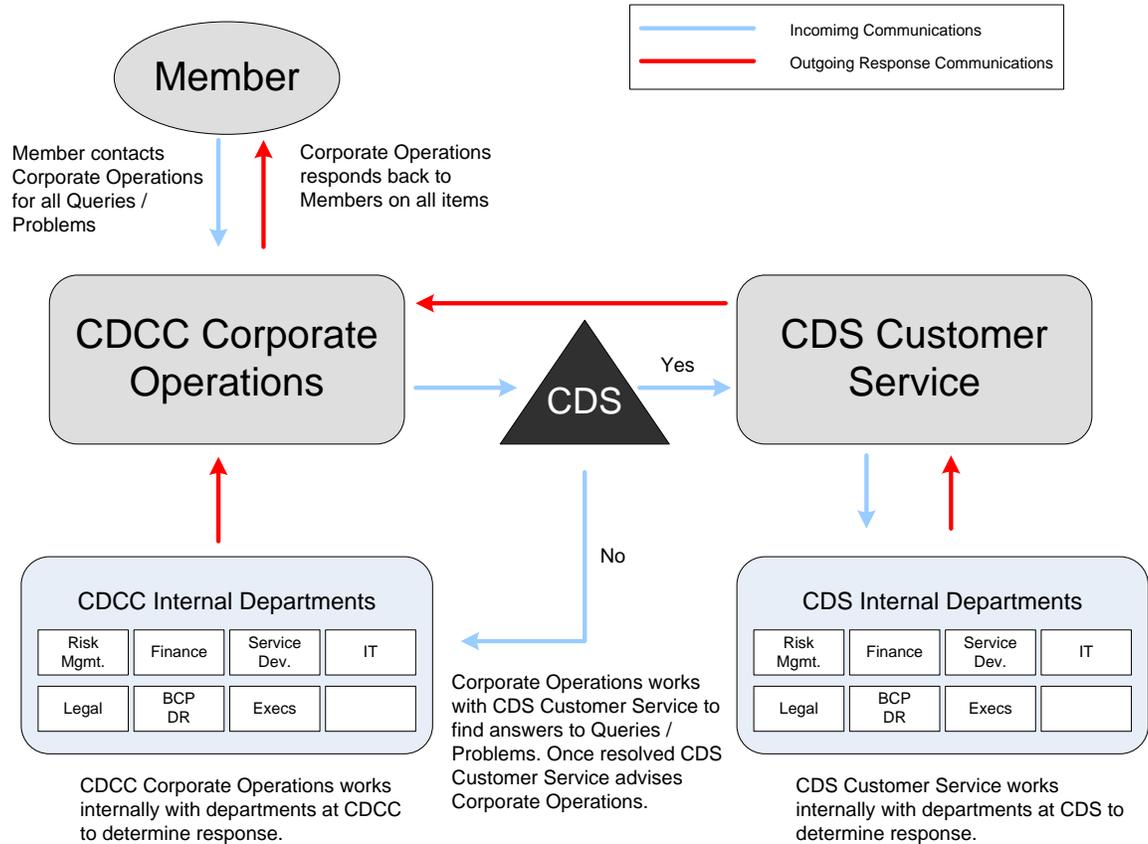
Corporate Operations performs Operational Support for the Clearing Members and the Clearinghouse to ensure that CDCC’s commitment to the Clearing Members with regards to timelines, as defined in Section 2 of the Operations Manual, are met. Furthermore, its tasks include:

- Contingencies for report & file deliveries
- ‘How to’ questions with regards to Canadian Derivatives Clearing Service (CDCS)
- End User training
- Access Management
- Configuration – ISINs, CUIDs, Internal Account, CDS Ledger Account etc.

2.2 Overview of an Inquiry

1. Clearing Members are to contact Corporate Operations for all Central Counterparty (CCP) related information or requests.
2. If the request is made by e-mail, Corporate Operations has a process by which the department is aware that the inquiry is being addressed and when the inquiry has been satisfied. In both e-mail and phone contact, it is up to each individual responding Corporate Operations staff member to track and resolve the issue.
3. Corporate Operations determines if this request involves CDS.
4. If the request does not involve CDS, Corporate Operations will engage the appropriate internal department if needed, or resolve the request within the Corporate Operations Department.
5. If the request does involve CDS then Corporate Operations shall contact CDS' Customer Service Department. CDS Customer Service shall engage the appropriate internal department if needed, or resolve the request within the Customer Service Department.
6. CDS Customer Service shall update CDCC Corporate Operations on the status of the request.
7. Corporate Operations shall track and remain the point department until the request is resolved.
8. Once a reply to the member is ready, all internal departments or CDS will forward the information to CDCC Corporate Operations to be communicated to the Member and copy CDS as appropriate.
9. For New Clearing Member Bring-On: CDCC shall advise CDS of any requests for New Clearing Member Bring On. In turn CDS shall advise CDCC of any participant wishing to join the CCP.

The following illustration provides a high level description of how member's queries and requests are dealt with on a day-to-day basis. This does not include technology incidents or Severity 1 issues as these are covered in other sections.



3. Stakeholder Communications Management

“Corporate Operations supports the Clearing Members and the Industry Stakeholders via communication.”

Notices to Members (*PUBLIC*)

- Notices to Members (NTM) are sent to the Clearing Members via the firm’s web site, the Clearing Members’ secured web site, and e-mail.
- CDCC’s Notice to Members (NTM) is the method used by the Clearinghouse to inform interested parties of items that may affect an investor.

Operational Notices (*PRIVATE – Clearing Members only*)

- CDCC’s Operational Notices are used by the Clearinghouse to inform the Clearing Members of items that may affect their back office.
- Typical Operational Notices inform the Clearing Members of production schedules or changes in processes.
- Operational Notices are sent to the Clearing Members, either on the Clearing Members’ secured web site, or by e-mail.

