I-SEM CCQT
Testing Scripts

EirGrid plc
The Oval, 160 Shelbourne Road,
Ballsbridge, Dublin 4
Ireland

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Document Version History

Version	Date	Author	Description of changes
1.0	17/07/2017	I-SEM Programme	Initial Release of I-SEM Market Participant CCQT Guide. **Cross-Reference**: I-SEM Technical Specification 7F
2.0	06/09/2017		Update to section 4.4 Certificate Request and Installation details
3.0	06/10/2017	I-SEM Programme	Updated to reflect the revised Capacity Market CCQT testing period and Capacity Market technical environment access details.
3.1	26/05/2022		Updated to reflect usage of Microsoft Edge in IE11 Mode.

Table 1: CCQT Approach Document, Version History

1   Introduction

1.1 Overview of I-SEM

The Integrated Single Electricity Market (I-SEM) is a new wholesale electricity market arrangement for Ireland and Northern Ireland.

The new market arrangements are designed to integrate the all-island electricity market with European electricity markets, enabling the free flow of energy across borders, which, according to the SEM Committee, is expected to "deliver increased levels of competition which should help put a downward pressure on prices as well as encouraging greater levels of security and transparency". In addition to integration with Europe, some of the key considerations in the design of the I-SEM included how energy is bought and sold; how generators are remunerated for availability; forward trading arrangements and market liquidity; market power controls; and the systems, policies and procedures that are required to operate the market.

The increased complexity of the new market arrangements presents participants with many challenges, but it also offers participants many new opportunities. Broadly, the I-SEM arrangements are intended to:

- Enable broader participation in energy markets
- Increase the opportunities for participants to trade in different time frames
- Provide participant with a variety of arbitrage and hedging opportunities
- Maximise the efficient use of the interconnectors in system balancing
- Introduce cost drivers for system balancing
- Integrate balancing and system security actions with market operations

1.2 Purpose of this document

The Communication Channel Qualification Testing (CCQT) Participant Guide is intended to provide Market Participants with a detailed overview of the CCQT phase for the I-SEM go-live. The CCQT Guide defines the timeframe of CCQT, preparation and execution process, reporting guidelines, and supporting information. This document will be used by the Market Participants throughout the CCQT phase.

Specifically, the purpose of this document is to:
1. Outline the scope of CCQT for Market Participants and provide an overview of the key testing dates.
2. Summarise the process and support model for CCQT preparation, execution and close out.
3. Outline enough information to allow Market Participants to prepare for and execute CCQT
4. Define the evaluation criteria and reporting of results used for CCQT.

1.3 Structure of this document

This document is organised as follows:

ID	Section Name	Description
1.0	Introduction	This section provides an overview of the I-SEM programme, the purpose of the guide, and the structure of this document.
2.0	CCQT Scope and Timeline	This section provides a summary of the purpose of CCQT, the scope of testing to be completed during CCQT, and context on the CCQT timelines within the wider I-SEM delivery schedule.
3.0	CCQT Process	This section outlines the detailed CCQT process, which will help Market Participants to understand the various actions that will be conducted through the preparation, execution and close out phases of CCQT. This includes an overview of the touchpoints between the Market Participants and the Market Operator, which will ensure the smooth running of the CCQT phase. Additional information regarding the I-SEM CSS Team support model is also provided in this section.
4.0	CCQT Handbook	The CCQT Handbook section provides the necessary details for participants in order to complete CCQT. The Handbook includes a subsection for each area (Balancing Market, Capacity Market and SEMOpx) detailing: • How the Market Participant will access the systems • Detailed scripts to be executed • The evidence packet to be provided to the I-SEM CSS Team following the completion of testing • The evaluation criteria used by the I-SEM CSS Team to evaluate the CCQT outcome
5.0	CCQT Material	This section confirms the material covered in this document, as well as any other material the Market Participants can expect prior to the beginning of CCQT.
6.0	Appendix A – Sample Email	This appendix provides a sample email template for each of the communication categories detailed in section 3.2.5, CCQT Reporting Guidelines.

Table 2: CCQT Approach Document Structure

2   CCQT Scope and Timeline

2.1 Introduction

CCQT is a mandatory activity for all Market Participants in order to register with and participate in the Balancing Market, Capacity Market, and SEMOpx. The purpose of CCQT is to verify that a Market Participant can successfully access the market systems. CCQT is a key step in the Registration process and is described in the Balancing Market Agreed Procedures, Capacity Market Agreed Procedures, and the SEMOpx Operating Procedures.

2.2 CCQT Scope

CCQT is the process by which the Market Operator verifies that a Market Participant can establish a connection with the Balancing Market, Capacity Market, and SEMOpx. CCQT is conducted separately for the Balancing Market, Capacity Market and SEMOpx, with an individual environment used per market.

To prove successful connection, the Market Participant will run scripts and confirm that they can access and interact with the market systems as outlined below.

For the **Balancing Market (BM)**, this involves:

- Retrieval of Daily Trading Day Exchange Rate report (REPT_010) from the Market Participant Interface (MPI) via Type 2 communication; or
- Submission of Simple Demand or Generator Offer Data (as applicable to the Market Participant) via the MPI for Type 2 communication, followed by a query of the **same** Offer Data submitted via Type 3 communication.

For the **Capacity Market (CM)**, this involves:

- Viewing and downloading the Market Participant Qualification Report from the Capacity Management Platform (CMP), via the CMP application (Type 2).

For **SEMOpx,** this involves:

- Testing connection to the Day-Ahead and Intraday Auction platform, and the Continuous Intraday trading platform as outlined below:

  Type 2 communication:

  - **Day-Ahead and Intraday Auction Platform: EPEX Trading System (ETS)**
    - Market Participant exports auction bids from the EPEX Trading System (ETS) client
  - **Intraday Continuous Trading Platform: M7 System**
    - Market Participant exports orders from the M7 client

  Type 3 communication:

  - Type 3 communication is not covered by I-SEM CCQT testing. Market Participants who wish to interact with the ETS using the ETS Application Program Interface (API)

for Day-Ahead / Intraday Auctions, or partake in the Intraday Continuous Market using the M7 API, must complete a series of Conformance Tests. These tests are not part of CCQT

2.3 Market Participant CCQT Timeline

The CCQT phase opens on 7 September 2017 for the Balancing Market and SEMOpx and will run until 30 November 2017. For the Capacity Market, Market Participants can conduct CCQT from the 30 October 2017 until the 17 November, with a Mock Capacity Auction taking place on 4 December 2017.

The CCQT timeline is designed to allow Market Participants to undertake CCQT in line with their own I-SEM readiness, within the defined CCQT period. Market Participants may begin and complete the testing at any point throughout this period.

Upon successful completion of the CCQT scripts, the Market Participant will be eligible for participation in Participant Interface Testing (PIT) and can continue with the Registration process. The diagram below shows the timeline for CCQT and PIT, in the context of the I-SEM Go-Live date.

Figure 1: CCQT in I-SEM Context

3 CCQT Process

3.1 CCQT Process Introduction

The CCQT process is designed to facilitate the successful completion of connectivity testing in a flexible and self-directed manner. This process will be conducted using a deliberate and organised approach, of which the high-level view can be seen below:
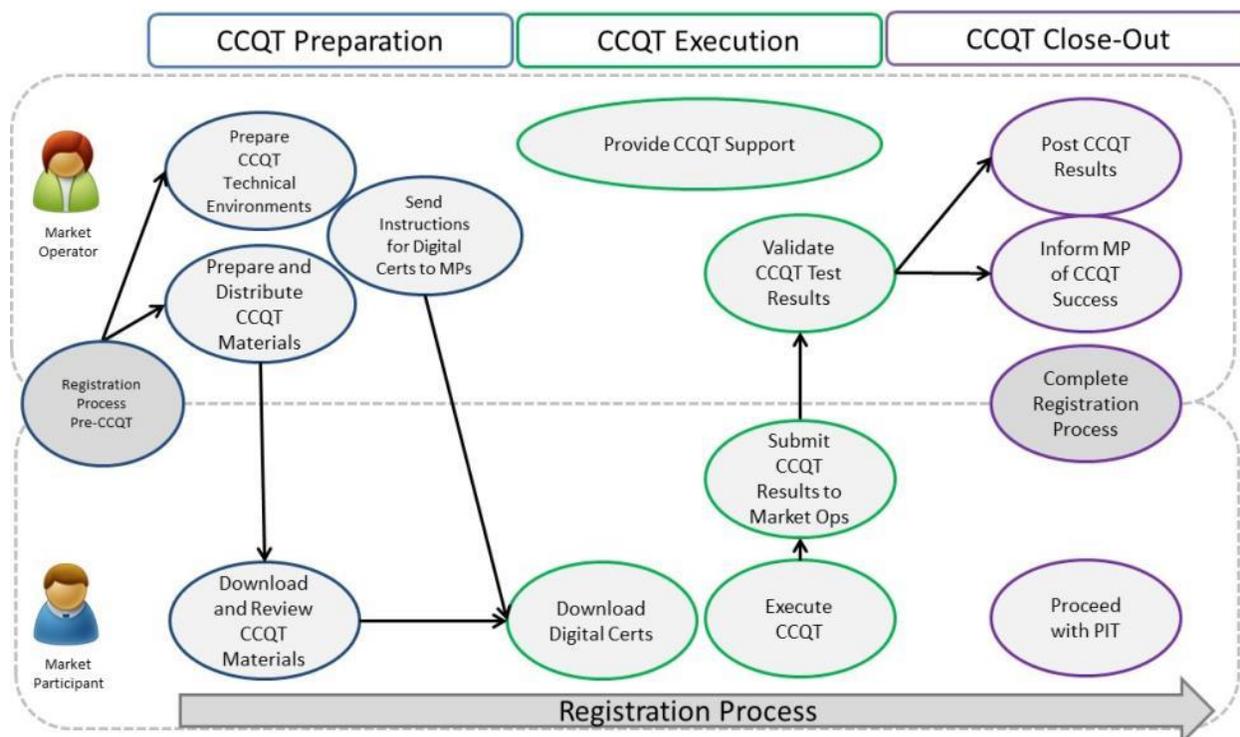

Figure 2: Overview of CCQT Process

Subsequent sections will outline the distinct process steps undertaken by Market Participants across CCQT preparation, execution and completion.

3.2 CCQT Process Overview

3.2.1. CCQT Preparation Phase

In order to qualify for CCQT, Market Participants must first complete the relevant qualifying Registration steps for each of the markets they wish to participate in, details of which can be viewed here. Market Participants will receive a notification when they have successfully progressed through registration in order to participate in CCQT.

For clarity, key dates regarding the registration process are outlined below:

- 16 June 2017: All Balancing Market registration forms to be returned to the I-SEM Programme team for processing.

- 28 July 2017: All Capacity Market registration forms to be returned to the I-SEM Programme team for processing.

- 7 August 2017: All SEMOpx applications to be returned to the I-SEM Programme team for processing.

Further details of the planned dates can be found on the SEMO website.

