
SCHEDULE XX

Central Switching Service Schedule

Version: 0.~~1~~2

Effective Date: N/A

Electricity Suppliers	Mandatory
Gas Suppliers	Mandatory
Distribution Network Operators	Mandatory
Gas Transporters	Mandatory
DCC	Mandatory
Metering Equipment Manager	Mandatory ¹ <u>for CSS Users</u>
Non-Party REC Service User	Mandatory ² <u>for CSS Users</u>

¹The processes set out in this REC Schedule are mandatory for Metering Equipment Managers who choose to become CSS Users.

²CSS Users only.

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[The drafting in this Schedule is subject to approval of CR-D065]

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Change History

Version Number	Implementation Date	Reason for Change
0.1	N/A	For RDUG review <u>Initial draft for November 2020 publication</u>
<u>0.2</u>	<u>N/A</u>	<u>Draft for Spring 2021 Switching Consultation</u>

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~~{Definitions for Interpretation Schedule—~~

~~CSS User~~

~~Certificate Authority~~

~~PKI Service Provider~~

~~Senior Responsible Officer~~

~~Appointed Responsible Officer}~~

1 Introduction

1.1 Organisations wishing to exchange messages with the Central Switching Service (CSS) must first become a CSS User in accordance with the process in the Qualification and Maintenance Schedule and this REC Schedule.

~~1.2~~ This is optional for Metering Equipment Managers, Data Aggregators, Data Collectors, Meter Asset Providers and Shippers, as they only receive messages from the CSS Provider.

~~1.2.1.3~~ Once an organisation has become a CSS User, all rights and obligations set out in this REC Schedule shall apply until such time as the organisation ceases to be a CSS User in accordance with Paragraph ~~848~~.

~~1.3.1.4~~ CSS Users are categorised as follows:

- (a) Energy Suppliers;
- (b) Electricity Retail Data Agents;
- (c) the Gas Retail Data Agent;
- (d) Metering Equipment Managers;
- (e) Data Aggregators;
- (f) Data Collectors;
- (g) Meter Asset Providers;
- (h) ~~Gas~~ Shippers;
- (i) CSS Interface Providers;
- ~~(j)~~(j) the Electricity Enquiry Service Provider;
- ~~(k)~~(k) the Gas Enquiry Service Provider;
- ~~(l)~~(l) [the Code Manager;³];
- ~~(m)~~(m) [the BSCCo;~~and~~⁴];
- ~~(n)~~(n) the Smart Meter Data Service Provider; and
- (o) the Enduring Change of Supplier Provider.

~~1.5~~ A Market Participant and/or Switching Data Service Provider may appoint a CSS Interface Provider to exchange Market Messages on behalf of the Market Participant/Switching Data Service Provider. Where this is the case, dual-responsibility for compliance shall apply as follows:

- (a) the Market Participant/Switching Data Service Provider shall remain responsible for compliance with all of its obligations as such under this Code (and shall remain liable for

³ [CR-D059 is being progressed to remove CSS APIs for the submission of Market Participant Data which will mean the Code Manager is not required to be a CSS Users]

⁴ [CR-D059 is being progressed to remove CSS APIs for the submission of Market Participant Data which will mean the BSCCo is not required to be a CSS Users]

the acts and omissions of its appointed CSS Interface Provider); and

(b) in addition, the CSS Interface Provider shall be directly liable and accountable for complying with its obligations as a CSS User.

~~1.4.1.6~~ This REC Schedule describes the process that organisations shall follow when applying to become a CSS User.

2 Becoming a CSS User

2.1 An application to become a CSS User will be initiated in accordance with the Qualification and Maintenance Schedule and shall include:

- (a) for an organisation that is not eligible to become a Party to this Code, entry into an Access Agreement;
- (b) undergoing an Information Security and Data Protection Assessment;
- (c) becoming a Switching Portal User in accordance with the Service Management Schedule;
- (d) establishing the required public and private keys to enable secure messaging; in accordance with Paragraph 3;
- (e) establishing the required ~~Webhooks~~ webhooks to enable the CSS to route messages to the correct recipient; in accordance with Paragraph 4; and
- (f) ~~for Energy Suppliers and Distribution Network Operators only,~~ completing external CSS Testing to demonstrate that messages can be exchanged with the CSS Provider; ⁵ in accordance with Paragraph 6⁶.