Telephone Calls

- CDCC Toronto 416-367-2470
- CDCC Montréal 514-871-3545

Group Emails

- Inbound to CDCC – cdcc-ops@cdcc.ca
- Outbound – group e-mails created by the Clearing Members

Provide important information to the Clearing Members specific activities (in standard formats) such as:

- Margin calls
- Net Settlement Obligation escalations
- Processing of Intra-Day debit notification
- Notifying the Clearing Members that Collateral pledged is maturing.

Provide important information about the service relevant to all Clearing Members:

- System outage/issue – regular status updates
- Reminder of special holiday processing (for example: Remembrance Day, November 11)
- General information – upcoming User Group meeting, Training Sessions being held, etc.

User Forum (*Users' Group Meetings*)

- As part of CDCC's commitment to its membership, periodic Users' Group meetings are held to address issues and to promote an open line of communication. This group's purpose is to offer direction to the corporation on issues that directly affect the membership.
- CDCC Users' Group meetings are held on a quarterly basis. CDCC will provide a facility in Montréal and Toronto that will be linked via video-conference. CDCC will provide a facility for those Clearing Members in other centres who wish to attend via conference call.
- CDCC invites key stakeholders outside of Clearing Members to these meetings. CDS, Investment Industry Association Canada (IIAC) and vendors are part of this group.
- A quorum is not required for a meeting to take place.

Extranet

The extranet (the private website for the Clearing Members) contains important information. Listed below are just a few:

- Notices to Members
- Operational Notices
- Technical Documents
- Users' Groups pre-mail and minutes
- Project Deliverables
- Forms for contingency planning

4. CDCC Business Continuity and Disaster Recovery

4.1 Governance

- CDCC's Business Continuity (BC) and Disaster Recovery (DR) Governance Model extends from TMX Group's as CDCC is a defined Business Unit within the corporate umbrella.
- CDCC's Steering Committee is the key decision-making and governing authority. The CDCC Steering Committee 'reports' to the TMX SMT (Senior Management Team) and is part of the TMX CMT (Crisis Management Team – CDCC's President & Chief Clearing Officer).
- CDCC's Working Committee is the operational team executing portions of the Business Continuity Plan (BCP), ensuring it is accurate and up-to-date. The team is responsible for testing and training, etc.
- TMX-IT acts as support for BCP and is responsible/custodian for the Disaster Recovery Plan (DRP).
- TMX Risk Management acts as the coordinator for BCP and provides support, advice, counsel and information when necessary.

4.2 Definitions

Disaster Recovery Plan (DRP): This is the portion of CDCC's Business Recovery Program that defines the recovery of its most important IT related systems, infrastructure, applications and telecommunications.

4.3 Details – DRP

- CDCC's DRP was instituted with the implementation of its previous clearing application in the 1989-1990 timeframe.
- CDCC maintains mirrored servers for Production and DR. The primary site (Production) is housed in the TMX Group's data center north of Toronto. The backup—DR is housed in a TMX Group Toronto location.
- The Primary Production facility is also redundant with (Master/Slave infrastructure)
- High speed dedicated circuits are maintained between Production—MCC and DR—TCF.
- Client (Clearing Members and CDCC staff) connectivity is managed by the TMX-IT Network team. Switching is transparent to the end users.

4.4 Strategy – DRP

- The overall strategy of CDCC's DRP is that there is a 'Hot' backup site of CDCC's production environment.
- In the case of the loss of the Primary data centre, CDCC's 'Hot' site would become the production site.

4.5 Responsibility – DRP

- The TMX-IT group has responsibility to maintain, support, and update the DRP. CDCC acts as the information provider. TMX-IT acts as the custodian.

4.6 Details – BCP

- CDCC has two independent offices; one in Montréal, and one in Toronto. This is the first level of Business Continuity.
- The Recovery Time Objective (RTO) for CDCC is 2 hours.

4.7 Maintenance/Updates – BCP

- CDCC's Manager BCP/DRP & Regulatory Coordination assumes the responsibility of maintaining the BCP.

4.8 Strategy – BCP

CDCC's business model includes two operational centres. CDCC Corporate Operations has staff in both the Montréal and Toronto offices. In the case of an emergency, CDCC can operate effectively from one centre. If a loss of an office is expected to be prolonged, CDCC has access, immediately to a backup office.

- In Montréal, CDCC has a dedicated facility, outside of the downtown core.
- In Toronto, CDCC has a dedicated facility, outside of the downtown core.
- In addition to the above, CDCC staff have the ability to work remotely through Citrix.

4.9 Activation Process – BCP

CDCC's BCP activation is the responsibility of the CDCC Steering Committee.

4.10 Responsibility – BCP

CDCC has continued responsibility and maintenance for BCP. TMX-IT acts as support and feeds information where necessary.

5. Incidents and Escalations

“Corporate Operations manages issues for the Clearing Members.”

5.1 IT Related

- CDCC has a formal process with regards to the tracking of IT related issues. This process is initiated by an e-mail which creates a ‘Tracking Ticket’ for TMX-IT. The format of the subject line assists TMX-IT with the understanding of the severity of the issue.
- Corporate Operations immediately follows the ticket email with a phone call to TMX-IT representatives on any ‘Severity 1’. A ‘Severity 1’ (system or link down) will result in the ‘Service Interruption Process’ being initiated.
- On ‘Severity 1’ issues, Corporate Operations issue statuses to the Clearing Members at approximately 30 minute intervals.

5.2 Business Related

- In the majority of queries made to Corporate Operations, an answer is provided to Clearing Members directly on the call. On all other issues where further investigation is required, Corporate Operations will keep the Clearing Members informed of the status of their request as soon as an update is received, or at the latest by the end of the day.
- CDCC has a tracking application for non-IT related issues.
- Escalation – in the case of emergencies (e.g., Clearing Member back office down), the Clearing Members can escalate to the Coordinator, Operations, or the Director, Corporate Operations.
- Processes are in place to escalate settlement issues to management if required.