Upon successful completion of the relevant qualifying registration phase for the Balancing Market and Capacity Market, Market Participants will be issued instructions on how to download a digital certificate for the markets that are applicable to them, and any additional access details they will need to begin CCQT. For SEMOpx, the communication will come from SEMOpx to Market Participants directly.

3.2.2 CCQT Execution Phase

Throughout the CCQT Execution phase, a key principle is flexibility for Market Participants. In this respect, CCQT is planned to be a self-directed activity for Market Participants within the given timeframe. This allows each Market Participant to conduct CCQT within the allotted timeframe according to their own project resourcing preferences.

To ensure that the phase runs smoothly, each Market Participant should notify the I-SEM CSS Team, via the designated mailbox (isemtesting@eirgrid.com), two working days in advance of the day that the Market Participant wishes to execute the CCQT test and the associated market (see section 3.2.5 for reporting guidelines).

3.2.2.1 CCQT Execution Notification

To facilitate convenience and flexibility for Market Participants, testing can be completed during the period from Monday through Thursday, of any week during the CCQT / PIT testing phase. Friday is reserved for environmental maintenance, technical setup, and deployments. I-SEM Programme support will be available 9am – 5pm, Monday to Friday, as outlined in the diagram below:

Figure 3: CCQT Schedule – Weekly Breakdown

Prior to commencement of CCQT, each Market Participant should notify the project of their intended testing dates. Market Participants can inform the I-SEM CSS Team of their planned execution date via the designated mailbox (isemtesting@eirgrid.com), two working days in advance of the planned execution date. Market Participants may cancel/reschedule the notified date of execution at any point within the CCQT phase, by contacting the I-SEM CSS Team with update using the designated mailbox.

3.2.2.2   CCQT Execution

On the day of CCQT execution, a Market Participant should:

1. Connect to the Test environment and execute the CCQT Scripts. The CCQT Scripts for the different markets are outlined in Section 4 of this document.

2. Return validated test results to the I-SEM CSS Team with the successful completion of the test scripts in a single e-mail to the isemtesting@eirgrid.com address. Reporting Guidelines are covered in Section 3.2.5.

Following validation of results, each Market Participant will receive a notification from the I-SEM CSS Team of successful/unsuccessful completion CCQT Testing. On receipt of confirmation of successful testing, Market Participants may commence the PIT phase and continue to complete the registration process.

In the event of an issue whilst executing a CCQT script, the Market Participant can email the I-SEM CSS Team (at isemtesting@eirgrid.com) with a description of the issue and any relevant screen shots of the issue encountered which would aid resolution, using the Reporting Guidelines covered in Section 3.2.5.

3.2.3   CCQT Close-Out Phase

Upon successful completion of CCQT and receipt of a confirmation email from the I-SEM CSS team, Market Participants can:

- continue the registration process.

- continue to the Participant Interface Testing (PIT) phase.

3.2.4 CCQT Support

If any issues are encountered during preparation and/or execution of CCQT, Market Participants can contact the I-SEM CSS team (isemtesting@eirgrid.com) for support.

Any support request will be acknowledged by the I-SEM CSS Team via email within one working day. The I-SEM CSS Team will target resolution of issues within ten working days.

In order to facilitate resolution of support requests, Market Participants are asked to respond to any resolution offered to a query from the CCQT Testing Team within two working days to ensure effective issue resolution and retesting.

3.2.5 CCQT Reporting Guidelines

This section describes the methods by which Market Participants will contact the I-SEM Project throughout the CCQT phase. Table 3 below describes the different types of communications available to Market Participants. Sample emails for each category can be found in Appendix A (section 6) of the CCQT Market Participant Guide.

Category	Explanation	Email Subject Line	Email Subject Line - Example	Sample Email
Query	General CCQT queries not related to script execution	CCQT Query-Participant ID-Participant_Name	*Query-PT_111 - Participant 1*	Section 6.1
Notification	Notification of intent to begin script execution (+2 working days)	CCQT Notification-Participant ID-Participant_Name	*CCQT Notification-PT_111 - Participant 1*	Section 6.2
Issue	Issues with downloading digital cert. for a market, or issues encountered during script execution	CCQT Issue-Participant ID-Participant_Name	*CCQT Issue-PT_111 - Participant 1*	Section 6.3
Evidence	Evidence file to be provided to I-SEM CSS Team following successful test execution	CCQT Evidence-Participant ID-Participant_Name - SCRIPT_ID	*CCQT Evidence-PT_111 -Participant 1 – CCQT_BM_01*	Section 6.4

Table 3: CCQT Reporting Guidelines

4 CCQT Handbook

4.1 Introduction

The CCQT Handbook provides details of how Market Participants will establish a connection with the Balancing Market, Capacity Market and SEMOpx, and the required validation to prove this connection. To achieve this, this section provides an overview of minimum system pre-requisites, market access details (application passwords and Certificates), the required CCQT script to be executed for each area, along with the evaluation criteria to prove that the communication channel was established successfully.

CCQT Handbook Overview:

Market	Area	Section
Balancing Market	• Market Access	• Section 4.4.1
	• Test Environment	• Section 4.4.2
	• Certificate Request and Installation	• Section 4.4.3
	• BM scripts	• Section 4.4.4
	• BM Evaluation material	• Section 4.4.5
Capacity Market	• Market Access	• Section 4.5.1
	• Test Environment	• Section 4.5.2
	• Certificate Request and Installation	• Section 4.5.3
	• CM scripts	• Section 4.5.4
	• CM Evaluation material	• Section 4.5.5
SEMOpx	• Market Access	• Section 4.6.1
	• Test Environment	• Section 4.6.2
	• Certificate Request and Installation	• Section 4.6.3
	• SEMOpx scripts	• Section 4.6.4
	• SEMOpx Evaluation material	• Section 4.6.5

Table 4: CCQT Checklist and Quick Links

Please Note 1: Each Market Participant may register multiple users for Balancing Market system access; however CCQT is only required for each Market Participant once. It is at the Market Participant's discretion as to which user is to conduct CCQT for the Market Participant. This is for the purpose of CCQT & PIT testing **only.**

Please Note 2: A single technical environment (Production) is to be used by Market Participants for CCQT/PIT, Mock Auction and Live Auction for the Capacity Market.

4.2 Minimum System Pre-Requisites for Access

It is advised that Market Participants have the following minimum system pre-requisites for access to all markets for CCQT:

Area	Requirement
Internet Access	• Market Participants must have internet access from their infrastructure
Operating System	• Windows 7 - 64 bit • Windows 10 *(Except M7 which will not be supported on Windows 10 until End of 2017)*
Other Software	• MS Excel 2007, 2010, 2013, *Formats used .csv and .xlsx (Excel 2007 or later)* • Adobe Reader • Java Version 1.8 _91 or higher
Browsers	• Microsoft Edge in IE11 Mode
Minimum Hardware Specifications	• CPU: Intel i5 over 2GHz • 8 GB RAM • 6 GB Hard drive for installations

Table 5: Minimum System Pre-requisites

Further information can be found in I-SEM Technical Specification Volume B which has been published on the SEMO website.

4.3 CCQT / PIT Technical Environments

There will be 3 technical environments used for CCQT and PIT.

1) One for the Balancing Market (for both CCQT & PIT)
2) One for the Capacity Market (for both CCQT & PIT)
3) One for SEMOpx (for both CCQT & PIT)

4.4 Balancing Market

4.4.1 Market Access

Two independent forms of authentication (a valid digital certificate and an application password) are required to establish successful communication with the Balancing Market, via the Type 2 interface. Type 3 interfaces will not require an application password; however the certificate password will continue to be used for digitally signing market submissions.

Digital Certificates:
Market Participant digital certificates can be obtained by following the instructions set out in Section 4.4.3 (Certificate Request and Installation).

Note: For Type 3 communications an additional server certificate is required. This is published in the Balancing Market Toolkit in the certs directory. The implementation of the server cert is dependent on the software application/technology being used to generate the Type 3 access and hence is not covered within this guide. Details can also be found in I-SEM Technical Specification Volume B which has been published on the SEMO website.

Application Passwords:
Application user names will be issued to Market Participants following successful completion of the registration steps for CCQT. When logging onto the system for the first time, the system will send the user a system-generated code to their registered email address and a window will pop-up on the MPI for the user to enter the code. The user needs to enter this code within five minutes of receipt. If this period expires, please reattempt login to generate another code.

The code entered will be validated by the system, and upon successful validation a new window with "New Password" and "Verify New Password" will be displayed. The Market Participant will then need to enter a new password into this window. The password on the MPI URL will only be asked for once, during initial login.

Further technical setup information can be found in the I-SEM Technical Specification Volume B which has been published on the SEMO website.

4.4.2 Test Environment

All Balancing Market testing for CCQT and PIT is to be executed in the same environment.

4.4.3 Certificate Request and Installation

As mentioned throughout this document, it is only after successful progression of registration for the Balancing Market that Market Participants will be issued instructions to download their respective digital certificates. The subsequent section provides detailed instructions and screenshots for the certificate request and installation process.

Certificate Request and Installation (Page 1 / 8)

Pre-requisites:	Certificate troubleshooting and FAQs:
• The Market Participant has received a Certification Download email from the I-SEM CSS Team which contains the **Enrolment Code**, and an email with a **Symantec URL** which is used to download the PKI Client and Cert. • The Market Participant **must** have local administrative privileges on their test machine • Market Participants should ensure appropriate settings are configured in the Spam and content filters to avoid disrupting I-SEM communications	• If download fails, validate that the Symantec enrolment URL has been accessed within a period of 10 days from receipt. In the event that the enrolment code has expired please contact that I-SEM CSS Team to raised a new request. • Confirm access to Symantec website has not been restricted on your PC • In the event that the PKI client fails to install automatically, please see the 'how to dowlonad Symantec PKI Client' guide demonstrated at the Technical Liaison Group meeting which can be found online here. • Contact your IT administration if install fails to load to ensure you have necessary admin rights to install on your PC. • Check that you have valid proxy settings for your IT network set within your browser. Please contact your IT administrator if you are unsure of how your network is configured for outbound communications to external sites. • Confirm that the certificate name is set correctly <Your user name>@PY_<Your party name>. Please check the section on security in Volume B of ITS for details.