2.2 The Code Manager shall only approve an application from a potential CSS User if, at the date of its completed application:

- (a) in the case of admission as an Energy Supplier or Metering Equipment Manager, that the applicant has been Qualified in accordance with the Qualification and Maintenance Schedule;
- (b) in the case of admission as an Electricity Retail Data Agent, that the relevant Distribution Network Operator that is responsible for the provision of the Electricity Retail Data Service has been Qualified in accordance with the Qualification and Maintenance Schedule; and
- (c) in the case of admission as ~~Metering Equipment Managers,~~ a Data ~~Aggregators~~ Aggregator, Data ~~Collectors~~ Collector, Meter Asset ~~Providers and Gas Shippers~~ Provider or Shipper, that the applicant has an associated Energy Company and Market Participant Role recorded within CSS based on the gas and ~~/~~ or electricity Market Participant Data provided by the GRDA ~~and /~~ or the BSCCo; ~~.~~

⁵ [Ongoing consideration on extent of CSS testing to apply to other CSS Users]

⁶ [Ongoing consideration on extent of CSS testing to apply to other CSS Users]

2.3 For ~~the avoidance or doubt~~ clarity, a single entity ~~will be~~ assigned to ~~the role~~ each of the following roles (and therefore this REC Schedule does not deal with new applications to those roles): Gas Retail Data Agent, Electricity Enquiry Service Provider, Gas Enquiry Service Provider, Code Manager, BSCCo ~~and~~⁷, Smart Meter Data Service Provider ~~at~~, and Enduring Change of Supplier Provider. These entities will have obtained certificates and completed testing prior to CSS Go Live. ~~Therefore, this Schedule does not provide for new applications to these roles under the Transition Schedule.~~

3 Process for Establishing Public and Private Keys

3.1 ~~Each~~ The CSS Certificate Authority shall issue, to each applicant ~~shall obtain~~ wishing to become a CSS User, the following digital certificates for each Market Participant Identifier, from the Certificate Authority, to be used for the exchange of ~~messages with~~ Market Messages via the CSS:

- (a) Transport Layer Security (TLS) Certificates to secure either end of the network connection, ensuring the transfer of ~~messages~~ Market Messages across the communication channel is via a secure encrypted channel; and
- (b) ~~For~~ for Energy Suppliers and Electricity Retail Data Agents only, Message Signing Certificates for each Market Participant Identifier, to authenticate individual messages sent across the communication channel through the application of a digital signature.

3.2 These certificates will be digitally signed by the CSS Certificate Authority to bind certificate owners with their public keys.

~~3.3~~ A single TLS Certificate can be used by a CSS Interface Provider to send and receive Market Messages on behalf of multiple Market Participants/Switching Data Service Providers on whose behalf the CSS Interface Provider acts. A CSS User which relies on a CSS Interface Provider will not obtain a separate TLS Certificate, but will have its own Message Signing Certificate.

~~3.3.4~~ It is the responsibility of each CSS User, (or potential CSS User,) in possession of TLS Certificates and /or Message Signing Certificates to: ensure they comply with the obligations in Paragraph 7.1.

- ~~(a) ensure all information submitted in support of a certificate application is true, accurate and that they hold such rights as necessary to any trademarks or other such information submitted during the application for a certificate;~~
- ~~(b)(a) review the issued certificate to confirm the accuracy of the information contained within it before installation and first use;~~
- ~~(c)(a) use a trustworthy system for generating or obtaining a key pair and to prevent any loss, disclosure, or unauthorised use of the private key;~~
- ~~(d)(a) keep private keys confidential;~~
- ~~(e) keep confidential, any passwords, passphrases, PINs or other personal secrets used in obtaining authenticated access to certificates and PKI facilities;~~
- ~~(f)(a) make only true and accurate representations to the Switching Operator and/or PKI Service~~

⁷ [CR-D059 is being progressed to remove CSS APIs for the submission of Market Participant Data which will mean the Code Manager and BSCCo are not required to be a CSS Users]

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~~Provider as to the information required to determine eligibility for a certificate and for information contained within the certificate; and~~

~~(g)(a) exclusively use the certificate for legal purposes and restricted to those authorised purposes detailed within this REC Schedule.~~

~~3.4~~3.5 The process detailed in this Paragraph 3 can only be initiated following confirmation by the Code Manager to the ~~Switching Operator~~CSS Certificate Authority that the applicant has ~~become a Party or~~ signed an Access Agreement and successfully completed the Information Security and Data Protection Assessment in accordance with the Qualification and Maintenance Schedule.