What is a Severity 1 Issue?

A Severity 1 is the most serious of issues the service can have. A Sev1 issue is an issue that prevents the Clearing Members from conducting business.

Severity 1 issues include:

- Loss of Link (Connectivity) with CDS
- Disaster Recovery (DR) Situation

What is a Severity 2 Technology Incident?

A Severity 2 is the second most serious of issues the service can have. A Sev2 issue is an issue that severely disrupts a Clearing Member, but does not prevent the Clearing Members from conducting business.

Severity 2 incidents include:

- Multiple incidents of same report

What is a Severity 3 Incident?

Severity 3 are all incidents that do not fall under Severity 1 or Severity 2 as defined above. These issues do not restrict or prevent a Clearing Member from conducting business.

Severity 3 incidents include:

- Incorrect data sort on a report
- Display Errors, e.g., date, etc.

5.3 Technology Incident Management Process

Technology Incident Management is the process that is invoked to deal with technology incidents that are Severity 2 and Severity 3 (issues and problems) but **are not** considered Severity 1 issues.

1. A Clearing Member, CDS, or CDCC Technology Support identifies when a problem occurs and contacts Corporate Operations.
2. Corporate Operations does an assessment of the incident to categorize the severity.
 - Is it a technology issue? Yes/No
 - Does it impact CDS? Yes/No
 - Can the member conduct business? Yes/No
3. Corporate Operations opens a ticket on the incident in the technology ticketing system via sending an email to TMX-IT marked URGENT. They resolve the incident or escalate to 'Level 2 Support' within the TMX-IT group.
4. The ticket is resolved at Level 2 Support or assigned to Level 3 Support.
5. Corporate Operations is provided with regular internal updates and updates the member on the incident as appropriate.

5.4 Severity One (Sev1) Escalation Management

Severity 1 Escalation Management is the CCP process that is invoked to deal with incidents, issues and problems that are considered Severity 1 issues.

1. Members, CDS or internal CDCC department notifies Corporate Operations of a Severity 1 condition.
2. The CDCC Service Interruption Committee is activated by CDCC's President & Chief Clearing Officer or a designated person in collaboration with TMX-IT. The committee consists of the following CDCC management members:
 - President & Chief Clearing Officer
 - Director, Corporate Operations,
 - Vice President, Risk Management & Chief Risk Officer
 - Director, Strategic Initiatives
 - TMX-IT, PMO,
 - TMX Legal Affairs
3. A ticket is opened and categorized as a Severity 1 issue in the TMX-IT ticket system.

4. Corporate Operations notifies CDS Customer Service of the Severity 1 condition if the Severity 1 does not involve CDS. If the Severity 1 involves CDS then CDS Severity 1 Team is activated via CDS Customer Service and a ticket is opened.
5. Corporate Operations coordinates the internal CDCC departments' efforts and CDS Customer Service coordinates the internal CDS departments' efforts and reports back to CDCC Corporate Operations.
6. CDCC departments work together to resolve the Severity 1 condition. Corporate Operations remains the centre point for all Severity 1 issues.
7. CDS departments work together to resolve the Severity 1 condition. CDS Customer Service remains the centre point for all Severity 1 items at CDS and in turn communicates with CDCC Corporate Operations.
8. Corporate Operations notifies CDCC TMX Legal Affairs who in turn notify the regulator of the Severity 1 condition.
9. Corporate Operations provides with updates every 15 minutes the CDCC Service Interruption Committee and CDS Customer Service/CDS Service Interruption Committee every 15 minutes on the Sev1 issue from. Corporate Operations provides Severity 1 updates to members approximately every 30 minutes until the situation is resolved. CDS Customer Service is also responsible to provide an update to CDCC Corporate Operations on behalf of the CDS departments involved in the Severity 1 condition.
10. TMX-IT is responsible to collect information related to the Severity 1 situation which will be used for the reporting going to the regulators.
11. Once the Severity 1 condition is resolved, Corporate Operations is advised and communicates with appropriate stakeholders that the situation has been resolved. The Service Interruption Committee(s) are deactivated and the ticket closed.
12. A post Severity 1 issue report is provided to the regulators and CDCC Service Interruption Committee by TMX-IT on the issue, the resolution and steps taken to mitigate the issue from reoccurring in the future.

6. Change Management Process

6.1 CDCC Change Notification Process

As part of its project management processes, CDCC ensures that its Clearing Members are aware of any and all system changes that may have downstream impacts.

Communication to the Clearing Members is managed via the following methods within a project:

- As part of its Users' Group process, CDCC reports to the Clearing Members the status of active projects. An open dialogue is held with regards to potential downstream impacts.
- On major initiatives, Operational Working Groups are formed. In the past, this was done for CDCC's clearing system change and the Symbology change in the Options market.
- Operational Notices are used to formally inform the Clearing Members of upcoming changes.
- Phone contact is used when necessary.

In general, CDCC is committed to avoiding situations that impact downstream impacts such as changes to a Data Service file.

6.2 CDCC/CDS Change Review Meetings – Terms of Reference

This Change Management overview defines the approach used jointly by both CDCC and CDS for Implementing Changes to the Service.

6.2.1 Mandate

As part of CDCC's commitment to its Fixed Income membership, meetings are held with CDS Clearing and Depository Services (CDS) to address issues, plan and to promote an open line of communication.

The CDCC/CDS Fixed Income link meetings are held on a monthly basis. CDCC will provide a facility in Toronto that will be linked to Montréal via video-conference. CDCC will provide a facility for those invitees who wish to attend via conference call.

A quorum of one CDCC and one CDS staff member is required for a meeting to take place.