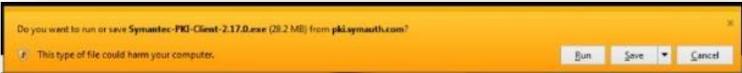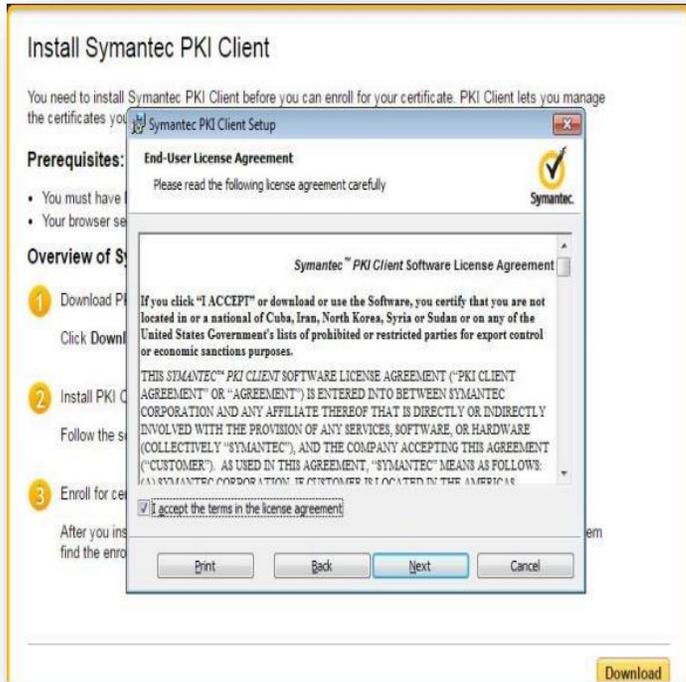| Certificate Request and Installation (Page 2 / 8)	
Step 1:	**Step 2:**
• Open the Certification download email and click the Symantec URL link to open the PKI Certificate Service. Enter your **Enrolment code** and then click **Continue**.	• Install the PKI Client software by clicking on the Download button and then click **Save**.

Certificate Request and Installation (Page 3 / 8)	
Step 3:	**Step 4:**
• Click Run to start the installation process.	• This will launch the Symantec PKI Client Setup Wizard. Click on **Next** to continue.

Certificate Request and Installation (Page 4 / 8)	
Step 5:	**Step 6:**
• Accept the terms in the license agreement and then click **Next**.	• Click on **Next** to accept the default installation directory for the Symantec PKI Client.
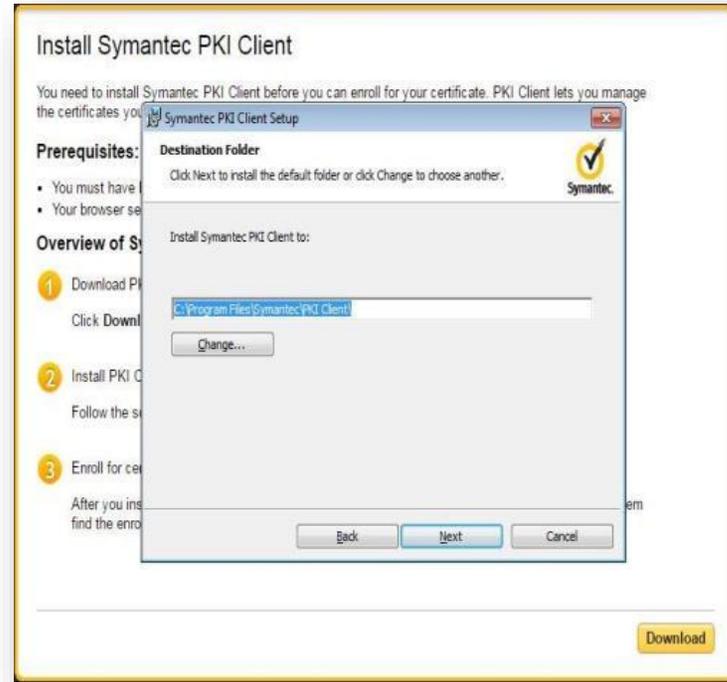
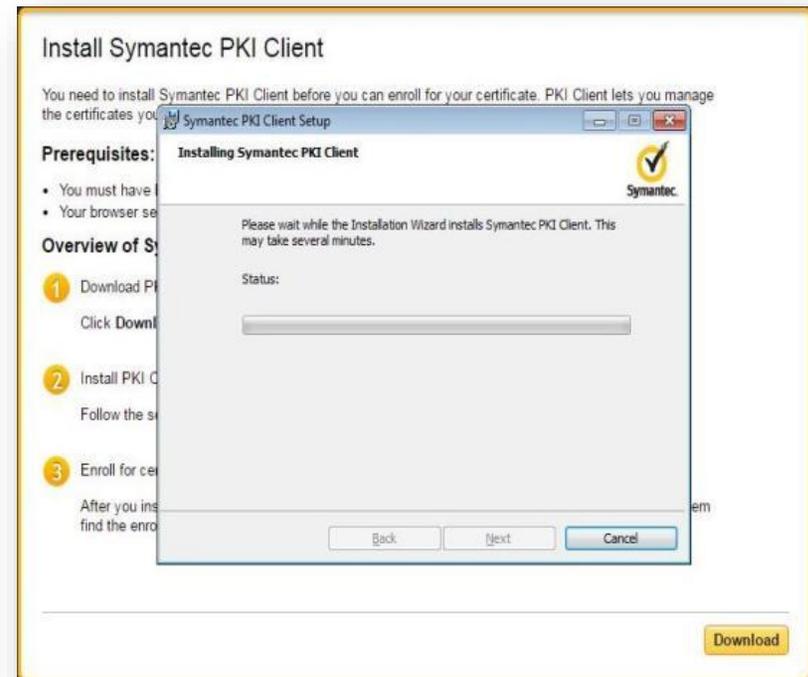| Certificate Request and Installation (Page 5 / 8)	
Step 7:	**Step 8:**
• Click on **Install** to start the installation.	• A status bar will show the progress of the installation.
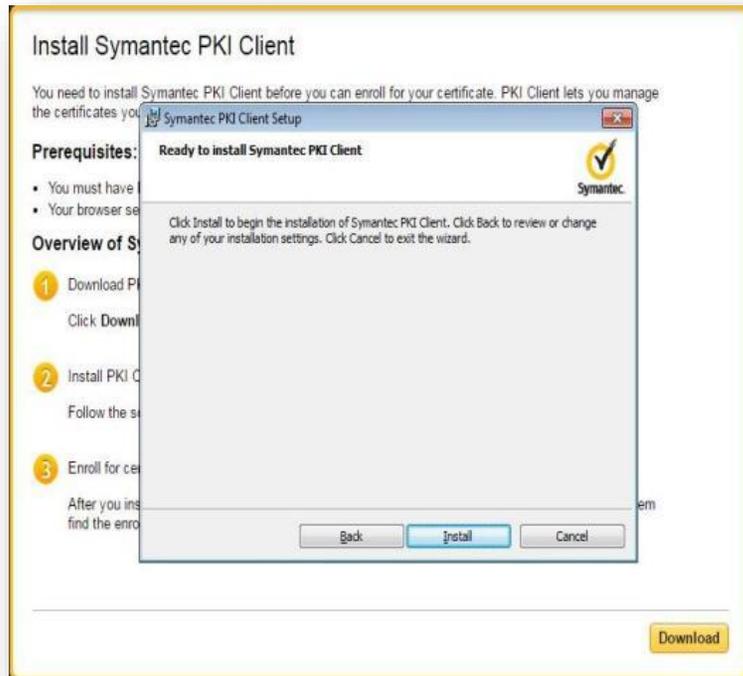
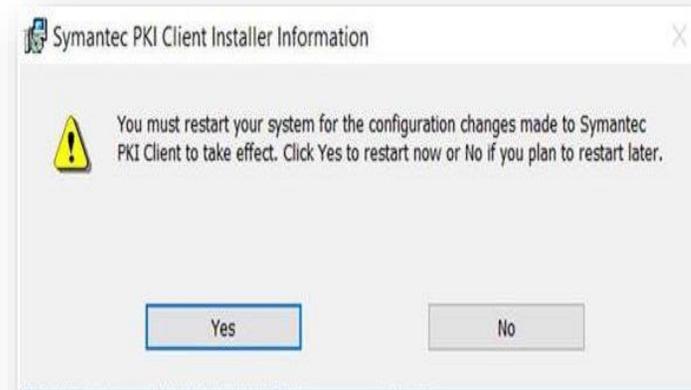| Certificate Request and Installation (Page 6 / 8)	
Step 9:	**Step 10:**
• Click on **Finish** to complete the installation.	• You will be prompted to restart your computer. Click **Yes**.
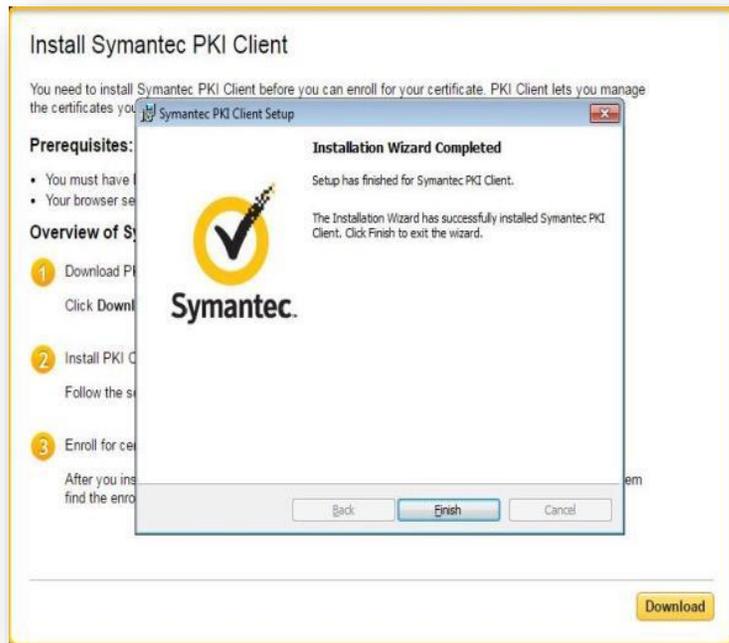
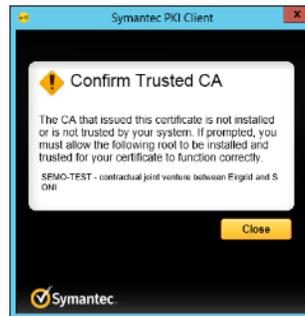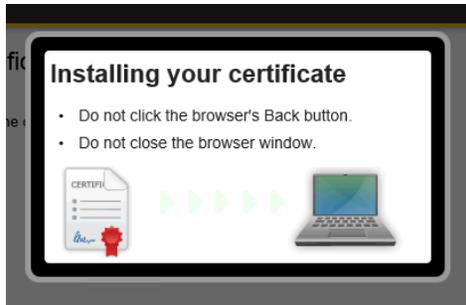| Certificate Request and Installation (Page 7 / 8)	
Step 11:	**Step 12:**
• Following successful restart, return to the Certification download email and click the Symantec URL link to open the Symantec PKI Certificate Service, enter your **Enrolment code** and then click **Continue**.	• Click **Install Certificate** to begin the installation.

