

OSLO CLEARING ASA  
CASH EQUITY CCP  
TEST PLAN

Version 1.2  
2009-02-01

## Cash Equity CCP – Test plan End to End testing

### Content

1	Introduction.....	3
2	Registration .....	3
2.1	Type of membership.....	3
2.1.1	Non clearing members (NCMs) .....	3
2.1.2	Clearing members (GCMs and DCMs) .....	3
2.2	Registration form.....	3
3	Oslo Clearing market wide tests .....	4
3.1	Test content.....	4
3.2	Mandatory testing.....	4
3.3	Error handling .....	4
4	Oslo Clearing free testing .....	4
5	Time schedule and access to test environments.....	5
5.1	System access and opening hours.....	5
5.2	Time schedule .....	5
6	CCP Connectivity .....	7
6.1	Preconditions for test .....	7
7	Oslo Clearing’s membership in VPS.....	7
8	Contact information .....	7
9	Other related documents .....	8

## 1 Introduction

This test plan gives an overview of End to End test activities that will commence before the launch of CCP in the Norwegian market. The purpose of the End to End test is to validate the flow from order entry until trades have been settled in the CSD-system.

## 2 Registration

### 2.1 Type of membership

All participants at Oslo Stock Exchange have to decide whether they would like to operate as general clearing member (GCM), direct clearing member (DCM) or non clearing member (NCM). Oslo Clearing would like to have bilateral meetings with all future members. For Exchange members that have not decided their future clearing role yet, please do not hesitate to contact Oslo Clearing. See contact details below.

#### *2.1.1 Non clearing members (NCMs)*

All participants at Oslo Stock Exchange that will act as NCMs are responsible to make an agreement with a GCM. We kindly ask all future NCMs to send an e-mail to Oslo Clearing informing us that you will act as a NCM and – if possible – send information of which GCM that is chosen. Thus, it will be possible to follow up GCMs if information is missing.

#### *2.1.2 Clearing members (GCMs and DCMs)*

All clearing members will need to complete/return the following form:

- CCP registration form (see more details below)

GCMs are responsible for providing Oslo Clearing with one registration form for each NCM they represent.

### 2.2 Registration Form

Enclosed you will find a registration form for Oslo Clearing CCP.

Please note the following dependencies to adjacent systems:

1. VPS registration number must be identical to identities given by VPS (5 digits)
2. Exchange trade id must be identical to identities given by Oslo Stock Exchange.

Please complete and return the form by e-mail to: [ccp@osloclearing.no](mailto:ccp@osloclearing.no). In order to prepare for setup (incl. new MQ-queues), we encourage all members to return the registration form as soon as possible and no later than three weeks before the test commence.

### **3 Oslo Clearing market wide tests**

#### **3.1 Test content**

Two market wide test periods will be offered (see schedule below). A set of test cases will be available before the market wide tests commence. The test cases are covering the following issues:

- Cancellation of Exchange trade
- Mix of Exchange Trades and OTC trades
- Situation where the member hit themselves in the market
- Trading in Non-CCP instrument
- Clean nets
- All types of strange nets
- Partial settlement
- Loan / return of loan (pool loan)
- Failed/deferred settlement

The test cases are regarded as a minimum test. All members are encouraged to make their own test cases adapted to their trading- and settlement patterns. If extended support is needed (e.g. issuing balances of securities on pre defined VPS accounts), such input must be sent Oslo Clearing at least two weeks in advance.

#### **3.2 Mandatory testing**

All clearing members and non-clearing members acting as settlement members will need to complete the following activities:

- Participate in at least one of the two market wide tests.
- Complete/return a separate statement that a market wide test have been completed without serious errors and that the member is ready for going into production (statement will be provided at a later stage)

#### **3.3 Error handling**

If errors occur during the CCP test course, errors can be reported either by telephone according to contact details below, or by mail to Oslo Clearing. If an error is not solvable by telephone, we will request an error message by e-mail. All written error messages must be reported according to the enclosed error message template.

### **4 Oslo Clearing free testing**

In order to plan for support during the free testing periods all tests must be agreed upon before testing takes place. Please send your request by e-mail to Oslo Clearing two weeks in advance.

## 5 Time schedule and access to test environments

### 5.1 System access and opening hours

The following test environments are available for End-to-End testing:

Part	Name of test environment	Time table
Stock Exchange	TradElect, CDS test Environment, Segment OBXC and OBXM	09:00 Opening auction 14:20 End of continuous trading 14:25 Closing call
CCP	CCP Demo	09:00 Opened 15:00 Netting transactions sent to VPS
CSD	VPS Demo	07:00 1 <sup>st</sup> settlement cycle 08.00 Opened 13:00 2 <sup>nd</sup> settlement cycle 18:00 Closed