6.2.2 Meeting Participants

- CDCC – Manager, Business Development
- CDCC – Director, Corporate Operations
- CDS – Director, Director, Application Architecture and Support
- CDS - Senior Account Manager, Business Development
- Others as required by CDCC and/or CDS

6.2.3 Meeting Materials

CDCC will be responsible for issuing a Meeting Package no less than five (5) business days prior to the Meeting. This package will include:

- Minutes from the prior meeting
- CDCC Service level availability – statistics
- CDCC Capacity requirements – statistics
- A report on any New Business being raised by CDCC

6.2.4 Meeting Participant Responsibilities

CDCC participants must:

- Prepare formal pre-meeting package and issue to the participants a minimum of five (5) business days prior to the meeting
- Will arrange the meeting facilities
- Facilitate the meetings at both the Montréal and Toronto locations
- Record minutes during the meeting
- Issue the minutes to the participants within five (5) business days

CDS participants must:

- Inform CDCC of any agenda additions
- Notify CDCC if there are changes for the contact list

6.2.5 Meeting Format

A CDCC staff member will chair the meeting.

The following is the standard agenda:

1. Introductions
2. Review and approval of prior minutes
3. Matters outstanding from prior meetings

4. Service Level/Capacity Management
 - a. Service level availability – present statistics
 - b. Capacity requirements – present statistics
 - c. Discuss any issues resulting from the presented stats.
5. Change Management – that impact the link
 - a. CDCC – identify upcoming changes and timelines
 - b. CDCC – identify any potential for new Instrument Types
 - c. CDS – identify upcoming changes and timelines
 - d. Discuss any issues resulting from the presented changes.
6. Software version/keeping current
7. DR testing commitments
8. Changes upcoming:
 - a. Clearing Members/CUID
 - b. New Products
9. Miscellaneous

6.2.6 Meeting Minutes

The following are the guidelines to be followed for meeting minutes.

1. Minutes for all meetings are to be created by the chair (or designate).
2. Minutes are to be distributed within five (5) business days of the meeting.
3. Minutes are to be approved at the following meeting.
4. All minutes are to be included in the next Pre-meeting package.
5. Approved Minutes will be issued to CDCC Management.
6. Approved Minutes will be issued to the Risk Management Advisory Committee.
7. Approved Minutes will be issued to the Users' Group.

7. Risk Management

Detailed information may be found within the Clearinghouse's formal Risk Manual. The **Risk Manual** is an integral component of the Operations Manual. This document is available on CDCC's web site (www.cdcc.ca), at the following link:

http://www.cdcc.ca/publications_rules_en

The following is a high level overview with regards to CDCC's Risk Management processes.

7.1 Margin Requirements

CDCC requires that every Clearing Member deposit into an account with the Corporation an initial margin to cover the performance of positions held, therefore reducing the risk of a defaulting Clearing Member. CDCC can also issue a margin call requiring a Clearing Member to deposit extra acceptable collateral or securities into his account to bring his margin account up to the maintenance margin. The maintenance margin or variation margin is the minimum amount of collateral that must be kept in the margin account at all times.

7.2 Additional Margin for the Mismatched Settlement Risk

CDCC will apply additional margin to fixed income transactions where Mismatch Settlement Risk, as defined in the Difference Fund section of the Risk Manual, arises.

7.3 Daily Capital Margin Monitoring Calls (DCMM)

CDCC has set up daily capital margin monitoring to evaluate the credit risk of its Clearing Members. Daily tracking of a Clearing Member's margin and capital enable CDCC to determine whether a Clearing Member is in a precarious financial position.

7.4 Clearing Fund Deposits

For added protection against a defaulting Clearing Member, CDCC requires that every Clearing Member contribute to the Clearing Fund. If a Clearing Member defaults, CDCC will liquidate the defaulting Clearing Member's margins and utilize his contributions to the Fund. CDCC will use other Clearing Members' contributions if the defaulting Clearing Member's margins and Clearing Fund deposits are insufficient to cover the loss.

7.5 Approved Collateral

CDCC takes a conservative approach to manage the securities accepted for margin deposits and to calculate haircuts that apply to these assets. Haircuts account for the potential loss of value if CDCC needs to liquidate the securities.

7.6 Default Management

A fundamental objective of a CCP is to guarantee the integrity and continuity of payments and processes even in the event that a Clearing Member defaults on its obligations. CDCC has developed a default process to ensure that efficient mechanisms and processes are in place and are capable of limiting the adverse impacts of such an event.

8. Service Level Commitments & Performance Management

8.1 Corporate Operations

Corporate Operations performs Operational Support for the Clearing Members & the Clearinghouse:

- To ensure that CDCC's commitment to the Clearing Members with regards to timelines, as defined in **Section 2** of the **Operations Manual**, are met.
- Contingencies for report & file deliveries
- 'How to' questions for CDSC
- End User Training
- Access Management
- Configuration – ISINs, CUIDs, Internal Account, CDS Ledger Account etc.

Corporate Operations manage issues for the Clearing Members.

IT Related

- CDCC has a formal process with regards to the tracking of IT related issues. This process is initiated by an e-mail which creates a 'Tracking Ticket' for TMX-IT. The format of the subject line assists the IT are in knowing the severity of the issue. CDCC has a tracking application for non-IT related issues.
- Corporate Operations immediately follows the ticket e-mail with a phone call to TMX-IT representatives on a 'Severity 1'. A 'Severity 1' (system or link down) will result in the 'Service Interruption Process' being initiated.
- On 'Severity 1' issues, Corporate Operations issue statuses to the Clearing Members at approximately 30 minute intervals.