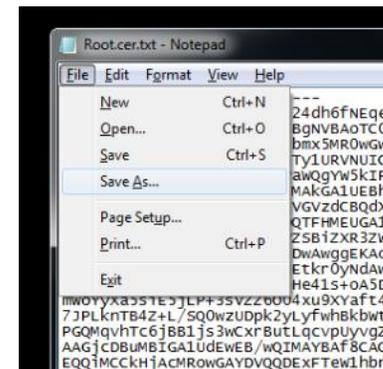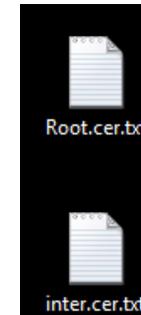| Certificate Request and Installation (Page 8 / 8)	
Step 13:	**Step 14:**
• The certificate will begin to install. • A **Security Warning** is displayed; click **yes** to confirm that the CA that issued the certificate is trusted. • The **Confirm Trusted CA** dialogue box will close automatically and the installation will begin.	• The Market Participant will be notified once the installation is complete.
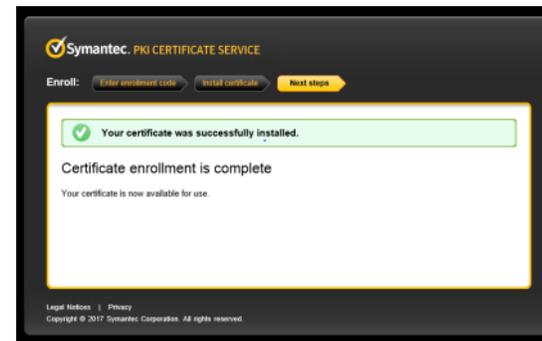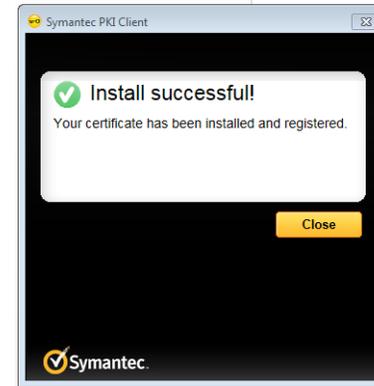
Optional: Root Cert Installation (Page 1 / 6)

Overview:	Step 1:
• Please follow this process in the event that the PKI Client has successfully installed the client cert but the root cert has not been installed. The root cert will normally be installed as part of the PKI Client Install • A root cert will be provided to each Market Participant via email.	• The root cert emailed to the Market Participant needs to installed as a Trusted Root Certification Authority on your device. Please check with your IT administrator that you have sufficient rights to do so. Rename the files and remove the .txt extension, if visible. • If .txt is not visible, open the certificate, click file and "Save As".

Root Cert Installation (Page 2 / 6)	
Step 3:	**Step 4:**
• Name the certificate root.cer or inter.cer , removing the txt extension, and change file type to **'All Files'**	• This will turn it into a Certificate to be installed. • Double click on the root certificate
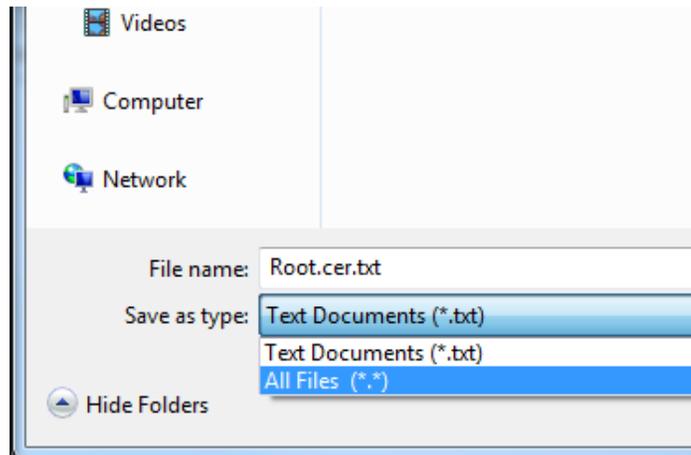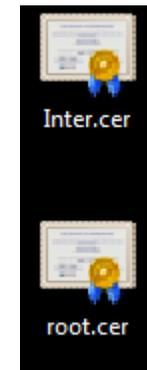
Root Cert Installation (Page 3 / 6)	
Step 5:	**Step 6:**
• Click **Install Certificate**	• Click **Next**
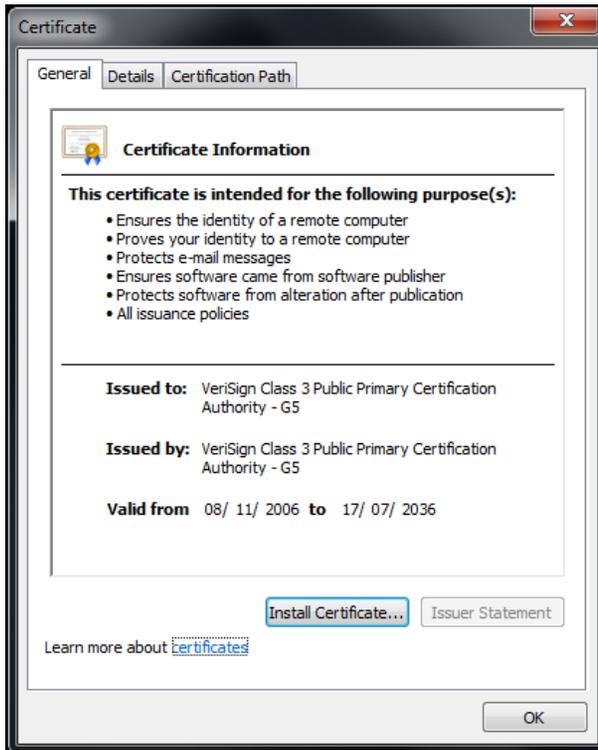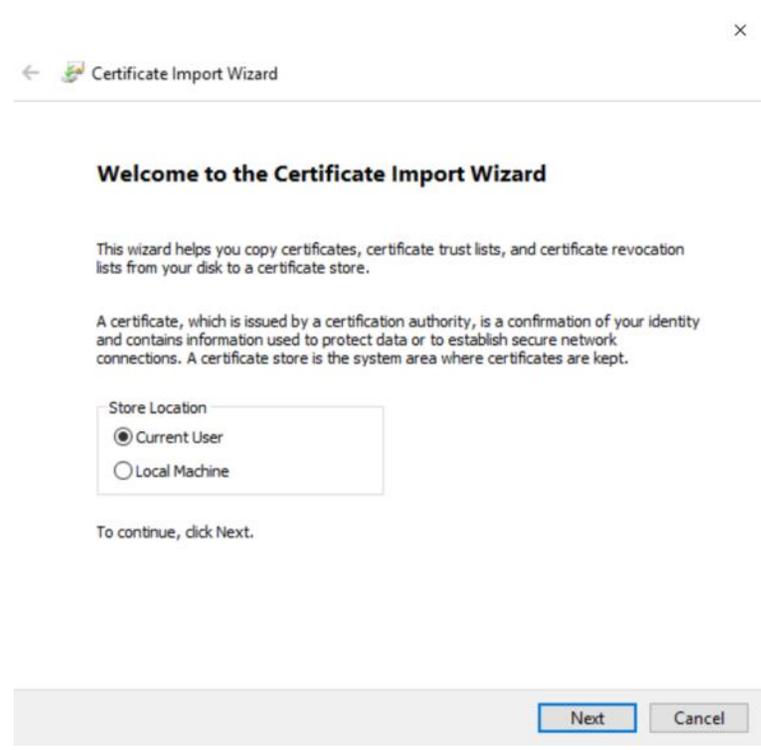
Root Cert Installation (Page 4 / 6)	
Step 7:	**Step 8:**
• Choose **Place all certificates in the following store**	• Click on Browse and choose **Trusted Root Certification Authorities** and click **OK**
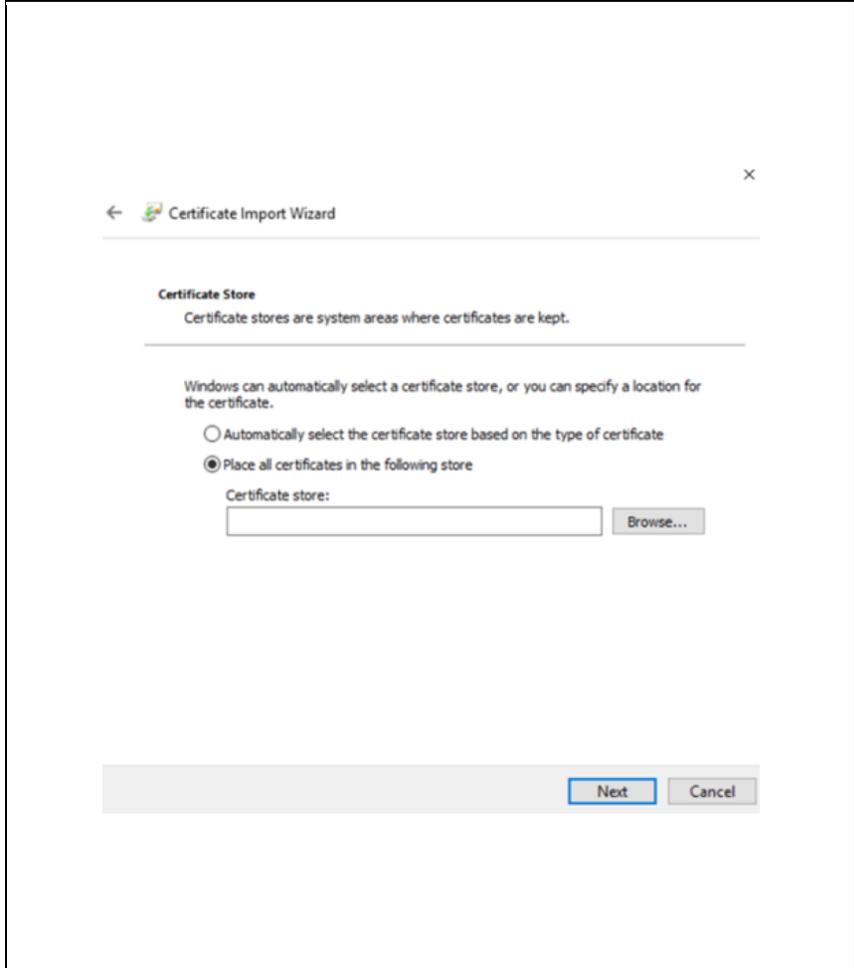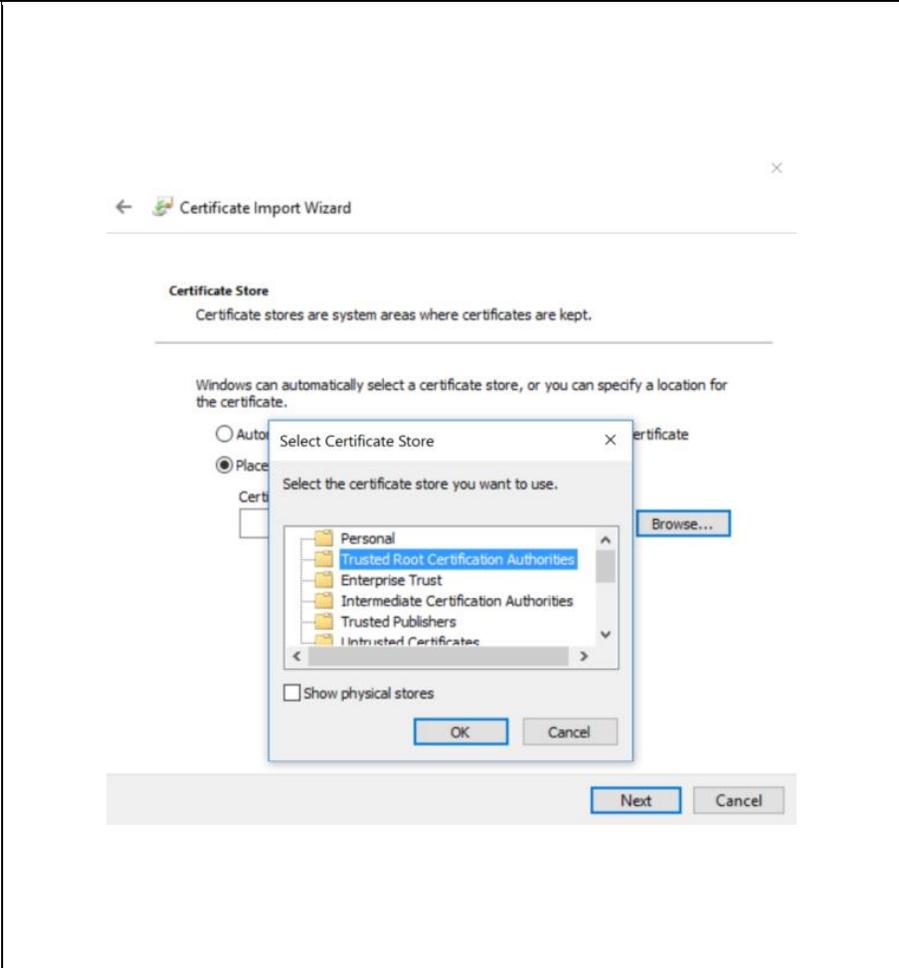
Root Cert Installation (Page 5 / 6)	
Step 9:	**Step 10:**
• Click **Next**	• Click **Finish**
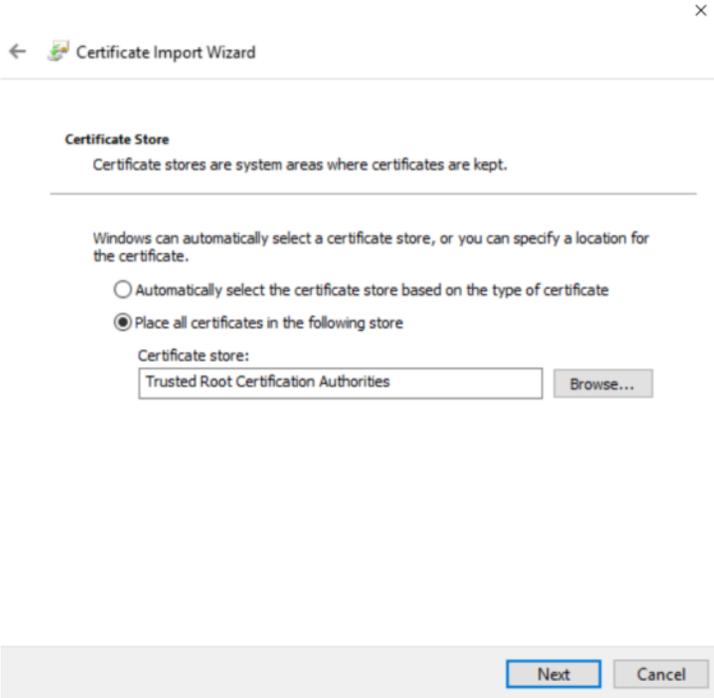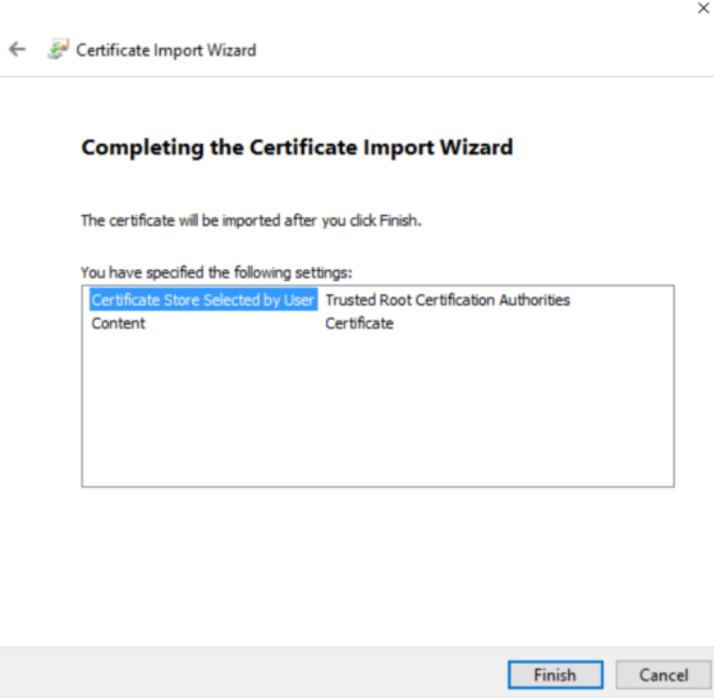
Root Cert Installation (Page 6 / 6)