### 5.2 Time schedule

Time Schedule																																		
Periods	3		4		5		6		7		8		9		10		11		12		13		14		15		16		17		18		19	
Week number	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19																	
From	18.jan	25.jan	01.feb	08.feb	15.feb	22.feb	01.mar	08.mar	15.mar	22.mar	29.mar	05.apr	12.apr	19.apr	26.apr	03.mai	10.mai																	
to	22.jan	29.jan	05.feb	12.feb	19.feb	26.feb	05.mar	12.mar	19.mar	26.mar	02.apr	09.apr	16.apr	23.apr	30.apr	07.mai	14.mai																	
<b>Test environments</b>																																		
TradElect	TradElect CDS-system availability												Limited support																					
VPS Demo	VPS Demo environment availability																																	
CCP member test	CCP member test environment availability										NOT AVAIL						NOT AVAILABLE																	
<b>Test periods</b>																																		
End-to-end tests	End-to-End Free testing		End-to-End Free testing BY AGREEMENT		Market wide test 1 03-12 mar		End-to-End Free testing						End-to-End Free testing BY AGREEMENT		Market wide test 2 19-30 apr																			
<b>Production</b>																																		
													Prod TradElect						Prod CCP															
													12.apr						12.mai															

**From now on -->**

- We request all members to complete and return the registration form as soon as possible. For participation in the first market wide test, members are requested to return the form by February 8 2010.
- In order to be prepared for testing, all members are encouraged to verify that interfaces are working as expected.

**Jan 25 – Feb 5**

- First End-to-End free test period. All members have the possibility to test their systems before the first market wide test takes place. Please notify participation to Oslo Clearing.

**Feb 8 – Feb 26**

- For members that have not completed their pre testing, we will to some extent be able to support further testing in this period. However, the possibility of giving support will be reduced. All testing in this period must be agreed upon before testing takes place.

**Mar 1 – Mar 2**

- Final possibility for early end-to-end testing before the first market wide test takes place

**Mar 3 – Mar 12**

- First market wide test. Test cases provided by Oslo Clearing are scheduled to last from Mar 3 to Mar 10. All members joining the market wide test are required to send a notification to Oslo Clearing.

**Mar 15 – Mar 26**

- Free testing period. Please notify participation on Oslo Clearing.

**Mar 29 – Apr 5**

- The system is closed due to Easter vacation.

**Apr 6 – Apr 16**

- For members that have not completed their pre testing, we will to some extent be able to support further testing in this period. However, the possibility of giving support will be reduced, especially when it comes to TradElect issues. All testing in this period must be agreed upon before testing takes place.
- **This is the last opportunity to verify system setup before the final market wide test!**

**Apr 19 – Apr 30**

- Final market wide test. Test cases provided by Oslo Clearing are scheduled to last from Apr 19 to Apr 26. All members joining the market wide test are required to send a notification to Oslo Clearing, [ccp@osloclearing.no](mailto:ccp@osloclearing.no)

## 6 CCP Connectivity

In order to receive MT-messages from Oslo Clearing CCP, each member must decide whether they would have it distributed through SWIFT-net or through a separate MQ-queue. Setup issues are included in the form "CCP Registration Form". Available MT-messages from Oslo Clearing CCP are:

- MT503 - Collateral Claim
- MT506 - Collateral and Exposure Statement
- MT518 - Market Side Securities Trade Confirmation
- MT536 - Statement of Transaction (EOD Gross Transaction (MT518))
- MT536 - Statement of Transaction (EOD Settled Transactions)
- MT537 - Settlement of Pending Transactions (EOD Net Transactions)
- MT537 - Settlement of Pending Transactions (EOD Open Positions)

### 6.1 Preconditions for test

- Members must verify that connectivity to test environments specified in chapter 5.1 are up and running.

## 7 Oslo Clearing's membership in VPS

For loan purposes, Oslo Clearing is today using VPS registration number 45010. In order to separate funds derived from loan issues with funds derived from CCP-transactions, there will be a separate VPS registration number for CCP-transactions. Therefore, all members are requested to send their CCP-transactions using VPS registration number 45012.

## 8 Contact information

For further information, see the following contact list:

Organization	Responsibility	Name	Tel. number
Oslo Clearing		e-mail address	ccp@osloclearing.no
Oslo Clearing		web	www.osloclearing.no
Oslo Clearing	General information, Bilateral meetings, Registration Form CCP, and Test preparations	Cathrine Asheim Lars Erik Jensen Sara Lillefloth Per Øyvind Frogner	+47 23179620 +47 23179618 +47 23179619 +47 23179612
Oslo Clearing	Test cases	Stian Samuelsen Per Øyvind Frogner	+47 23179604 +47 23179612
Oslo Clearing	Error handling during tests	Stian Samuelsen Gunnhild Trengereid	+47 23179604 +47 23179607
VPS	Error handling during tests	May Chu Eva Brobakken May Rostrup	+47 22635315 +47 22635258 +47 22635379
Oslo Stock Exchange	Exchange issues	Technical Support	+47 22341818

## **9 Other related documents**

1. Registration form
2. Test Cases
3. Error message template

The related documents are available at:

[http://www.oslobors.no/ob\\_eng/Oslo-Boers/Trade/Delta/CCP-for-equities/Technical-documentation](http://www.oslobors.no/ob_eng/Oslo-Boers/Trade/Delta/CCP-for-equities/Technical-documentation)

<http://www.oslobors.no/Oslo-Boers/Handel/Delta/CCP-for-aksjer/Systemteknisk-info>