Business Related

- In the majority of queries made to Corporate Operations, an answer is provided to Clearing Members directly on the call. On all other issues where further investigation is required, Corporate Operations will keep the Clearing Members apprised of the status of their request as soon as an update is received, or at the latest by the end of the day.
- Escalation – in the case of emergencies (e.g., Clearing Member back office down), the Clearing Members can escalate to the Coordinator, Operations or the Director, Corporate Operations.
- Processes are in place to escalate settlement issues to management if required.

Corporate Operations manages access to the system for the Clearing Members.

- CDCC's CDCS (Canadian Derivatives Clearing Service) is a tiered application with connectivity across a number of enterprise servers.
- Corporate Operations arranges access to CDCS on behalf of the Clearing Members.
- Corporate Operations is responsible for reconciling access to CDCS within its Internal Audit process.
- Clearing Members must designate Clearing Member Security Officers for requesting CDCS access.

8.2 Access Management

Potential new Clearing Members work with the Director, Corporate Operations to apply for Membership.

The Director, Corporate Operations directs the applicant with regards to the application process and manages the process within CDCC.

8.3 Canadian Derivatives Clearing Service (CDCS) Access

New employee – Clearing Members must complete a form. This form is available on the CDCC Extranet. The form is to be completed, scanned, and e-mailed to cdcc-ops@cdcc.ca. CDCC management will create the access and inform the Clearing Member via e-mail when the IDs are available. This access will be completed within two (2) business days (urgent requests can be done within one (1) to two (2) hours).

Password reset – Clearing Members must complete a form. This form is available on the CDCC Extranet. The form is to be completed, scanned, and e-mailed to cdcc-ops@cdcc.ca. Corporate Operations typically addresses this within 15 minutes. If the Clearing Member requests a reset without a form, Corporate Operations staff will supply the link to the form to expedite this task.

FTP/SFTP Access – Clearing Members must complete the request for FTP / SFTP access. Clearing Members can choose which method is to be done. The form is to be completed, scanned, and e-mailed to cdcc-ops@cdcc.ca. Senior Representatives from Corporate Operations will work with the Clearing Members and the TMX-IT area to arrange the access.

Corporate Operations monitors and supports the settlement process for the Clearing Members.

Corporate Operations will be pro-actively, and on an on-going basis, be monitoring the settlement process in the CDCS screens to work with the Clearing Members to avoid the possibility of 'gridlock'. More specifically:

CDCC will reach out when requested by a Clearing Member to address issues with regards to a settlement daisy chain.

| Situation | Action |
|--|---|
| CDCC is pending to receive (Intra-Day). | Corporate Operations will contact the deliverer to inquire on the situation and expected delivery time. |
| CDCC is pending to receive (End-of-Day). | The failed NSP (net settlement position) will be rolled to the next business day. |
| CDCC is pending to deliver and has ledger position (Intra-Day). | |
| Level 1: When a Clearing Member is not buying bonds from CDCC due to lack of funds/ACV on their part. | Contact Clearing Member Operations. |
| Level 2: When a Clearing Member is not buying bonds from CDCC due to lack of funds/ACV on their part AND CDCC's Line of Credit within CDSX is fully used as a result of this situation. | Notify CDCC Management, Contact Clearing Member Operation Management. |
| Level 3: Intervention by CDCC Management from the Level 2 condition has not brought the expected result and/or it is approaching 3:00 p.m. | Notify CDCC Management and Board and/or Contact Clearing Member Executive Management and/or Contact Problem Management Group. |
| CDCC is pending to deliver and has ledger position (End-of-Day). Clearing Member will be considered in 'Non-Conforming' status (Ref CDCC Rule A-806 subsection 2 published in Omnibus II). | Leveraging from Level 3 intervention, notify CDCC Management, Contact Clearing Member Executive management to inform as well as Clearing Member's Operations management to initiate the exception process to settle the funds in LVTS and security in CDSX (Renew). |
| | Upon CDCC receiving the LVTS funds transfer, the Clearing Member is no longer considered to be "non-conforming" (Ref CDCC Rule A-1A04 subsection 6). Otherwise, the situation may be escalated. |

Corporate Operations monitors and supports the settlement process for the Clearing Members: Net Payment Against Delivery Requirement Management (Point In Time Settlement Obligation).

CDCC has an automated process to generate the calculation of the Net Payment Against Delivery Requirement and issue reports (FTP/SFTP).

10:15 a.m.: CDCC has an automated process to monitor the Clearing Members' PIT Settlement Obligation. Part of this process is to generate a report. Clearing Members with a Payment Obligation greater than 0 will be contacted by phone and will be e-mailed a copy of the report.

10:30 a.m.: CDCC has an automated process to monitor the Clearing Members' PIT Settlement Obligation. Part of this process is to generate a second version of the report. If a Clearing Member has not met their Net Payment Against Delivery Requirement, he is heading towards 'Non-conforming' status. The Clearing Member's operation management will be contacted as well as CDCC Management.

11:00 a.m.: If a Clearing Member has unfulfilled requirements, he is in a 'Non-conforming' status. The Clearing Member Executive management, CDCC's Management & Board will be contacted. The Problem Management Group will be advised. The situation may be escalated if not resolved promptly.

CDCC's Line of Credit usage in CDSX (\$600,000,000)

As described previously, CDCC will actively monitor settlements and will be pro-actively initiating actions to resolve pending transactions that are using CDCC's line of credit.

CDCC will have confirmation in SOLA when its Line of Credit is fully used by observing trades where CDCC is the buyer and the pending reason code is for buyer's insufficient funds. As well, CDCC can monitor its Line of Credit usage via its CDSX 3270 terminal access (green screen).

CDCC Aggregate Collateral Value (ACV) in CDSX

CDCC has on deposit \$15,000,000 of Government of Canada bonds in CDSX solely for ACV purpose.

CDS risk model haircuts for Government of Canada securities vary from 0.5% (less than 1 year to maturity) to 3% (over 10 years to maturity). By having \$15,000,000 of Government of Canada bonds, this would provide CDCC sufficient ACV to simultaneously settle anywhere between \$333,000,000 and \$2,000,000,000 worth of buys.