Step 11:	Step 12:
• Click on **Yes**	• Click **OK**

Security Warning   ×

⚠ You are about to install a certificate from a certification authority (CA) claiming to represent:

SEMO-SSL-TEST-contractual joint venture between Eirgrid and SONI

Windows cannot validate that the certificate is actually from "SEMO-SSL-TEST-contractual joint venture between Eirgrid and SONI". You should confirm its origin by contacting "SEMO-SSL-TEST-contractual joint venture between Eirgrid and SONI". The following number will assist you in this process:

Thumbprint (sha1): 3415119A 12525D35 83B034C8 A6D29F46 007F4879

Warning:
If you install this root certificate, Windows will automatically trust any certificate issued by this CA. Installing a certificate with an unconfirmed thumbprint is a security risk. If you click "Yes" you acknowledge this risk.

Do you want to install this certificate?

[Yes]   [No]

Certificate Import Wizard   ×

ⓘ The import was successful.

[OK]

4.4.4 Balancing Market CCQT Scripts

All CCQT test script steps are mandatory and actual results should be recorded in the table provided below. Where outlined, test evidence (e.g. screenshots) should be captured and included as part of the CCQT evidence packet to be issued to I-SEM CSS Team. The required evidence for evaluation is noted in relevant script steps. Any deviations between expected and the actual results are to be documented and sent back to the I-SEM CSS Team for verification.

Scripts have been detailed for both Type 2 and Type 3 Market Access. For Type 2 submission, retrieval of a report from the Market Participant Interfaces (MPI) is sufficient to successfully progress from CCQT to the PIT phase.

For Type 3 communication, Market Participants will first need to submit simple Demand Offer Data or simple Generator Offer Data (as applicable to the Market Participant) via the MPI to ensure there is data available for the Type 3 query. Following successful submission to the system, the Market Participant can query the data via Type 3 communication.

This document will not provide sample values for submission or sample XML for Type 3 communication as part of this document. Data elements, validations and sample XML are detailed in section 5.5 of the I-SEM Technical Specification, Volume C.

4.4.4.1 Type 2 - CCQT_BM_01

Script details:

CCQT_BM_01: Retrieval of Daily Trading Day Exchange Rate report		
Market Participant Name:	*<Market Participant to include name>*	
Test Script ID:	CCQT_BM_01	
Test Script Title:	Retrieval of Daily Trading Day Exchange Rate Report from the Market Participant Interface (MPI)	
Test Script Pre-requisites	**Pre-Requisite Checklist**	**Pass / Fail**
	The Market Participant has been set up with appropriate system access. See section 4.4.1 for Market Access details.	*<MP to include>*
	The Market Participant has the required client requirements and configurations established	*<MP to include>*
	The appropriate digital certificate for Market Participant user has been received.	*<MP to include>*
	Market Participant has successfully installed their digital certificate.	*<MP to include>*
	The Market Participant has previously logged into the MPI and validated the password code emailed to them.	*<MP to include>*

Test Script Execution status:

CCQT_BM_01: Retrieval of Daily Trading Day Exchange Rate Report		
Date of Execution:	**Status (Pass/Fail):**	**Market Participant Signature:**
<Market Participant to include date>	*<Market Participant to include status>*	*<Market Participant to sign>*

Test Script:

Step No.	Step action:	Expected Result:	Evidence required	Actual Result:
CCQT_BM_01: Retrieval of Daily Trading Day Exchange Rate Report
1.	Open a new web browser window.	A new web browser window has been successfully opened.	N/A	
2.	Enter the MPI URL: https://mpc.sem-o.com/mpi/ Select the Market Participant certificate previously installed following to log in on MPI.	The Market Participant has successfully logged into the MPI.	N/A	
3.	Navigate to **Menu** on the top right of the screen and select the **MP Reports** page from the drop down menu.	The Market Participant is navigated to the **MP Reports** display in the MPI.	N/A	
4.	Select the desired **Trade Date** which you wish to retrieve the report for.	The desired **Trade Day** is selected depending on the time of execution and the outline of the entry field will turn from red to green when a valid date has been entered.	N/A	
5.	Select the required participant name (for the digital certificate used) in the **Participant Name** entry field.	The correct participant name is selected for the Market Participant logged into the MPI and the outline of the entry field will turn from red to green.	N/A	
6.	Select **MARKET** from **Report Type** drop-down menu.	**MARKET** is selected from the **Report Type** drop-down menu and the outline of the entry field will turn from red to green.	N/A	
7.	Select **MISCELLANEOUS** from **Report Sub Type** drop-down menu.	**MISCELLANEOUS** is selected from the **Report Sub Type** drop-down menu and the outline of the entry field will turn from red to green.	N/A	
8.	Select **DAILY** from **Periodicity** drop-down menu.	**DAILY** is selected from the **Periodicity** drop-down menu and the outline of the entry field will turn from red to green.	N/A	

9.	Click the green **List Reports** button and wait for the following success message to be displayed below the input fields in green text: **"Successfully processed the list report request"**	The **List Reports** button is clicked successfully and the success message is displayed below the input fields.	Y (Screen Shot)	
10.	Verify **PUB_DailyExchangeRate** report is published as both a HTML and XML report in the **Report List** section	The **PUB_DailyExchangeRate** report is available on screen for as both a HTML and XML file type	N/A	
11.	Open the HTML report by clicking on the floppy disk icon on the right hand side of the screen beneath the **Action** column.	A new window is opened for the Market Participant displaying the **PUB_DailyExchangeRate** report on screen for the chosen trading day	Y (Screen Shot)	
12.	Close the HTML report on screen by clicking the 'X' on the top right of the window opened.	The Market Participant is returned to the **List Reports** display of the MPI.	N/A	
13.	Download **PUB_DailyExchangeRate.xml** by clicking on the save icon next to the XML report, and name the XML report with the following naming convention: *PUB_DailyExchangeRate-Participant_Name*	The **PUB_DailyExchangeRate.xml** file has been downloaded successfully to the Market Participant's desktop with the correct name.	Y (File)	