Since all transactions are split in \$50,000,000 lots within CDSX and that transactions are assessed individually by the CDSX risk model, CDCC believes it will have more than sufficient ACV within CDSX.

Should the case arise where CDCC is pending to buy because of insufficient collateral, CDCC Corporate Operations would be aware by the settlement monitoring processes.

Corporate Operations monitors and supports CDCS for the Clearing Members.

Exception Processing

CDCC has automated processes to monitor and inform Corporate Operations of any issues within the following 'Exception Processing' areas:

- MQ Series Messaging Monitoring
- Exception processing (CDSX rejections, unexpected new trade notification from CDSX, etc.)
- CDCS – CDSX – Reconciliation

Incidents in these areas are considered to be unlikely to occur, however if they do they would initially be considered to be a Severity 1 problem. It should be noted that upon initial investigation that an incident could have its severity changed (i.e. *MQ Series delay could be due to high volume at CDS*).

As with all Severity 1 technology issues:

- CDCC Management would be immediately informed.
- Clearing Members would be immediately informed.
- CDCC's Regulators would be informed.
- Clearing Members would receive updates at approximately 30 minute intervals until the issue is resolved.

The Corporate Operations team is responsible for the Operational Support for the clearinghouse. This involves the overseeing of CDCS as well as:

Margining

CDCC runs two Intra-day margin cycles per day. Corporate Operations ensure that the function starts on time and completes as expected.

Internal Account Structure

Corporate Operations will configure the system with the Clearing Members' Internal Account structure.

Security (ISIN) Set-up

Corporate Operations, with Risk Management support, configure the securities for Fixed Income Products.

System Configuration

- Corporate Operations performs all system configuration – examples are:
- User IDs
- Holiday Schedule
- Products

Training

Corporate Operations will work with the Clearing Members to train new staff.

8.4 Daily Schedule

This is an extract of **Section 2 of the Operations Manual**. The regular business hours of CDCC are 7:00 a.m. to 5:30 p.m. on every Business Day.

| On Every Business Day | |
|--|---------------------|
| Activity | Deadlines |
| Settlement Time with respect to payments for overnight settlement | 7:45 a.m. |
| Fixed Income Transactions – Morning Netting Cycle Timeframe in respect of any Pending Payment Against Delivery Requirements (Morning Net Payment Against Delivery Requirements sent to CDS for settlement during the Morning Net DVP Settlement Timeframe) | 10:00 to 10:15 a.m. |
| Morning Net DVP Settlement Timeframe | 10:15 to 10:30 a.m. |
| Morning Intra-Day margin call | 10:30 a.m. |
| Afternoon Intra-day margin call | 12:45 p.m. |
| Specific Deposits (same day withdrawal) | 12:45 p.m. |
| Fixed Income Transactions – Afternoon Netting Cycle Timeframe in respect of any Pending Settlement Requirements (Afternoon Net DVP Settlement Requirements sent to CDS for settlement by End of Day DVP Settlement Time) | 2:00 to 2:15 p.m. |
| Cash Deposits (Margin Deposits) – under \$10,000,000 (same day deposit) | 2:45 p.m. |
| Cash Deposits (Margin Deposits) – of and over \$10,000,000 (2 Business Days notice) | 2:45 p.m. |
| Cash withdrawal requests – under \$10,000,000 (same day withdrawal) | 2:45 p.m. |

| On Every Business Day | |
|---|------------------|
| Activity | Deadlines |
| Cash withdrawal requests – of and over \$10,000,000 (2 Business Days notice) | 2:45 p.m. |
| Fixed Income Transactions – (Same Day Transactions) – Submission Cut-Off Time | 3:30 p.m. |
| All assets deposits other than cash (Margin Deposits) | 3:30 p.m. |
| All assets withdrawal requests other than cash (Margin Deposit) for same day withdrawal | 3:30 p.m. |
| All assets substitution requests other than cash (Margin Deposit) for same day substitution | 3:30 p.m. |
| Specific Deposits (overnight valuation) | 3:30 p.m. |
| End of Day DVP Settlement Time | 4:00 p.m. |
| OTCI (other than Fixed Income Transactions) – Unmatched entry | 4:00 p.m. |
| Position Transfers | 5:25 p.m. |
| Same Day and T+1 Trade corrections | 5:30 p.m. |
| Open Position changes | 5:30 p.m. |
| Fixed Income Transactions and Futures contracts on Acceptable Securities Forward Settlement Transactions) – Netting Cut Off Time (Netted settlement instructions (Net Delivery Requirements and Net Payment Against Delivery Requirements) sent to CDS for settlement on the next business day) | 5:30 p.m. |

8.5 Service Delivery Targets

1. How long will it take for an ISIN addition?

If the request is with regards to a collateral pledge, this typically takes from 15 to 30 minutes if the collateral meets the Clearinghouse's criteria. If the request is related to trading, upon acceptance for Clearing, a batch run is required to allow the distribution of the Eligibility Files to CDS and the Clearing Members.

2. When will reports be available on FTP/SFTP server?

By 7:00 p.m. Eastern Time from Monday to Thursday. It must be noted that on Weekly Options Expiration Friday reports are available by 8:00 p.m. Eastern. On the third Friday of the month, part of CDCC's batch runs until 11:00 p.m. approximately. The MA01 and MS01 reports will not be generated before midnight.

3. When will Tag Log Files be available on FTP/SFTP server?

By 7:00 p.m. Eastern Time from Monday to Thursday. It must be noted that on Weekly Options Expiration Friday tag logs are available by 8:00 p.m. Eastern. On the third Friday of the month, part of CDCC's batch runs on until 11:00 p.m. approximately. The tag logs for the MA01 and MS01 reports will not be generated before midnight.

4. When will Vendors' Data Service Files be available on FTP/SFTP server?

By 7:00 p.m. Eastern Time.

5. When will DK Settlement Instructions be transmitted to CDSX?

Before 7:00 p.m. Eastern Time

6. When will Next Day (for Batch Net Settlement) Settlement Instructions be transmitted to CDSX?

Before 7:00 p.m. Eastern Time.

7. How quickly can we obtain new CDCS User Profiles?

Clearing Members' Security Officers must complete a form. This form is available on the CDCC Extranet. The form is to be completed and scanned and e-mailed to cdcc-ops@cdcc.ca. CDCC management will create the access and inform the Clearing Member via e-mail when the IDs are available. This access will be completed within two (2) business days.

8. When is Corporate Operations staff available?

From 7:00 a.m. to 5:30 p.m. Eastern Time.

9. What is CDCC's Disaster Recovery Plan's RTO (recovery time objective)?

It is two (2) hours. This is documented within CDCC's Internal Audit program (CSAE 3416). CDCC's systems are mirrored and replicated. CDCC's physical data centres are in different cities.

10. How quickly are user queries turned around?

Phone - immediately.

E-mail - within 15 minutes.

11. How quickly does CDCC inform the Clearing Members of Severity 1 Issues?

CDCC will notify the Clearing Members within 30 minutes of an occurrence. CDCC will give status updates at approximately 30 minute intervals until the issue is closed.

12. Does CDCC have a commitment to meet its daily schedule?

CDCC's Operations Manual is considered an extension of its Rules. CDCC has an obligation to follow its Rules at all times. If a situation arises that a schedule is not met, CDCC has processes to address issues; including taking corrective action. In the case of Severity 1 issues, CDCC informs its Regulators of the issue as it occurs and must formally submit a report to the Regulator.

13. Does CDCC monitor system performance?

CDCC Management receives a "Dashboard" from TMX-IT on a monthly basis. This dashboard monitors response time as well as transaction loads, peaks etc.

9. Governance Framework

9.1 Canadian Derivatives Clearing Corporation

The following is a high level overview of the functioning and governance for CDCC and its services:

- CDCC is a wholly owned subsidiary of the Montréal Exchange Inc.
- CDCC's lead regulator is the Autorité des marchés financiers (AMF). CDCC is also regulated by the Ontario Securities Commission (OSC) and the British Columbia Securities Commission (BCSC). CDCC's systems CDCCS is designated as systemically important and as such CDCC is also regulated by the Bank of Canada.
- CDCC's Board of Directors consists of nine individuals of which two are independent and two are from the industry.
- CDCC has a Risk and Audit Committee which reports to the Board of Directors.
- CDCC has a Governance Committee which reports to the Board of Directors.
- Risk Management is supported by a Risk Management Advisory Committee (RMAC). This committee is comprised of CDCC Risk Management staff and Clearing Member representatives with experience within risk management, with observers from the AMF, Bank of Canada, MX Regulatory Division and the Montréal Exchange. Minutes from this Committee are formally submitted to CDCC's Board of Directors.
- Corporate Operations holds quarterly Users' Group meetings. There are two Users' Groups: one for Fixed Income Products and one for Exchange Traded Products. These meetings are intended as a two-way communication tool for the Clearinghouse and the Clearing Members. The minutes from these meetings are formally submitted to CDCC's Board of Directors.
- CDCC has a formal Internal Audit program. This is the CSAE3416. The annual and interim reports are presented to the Board of Directors and the Regulators.

9.2 CDCC/CDS Change Process

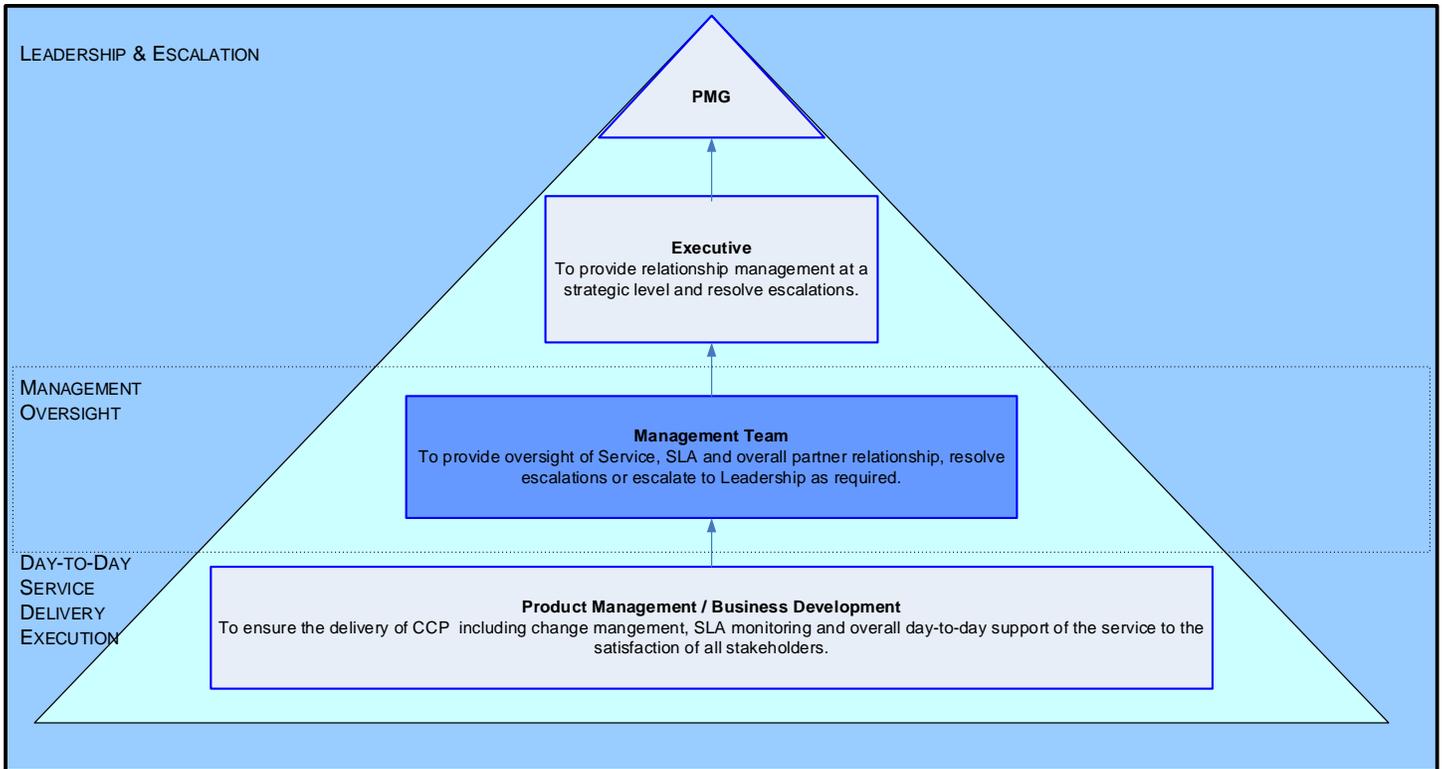
As part of CDCC's commitment to its Fixed Income membership, meetings are held with Clearing and Depository Services (CDS) to address issues, plan and to promote an open line of communication. To address governance, the following will occur:

- All meeting information is posted on the CDCC Extranet.
- Approved Minutes will be issued to:
 - CDCC Management
 - Risk Management Advisory Committee
 - Users' Group

9.3 CDCC/CDS Day to Day Process

CDCC Product Development and CDS Product Management shall oversee the day-to-day governance of the service. Issues related to the MOU or the partnership of the two organizations shall be escalated to the executive management teams within each organization for resolution as required. Should the issue not be resolved at the management oversight level

to the satisfaction of each party the item shall be escalated to the President of each organization for final resolution.



PMG – Program Management Group

The PMG is activated when a Severity 1 incident has ramifications on other industry cut-off times or when a Clearing Member has become non-conforming.

10. Margin Processing

Detailed information with regards to CDCC's Margin Processing may be found within the Clearinghouse's formal **Risk Manual**. The **Risk Manual** is an integral component of the **Operations Manual**. This document is available on CDCC's web site (www.cdcc.ca) at the following link:

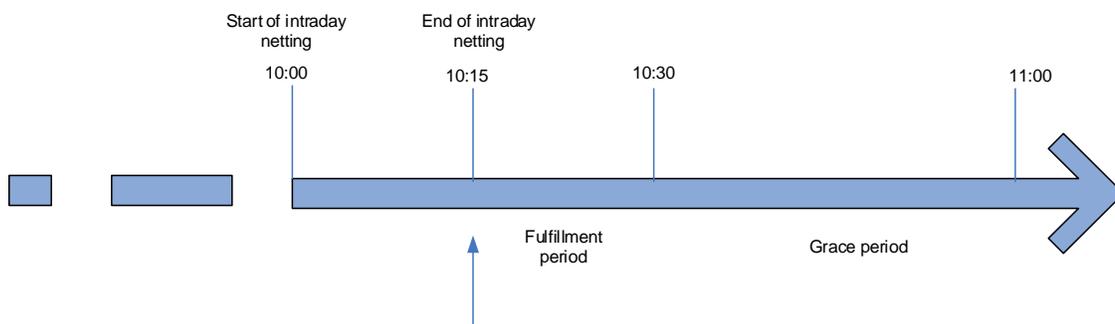
http://www.cdcc.ca/publications_rules_en

CDCC has three margining cycles:

- Intra-Day margining is run at:
 - 10:30 a.m. (Morning)
 - 12:45 p.m. (Afternoon)
- Overnight margin processing commences at approximately 5:30 p.m.

11. Point-in-Time Processing

11.1 Net Payment against Delivery Requirement Management (PIT Settlement Obligation)



11.2 Net Payment Obligation Calculation

| |
|--|
| Morning Net Payment against Delivery Requirement Calculation |
| Lesser of A: CDCC's Line of credit in CDSX (\$600,000,000) or B: Sum of buys that were submitted as part of intraday netting that are pending due to participant's lack of funds and/or collateral |
| Requirement Fulfillment Calculation |
| Sum of 1- Sum of settled buys during the fulfillment period (and grace period if applicable) and 2- Sum of the net amounts for all CDS Settlement instructions identified in the calculation of 'B' here above where the status is still pending, but the PendingPartyAtFault is changed to 'Sell' |
| Afternoon Payment Against Delivery Requirement Calculation |
| Sum of buys that failed due to participant's lack of funds and/or collateral |

“Corporate Operations monitors and supports the settlement process for the Clearing Members.”

CDCC has an automated process to generate the calculation of the Net Payment Against Delivery Requirement and issue reports.

10:15 a.m.: This automated process monitors the Clearing Members' PIT Settlement Obligation. Part of this process is to generate a report. Clearing Members with a Payment Obligation greater than 0 will be contacted by phone and will be e-mailed a copy of the report.

10:30 a.m.: Part of this automated process is to also to generate a second version of the report. If a Clearing Member has not met their Net Payment Against Delivery Requirement, he is heading towards 'Non-conforming' status. The Clearing Member's operation management will be contacted as well as CDCC Management.

11:00 a.m.: If a Clearing Member has unfulfilled requirements, he is in a 'Non-conforming' status. The Clearing Member Executive management, CDCC's Management & Board will be contacted. The Problem Management Group will be advised. The situation may be escalated if not resolved promptly.



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