4.4.4.2   Type 2 / Type 3 - CCQT_BM_02

Script details:

CCQT_BM_02: Submission and retrieval of Simple Demand / Generator Offer Data		
Market Participant Name:	*<Market Participant to include name>*	
Test Script ID:	CCQT_BM_02	
Test Script Title:	Submission and retrieval of Simple Demand / Generator Offer Data	
Test Script Pre-requisites	**Pre-Requisite Checklist**	**Pass / Fail**
	The Market Participant has been set up with appropriate system access. See section 4.4.1 for Market Access details.	*<MP to include>*
	The Market Participant has the required client requirements and configurations established	*<MP to include>*
	The appropriate digital certificate for Market Participant user has been received.	*<MP to include>*
	Market Participant has successfully installed their digital certificate.	*<MP to include>*
	The Market Participant has previously logged into the MPI and validated the password code emailed to them	*<MP to include>*
	The Market Participant has valid request XML previously prepared to query the data submitted via the MPI	*<MP to include>*

Test Script Execution status:

CCQT_BM_02: Submission and retrieval of Simple Demand / Generator Offer Data		
Date of Execution:	**Status (Pass/Fail):**	**Market Participant Signature:**
<Market Participant to include date>	*<Market Participant to include status>*	*<Market Participant to sign>*

Test Script:

CCQT_BM_02: Submission and retrieval of Simple Demand / Generator Offer Data				
Step No.	Step action:	Expected Result:	Evidence required	Actual Result:
Type 2 submission via the MPI:				
1	Open a new web browser window.	A new web broswer window has been successfully opened.	N/A	
2	Enter the MPI URL: https://mpc.sem-o.com/mpi/ Select the Market Participant certificate previously installed following to log in on MPI.	The Market Participant has successfully logged into the MPI.	N/A	
3	Navigate to **Menu** on the top right of the screen and select the **Simple Demand Offer** or **Simple Generator Offer** page from the drop down menu as applicable to the Market Participant.	The Market Participant Market Participant is navigated to the desired display in the MPI	N/A	
4	Select the desired **Trade Date** which you wish to submit the offer for.	The desired **Trade Date** is selected depending on the date of execution and the outline of the entry field will turn from red to green when a valid date has been entered.	N/A	
5	Type the Market Participant name and resource name respectively in the Market Participant **Name** and **Resource Name** fields.	The desired **Participant Name** and **Resource Name** have been populated and the outline of the entry field will turn from red to green when a value has been entered.	N/A	
6	Input up to 10 intervals beneath the **Intervals** heading. Each interval can be added by clicking on the green plus icon.	The desired numbers of intervals have been selected added to the MPI display screen.	N/A	
7	Enter the desired **Start Time** and **End Time** for each interval.	The desired start time and end time has been selected for each interval	N/A	
8	For each interval added in step 6, enter the mandatory **Price** and **Quantity** values for the	The desired price and quantity values are inputted by the Market Participant.	N/A	

	incremental curve.			
9	For each interval added in step 6, enter the mandatory **Price** and **Quantity** values for the decremented curve.	The desired price and quantity values are inputted by the Market Participant.	N/A	
10	Complete additional non mandatory fields as desired.	As required	N/A	
11	Capture a screen shot of all the fields inputted and click the green **Submit** button	The Market Participant captures the screenshot to be included in the evidence packet and clicks the green submit button.	Y (Screen shot)	
12	Wait for the success message to be displayed on the MPI screen and capture a screen shot of the entire display	The success message is successfully displayed on screen and a screen shot has been captured.	Y (Screen shot)	
Type 3 Request to the MMS system:				
1	Launch test application. Note: Requirements for Type 3 setup can be found in I-SEM Technical Specification Volume B which has been published on the SEMO website.	The Market Participant's application for type 3 communications has been launched successfully and the required XML has been previously prepared and is available to the Market Participant.	N/A	
2	Query the MMS to retrieve the simple Demand Offer Data or simple Generator Offer Data previously submitted via the MPI Note: Type 3 URL is: https://mpc.sem-o.com/mws/	The Market Participant utilises the market_query method and successfully retrieves the data previously submitted.	Y (XML query)	
3	Confirm that the MMS system has returned the queried data following successful utilisation of the market_query method in step 2.	The Market Participant confirms that they have received a successful response from the MMS system.	Y (XML response)	

4.4.5   Evaluation Criteria

Following successful execution and completion of all the steps in the test script, the test status is to be marked as 'Pass' by the Market Participant in addition to being signed and dated. The remaining test evidence is to be gathered by the Market Participant and included in a single email which will be issued to the I-SEM CSS Team for evaluation of success. See section 3.2.5 for CCQT reporting guidelines.

In the event of a test failure or any other issue preventing the test from successfully completing, please contact the I-SEM CSS Team (isemtesting@eirgrid.com) with details of the encountered issue.

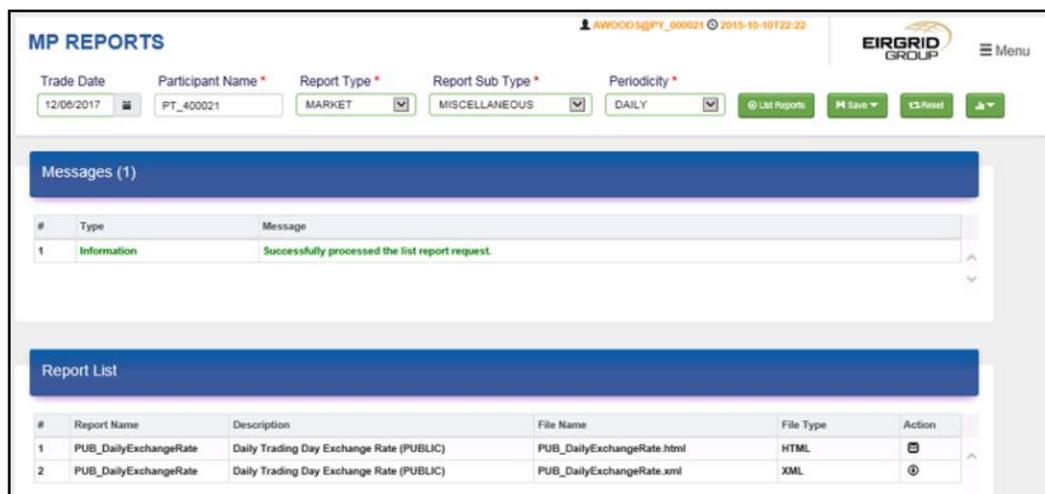**1. CCQT_BM_01 - Retrieval of the Daily Trading Day Exchange Rate Report:**

The Balancing Market evidence packet for Type 2 communication is to contain 4 items – the script itself which is signed and dated by the Market Participant, 2 screen shots (shown below), and the report downloaded.

- **Executed test scripts signed and dated:**

    By signing and dating the scripts executed, the Market Participant is declaring that they have completed every step of the scripts successfully. Test scripts (section 4.4.4.1) are to be printed and signed (or signed electronically) and returned to I-SEM CSS Team as a Word or PDF document as a record of participation and completion. This is applicable to all CCQT scripts executed for all markets.

- **Screen shot 1 – List Report Request:**

    The first screen shot **must** show fields the 4 fields inputted by the Market Participant to run the list report request and the following success message: *"Successfully processed the list report request"*
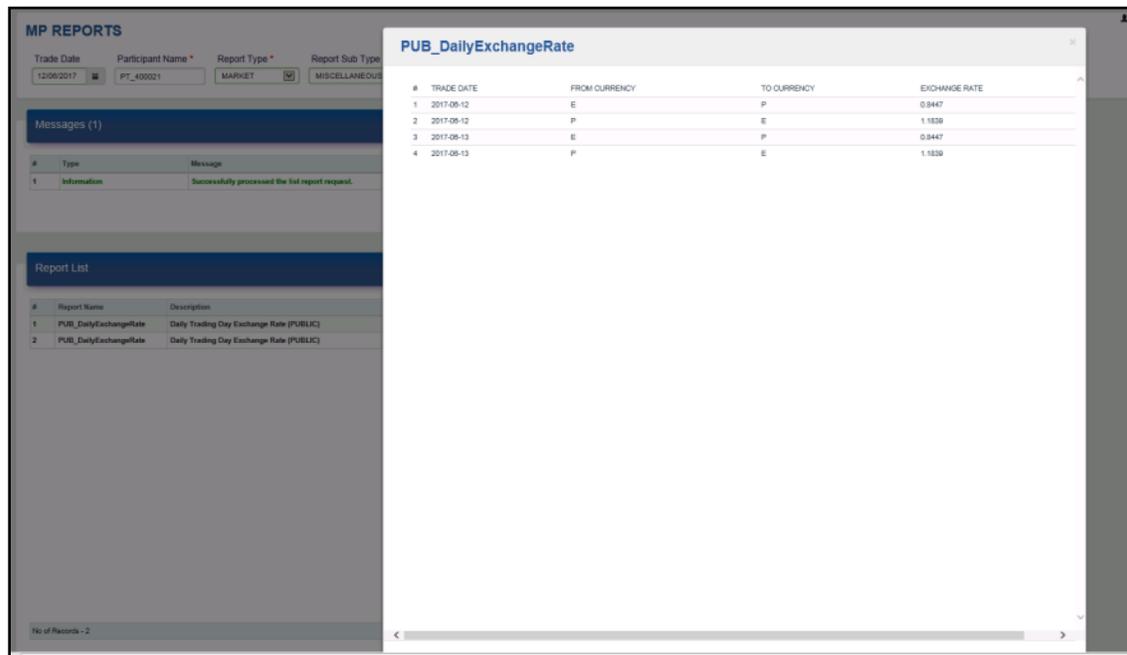
- **Screen shot 2 – On screen report display:**

The second screen shot **<u>must</u>** show the PUB_DailyExchangeRate Report displayed successfully in the browser window.

- **The PUB_DailyExchangeRate XML report :**

The PUB_DailyExchangeRate XML report is to be downloaded by the Market Participant as part of script execution. This report is to be saved locally by the Market Participant on their desktop in .xml format with the following naming convention: "*PUB_DailyExchangeRate-Participant_Name"*. Please see example below.

Example: *PUB_DailyExchangeRate-Participant_Name.xml*

1. CCQT_BM_02 - Retrieval of the Daily Trading Day Exchange Rate report:

The Balancing Market evidence packet for Type 3 communication is to contain 5 items post-execution of test script CCQT_BM_02:

- **Executed test scripts signed and dated**
- **Screen shot 1** – Screen shot of MPI screen prior to submission displaying all input values
- **Screen shot 2** – Screen shot post-submission with the valid
- The **XML request** submitted by the Market Participant to retrieve the data submitted
- The **XML response** received from the MMS system following successful request

4.5 Capacity Market

4.5.1 Market Access

As per the Balancing Market, two independent forms of authentication (a valid digital certificate and an application password) are required to establish successful communication with the Capacity Market via Type 2 interface to the Capacity Market Platform (CMP).

Application passwords and usernames will be created for the relevant superusers **only** and issued to each superuser via their registered email address. The superuser will be responsible for granting access to other users. See section 4.5.3 for digital certificate request and installation details.

The same digital cert is used to access the Capacity Market as the Balancing Market. See section 4.5.3 for certification details.

The following steps are to be executed to gain access to the CMP system for the first time:

1. Open a new web browser window

2. Go to the CMP login page (URL to be published at a later date) and allow the browser to identify you via the certificate.

3. Confirm the request for permission to use the certificate.

   - Check **"Grant permission".**
   - Confirm by clicking the **"OK"** button

4. Continue with the Login Procedure

5. Enter your username.

6. Enter your password.

7. Click the Login button (or press the Enter key).

4.5.2 Test Environment

A single technical environment is to be used by Market Participants for CCQT/PIT, Mock Auction and Live Auction for the Capacity Market.

4.5.3 Certificate Request and Installation

The Capacity Market certificate request and installation details are consistent with the details set out in section 4.4.3 of this document.

Upon successful download of the cert, the Market Participant **must send** the following information to the I-SEM CSS team via email – Serial Number, username (i.e. <Your user name>@PY_<Your party name>), Valid From and Expiration (aka Valid Till).

Please note: The required certificate information must be proivided to the I-SEM CSS team no later than the 20 October for Market Access on the 30 October. No exceptions will be made to this date.

The required certificate details to be issued to the I-SEM CSS team can be found in found in the PKI client previously installed with the details set out in section 4.4.3 of this document.
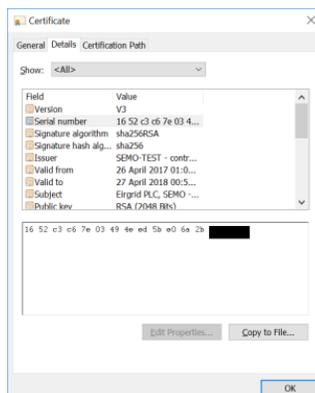
- **Step 1**: Launch PKI Client and navigate to the certificate previously installed. Click on **View certificate details** on the right hand of the display

- **Step 2:** Click on the **Details** tab of the window displayed
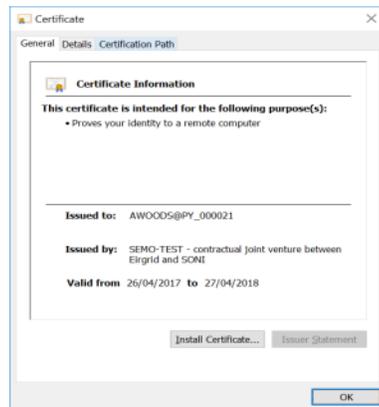
- **Step 3:** The required Certificate details can be obtained from the **Details** tab of the window opened

4.5.4   Capacity Market CCQT Script

All steps in the test script should be performed and actual results should be recorded in table provided below. Where necessary, test evidence (e.g. screenshots) should be captured and included as part of the CCQT evidence packet to be issued to I-SEM CSS Team. Any deviation between expected and the actual results are to be documented and sent back to the I-SEM CSS Team for verification.
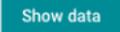
Script details:

CCQT_CM_01: Market Participant Qualification Report Script Details		
Market Participant Name:	*<Market Participant to include name>*	
Test Script ID:	CCQT_CM_01	
Test Script Title:	View and download the Market Participant Qualification Report from the CMP system.	
Test Script Pre-requisites	**Pre-Requisite Checklist**	**Pass / Fail**
	The Market Participant has been set up with appropriate system access. See section 4.5.1 for Market Access details.	*<MP to include>*
	The Market Participant has the required client requirements and configurations established	*<MP to include>*
	The Market Participant has emailed the certificate details to I-SEM	*<MP to include>*
	The appropriate digital certificate for Market Participant user has been received.	*<MP to include>*
	Market Participant has successfully installed their digital certificate.	*<MP to include>*
	The Market Participant has previously logged into the CMP system and validated their certificate and password for the first time as detailed in Section 4.5.1.	*<MP to include>*

Test Script Execution status:

CCQT_CM_01: Market Participant Qualification Report		
Date of Execution:	**Status (Pass/Fail):**	**Market Participant Signature:**
<Market Participant to include date>	*<Market Participant to include status>*	*<Market Participant to sign>*

Test Script:

	CCQT_CM_01: Market Participant Qualification Report			
Step No.	**Step action:**	**Expected Result:**	**Evidence required**	**Actual Result:**
1.	Open a new web browser window.	A new web browser window has been successfully opened.	N/A	
2.	Enter the CMP Log In URL: https://cmp.eirgrid.com/ Log into the CMP systems using the password and certificate previously authenticated.	The Market Participant is successfully logged into the CMP system	N/A	
3.	Click on the **Menu** button ≡ situated in the top-left corner of the screen.	**Menu** button on the top left corner of the screen has been selected.	N/A	
4.	Select **Capacity Market Platform** and **Participant Qualification Report** from the menu.	**Capacity Market Platform** and **Participant Qualification Report** has been selected from the menu	N/A	
5.	Filter the Market Participant **Qualification Report** form using the five ComboBoxes which are shown in the left hand side of the screen.	The Market Participant can see all five ComboBoxes on the left hand side of the screen which are to be used to filter the report.	N/A	
6.	Select **Capacity Period ID** in the first ComboBox of the filter.	**Capacity Period ID** has been selected for the first ComboBox	N/A	
7.	Select **Primary Auction ID** in the second ComboBox of the filter.	**Primary Auction ID** has been selected for the second ComboBox	N/A	
8.	**Party Name** in the third ComboBox will be pre-filled with Party associated with logged in Market Participant.	**Party Name** has been pre-filled with the correct party for the third ComboBox	N/A	
9.	Select **Participant Name** in the fourth ComboBox of the filter.	**Participant Name** has been selected for the fourth ComboBox	N/A	
10.	Select **Report Type** in the fifth ComboBox of the filter.	**Report Type** has been selected for the fifth ComboBox	N/A	
11.	Click on the **Show data** button [Show data] to display the form according to the parameters selected.	The **Show data** button has been selected and the Market Participant Qualification Report according to selected parameters will be	Y (Screen Shot)	

		shown in the right side of the screen.		
12.	Hide the filter area in the left side of the screen clicking the **arrow button** which is on the border between the two areas. **Note:** To return to the filter, click the **arrow** button in the opposite direction	The entire screen is displayed successfully allowing the Market Participant to view the report displayed in the right side of the screen.	Y (Screen Shot)	
13.	Click on the **Export to .CSV** button below the report	CSV-file generated which is consistent with the data displayed on screen.	N/A	
14.	Select where do you want to save this CSV file a click Save button and name the CSV report with the following naming convention: *<ReportType>_<Status>_<Participant_ID>_<Primary Auction ID>_<Creation_Date>_<Creation_Time>.csv*	The ***Market Participant Qualification Report-Participant Name.csv*** file has been downloaded successfully to the Market Participant's desktop with the correct naming convention.	Y (File)	

4.5.5   Evaluation Criteria

Following successful execution and completion of all the steps in the test script executed, the test status is to be marked as 'Pass' by the Market Participant in addition to being signed and dated. The remaining test evidence is to be gathered by the Market Participant and included in a single email which will be issued to the I-SEM CSS Team for evaluation of success. See section 3.2.5 for CCQT reporting guidelines.

In the event of a test failure or any other issue preventing the test from successfully completing, please contact the I-SEM CSS Team (isemtesting@eirgrid.com) with details of the encountered issue.

1. CCQT_CM_01: Market Participant Qualification Report

Four items are required to be submitted as evidence post execution of this test script.

- **Executed test scripts signed and dated**
- **Screen shot 1** – Report parameters
- **Screen shot 2** – Participant Qualification Report on screen
- **The Market Participant Qualification Report CSV report :**

The Market Participant Qualification Report CSV report is to be downloaded by the Market Participant as part of script execution. This report is to be saved locally by the Market Participant on their desktop in .csv format with the following naming convention: "<Report_Type>_<Status>_<Participant_ID>_<Primary Auction ID>_<Creation_Date>_<Creation_Time>.csv". Please see example below.

   Example: *<Report_Type>_<Status>_<Participant_ID>_<Primary Auction ID>_ <Creation_Date>_<Creation_Time>.csv*

4.6 SEMOpx

4.6.1   Market Access

The market access process can be found below for both the M7 and ETS. Installation instruction can be found here having previously been discussed at the I-SEM Technical Liaison Group 8 – NEMO systems.

For Client setup, please ensure that you have necessary administration rights on your device to complete installation.

1.   ETS-Client (Type 2)

Step	Action
1	The Market Participant is to fill in required forms and to submit them to the required entity (SEMOpx) as part of the pre-CCQT registration process.
2	SEMOpx sends the credentials (username/password) the day before the 1st trading day of CCQT

2.   M7 – Client (Type 2)

Step	Action
1	The Market Participant is to fill in required forms and to submit them to the required entity (SEMOpx) pre-CCQT registration process
2	SEMOpx sends the credentials (username/password) the day before the 1st trading day of CCQT environment.

4.6.2   Test Environment

All SEMOpx testing for CCQT and PIT is to be executed in the same environment.

4.6.3   Certificate Request and Installation

See section 4.6.1 for the relevant market access process. Certificates are not required for access to the ETS or M7 clients (Type 2).

4.6.4   SEMOpx CCQT Script

All SEMOpx test scripts steps are mandatory and actual results should be recorded in table provided below. Where necessary, test evidence (e.g. screenshots) should be captured and included as part of the CCQT evidence packet to be issued to I-SEM CSS Team. Any deviation between expected and the actual results are to be documented and sent back to the I-SEM CSS Team for verification.

4.6.4.1 ETS - Client (Type 2)

Script details:

CCQT_SPX_01: ETS – Client (Type 2)		
Market Participant Name:	*<Market Participant to include name>*	
Test Script ID:	CCQT_SPX_01	
Test Script Title:	Participant exports auction bids from the ETS client.	
Test Script Pre-requisites	**Pre-Requisite Checklist**	**Pass / Fail**
	The Market Participant has been set up with appropriate system access. See Section 4.6.1 (Market Access)	*<MP to include>*
	The Market Participant has the required client requirements and configurations established	*<MP to include>*

Test Script Execution status:

CCQT_SPX_01: Participant exports auction bids from the ETS client.		
Date of Execution:	**Status (Pass/Fail):**	**Market Participant Signature:**
< Market Participant to include date>	*< Market Participant to include status>*	*< Market Participant to sign>*

Test Script:

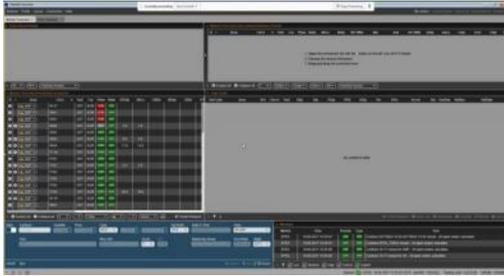| CCQT_SPX_01: Participant exports auction bids from the ETS client.				
Step No.	**Step action:**	**Expected Result:**	**Evidence required**	**Actual Result:**
1.	The Market Participant logs into the ETS client with the correct credentials.	The Market Participant has successfully logged into the ETS client and they are presented with the home screen.	N/A	
2.	The Market Participant navigates to the Global view screen by clicking on the **Global View** button Global View	The Market Participant has navigated to the Global view screen successfully	N/A	
3.	The Market Participant retrieves all the bids for a specific by clicking on **file** button in the top left corner of the Market Participant screen and by following navigation path below: **File → Export to Excel → Bids → All**	The file automatically opens on the Market Participant desktop and a value of "none" is displayed for all portfolios.	Y (Screen shot)	
4.	The Market Participant saves the exported file locally with the following naming convention: *Market Participant_Auction_Bids-Participant_Name*	The *Market Participant_Auction_Bids-Participant_Name* file has been downloaded successfully to the Market Participant's desktop with the correct name.	Y (File)	

4.6.4.2   M7 - Client (Type 2)

Script details:

CCQT_SPX_02: M7 – Client (Type 2)		
Market Participant Name:	*<Market Participant to include name>*	
Test Script ID:	CCQT_SPX_02	
Test Script Title:	Market Participant exports all own orders from the M7 client	
Test Script Pre-requisites	**Pre-Requisite Checklist**	**Pass / Fail**
	The Market Participant has been set up with appropriate system access. See Section 4.6.1 for Market Access details	*<MP to include>*
	The Market Participant has the required client requirements and configurations established	*<MP to include>*

Test Script Execution status:

CCQT_SPX_02: Market Participant exports all own orders from the M7 client		
Date of Execution:	**Status (Pass/Fail):**	**Market Participant Signature:**
<Market Participant to include date>	*<Market Participant to include status>*	*<Market Participant to sign>*

Test Script:

| CCQT_SPX_02: Market Participant exports all own orders from the M7 client				
Step No.	**Step action:**	**Expected Result:**	**Evidence required**	**Actual Result:**
1.	The Market Participant logs into the M7 client with the correct credentials.	Market Participant has successfully logged into the M7 client and they are presented with the home screen.	N/A	
2.	The Market Participant navigates to their **"Own Order"** panel of the M7 home screen in the lower right quadrant of the screen	The Market Participant is navigated to their **"Own Order"** panel of the M7 home screen in the lower right quadrant of the screen.	N/A	
3.	The Market Participant unfolds their "**Own Order**" panel by clicking on the white arrow on the left of the Own Order text	The Market Participant's "**Own Order**" panel is unfolded displaying a number of action commands	N/A	
4.	The Market Participant retrieves all the orders submitted by clicking on the **"Export all to CSV file"** command button.	The Market Participant is prompted to name the exported CSV file.	Y (Screen shot)	
5.	The Market Participant saves the exported file locally with the following naming convention: *Market_Participant_Continuous_Orders-Participant_Name*	The *Market_Participant_Continuous_Orders-Participant_Name* file has been downloaded successfully to the Market Participant's desktop with the correct name.	Y (File)	

4.6.5   Evaluation Criteria

Following successful execution and completion of all the steps in the test script executed, the test status is to be marked as 'Pass' by the Market Participant in addition to being signed and dated. See section 3.2.5, Reporting guidelines for further details.

In the event of a test failure or any other issue preventing the test from successfully completing, please contact the I-SEM CSS Team (isemtesting@eirgrid.com) with details of the encountered issue.

1   CCQT_SPX_01: ETS – Client (Type 2)

Three items are required to be submitted as evidence post execution of this test script;
- Executed test scripts signed and dated
- A screen shot of the **Global View** screen displaying the full navigation path
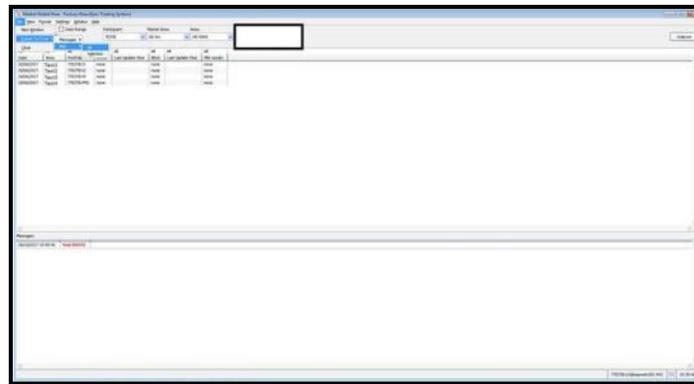
- The *Market Participant_Auction_Bids-Participant_Name* file downloaded to the Market Participant's desktop with the correct naming format

2   CCQT_SPX_02: M7 – Client (Type 2)

Three items are required to be submitted as evidence post execution of this test script;
- Executed test scripts signed and dated
- The Market Participant's "**Own Order**" panel unfolded displaying a number of action commands
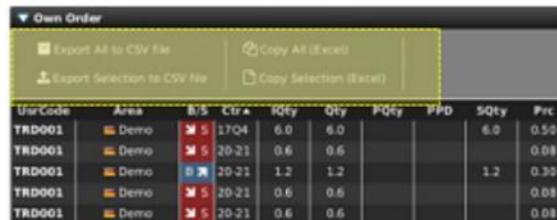
- The *Market Participant_Continuous_Orders-Participant_Name* file downloaded to the Market Participant's desktop with the correct naming format.

5 CCQT Material

5.1 CCQT Material Overview

The table below provides a view of the CCQT material published as part of the I-SEM CCQT Guide.

#	Name	Availability	Delivery Mechanism
1	CCQT Approach	Published ☑	Now Available for Download via I-SEM Website
2	CCQT Guide which contains: - Scripts - Instructions for downloading digital Certificates - CCQT Evaluation Criteria	Published ☑	Now Available for Download via I-SEM Website
3	Digital Certificates (for Applicable Markets)	Before 7th September 2017	Online via EirGrid security portal, with instructions from EirGrid email. (see Materials Item #3)
4	CCQT Test Results	End of CCQT for each Market Participant.	isemtesting@eirgrid.com

Table 6: Description of CCQT Material

6 Appendix A – Sample Email

This appendix provides a sample email template for each of the communication categories detailed in section 3.2.5, CCQT Reporting Guidelines.

6.1 Email Template 1: Query
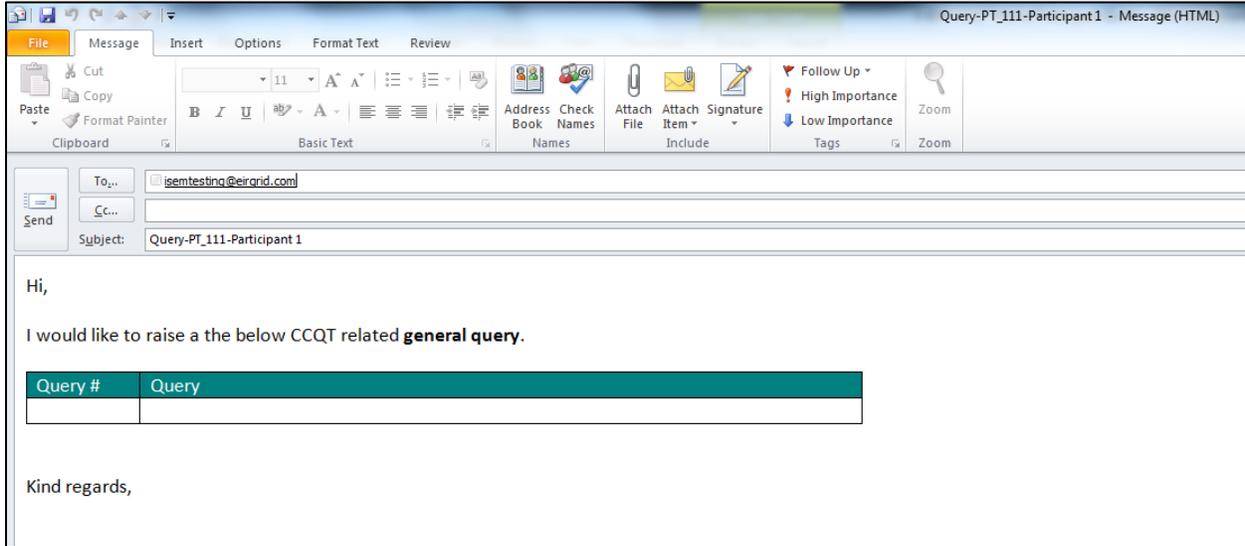
6.2 Email Template 2: Notification
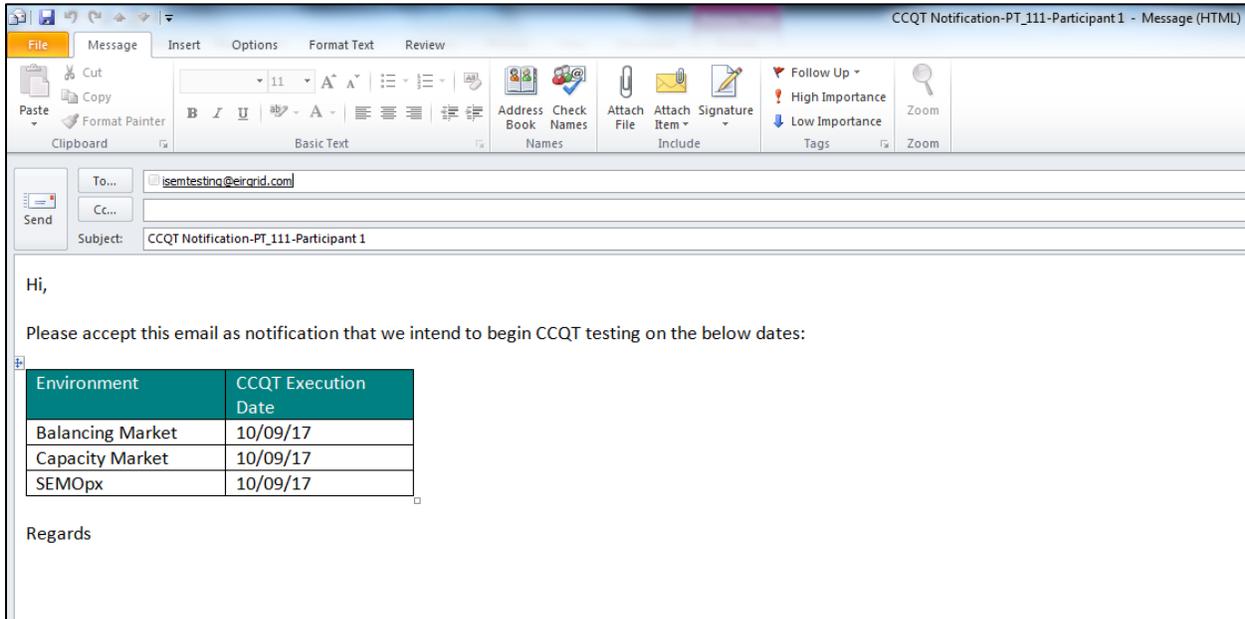
6.3 Email Template 3: Issue

6.4 Email Template 4: Evidence