~~3.6~~ Each CSS User (or applicant to become a CSS User) shall provide to the ~~Switching Operator~~CSS Certificate Authority details of ~~one or more~~a single Senior Responsible ~~Officers~~Officer with responsibility for ~~requesting all activities relating to CSS security~~ certificates on behalf of the ~~Market Participant~~CSS User. The Senior Responsible Officer~~(s)~~ may at any time nominate individuals to become Appointed Responsible Officers ~~who will be authorised to request certificates on behalf of their organisation;~~ or Technical Contacts ~~who may create Certificate Signing Requests on behalf of.~~

~~3.5~~3.7 The roles of Senior Responsible Officer, Appointed Responsible Officer and Technical Contact are further described in Appendix 1. ~~Appendix 1 also describes the organisation process by which the CSS Certificate Authority shall receive and validate nominations for the roles of Senior Responsible Officer and Appointed Responsible Officer.~~

~~3.6~~ The Switching Operator shall validate the identity of the nominated SROs and AROs in accordance with Appendix 1.

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3.73.8 Each applicant to become a CSS User shall request TLS Certificates and Message Signing Certificates in accordance with the process set out below:

Ref	When	Action	From	To	Interface	Means
<u>3.68.1</u>	Prior to initiation of CSS Testing.	Submit details of Senior Responsible Officer (<u>SRO</u>)	Applicant	Switching Operator <u>CSS Certificate Authority</u>	Not defined	Switching Portal
<u>3.68.2</u>	Following receipt of the SRO details in <u>3.68.1</u> .	Validate the <u>SRO</u> request by confirming the identity of the SRO based on evidence prescribed in Appendix 1.	Switching Operator <u>CSS Certificate Authority</u>		Internal process	N/A
<u>3.68.3</u>	Following <u>3.68.2</u> where the SRO is rejected.	Contact the applicant to discuss the reason for the rejection.	Switching Operator <u>CSS Certificate Authority</u>	Applicant	Not defined	Switching Portal
<u>3.68.4</u>	Following <u>3.68.2</u> where the SRO is accepted <u>and a separate Appointed Responsible Officer (ARO) and / or Technical Contact (TC) is required.</u>	Submit details of Authorised Responsible Officer <u>ARO and/or TC.</u>	SRO	Switching Operator <u>CSS Certificate Authority</u>	Not defined	Switching Portal
<u>3.68.5</u>	Following receipt of the ARO <u>and / or TC</u> details in <u>3.68.4</u> .	Validate the <u>ARO / TC</u> request by confirming the identity of the ARO based on evidence prescribed in Appendix 1.	Switching Operator <u>CSS Certificate Authority</u>		Internal process	N/A
<u>3.8.6.6</u>	Following <u>3.68.5</u> where the ARO <u>and / or TC</u> is rejected.	Contact the applicant to discuss the reason for the rejection.	Switching Operator <u>CSS Certificate Authority</u>	Applicant	Not defined	Switching Portal

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3.68.7	Following 3.68.5 where the ARO /TC is accepted.	Submit the Certificate Signing Request for test certificates.	Applicant (<u>SRO, ARO or TC</u>)	Switching Operator <u>CSS Certificate Authority</u>	Certificate Signing Request	Switching Portal
3.68.8	Following receipt of the Certificate Signing Request in 3.68.7.	Validate the request confirming that the request relates to an organisation that has been approved for CSS onboarding Testing by the Code Manager.	Switching Operator <u>CSS Certificate Authority</u>		Internal process	N/A
3.68.9	Following 3.68.8 where the Certificate Signing Request is rejected.	Contact the applicant to discuss the reason for the rejection.	Switching Operator <u>CSS Certificate Authority</u>	Applicant (<u>SRO, ARO or TC</u>)	Not defined	Switching Portal
3.6.10	Following 3.6.8 where the Certificate Signing Request is accepted.	Submit the Certificate Signing Request.	Switching Operator	PKI Service Provider	Certificate Signing Request	Switching Portal
3.6.11 3.10	Following receipt of the valid Certificate Signing Request in 3.6.10.	Sign certificate and issue signed certificate.	PKI Service Provider <u>CSS Certificate Authority</u>	Applicant (<u>SRO, ARO and SRO or TC</u>)	Signed Certificate	[PKI Service Provider Portal]
3.6.12 3.11	Following successful completion of CSS Testing.	Submit the Certificate Signing Request for enduring production certificates.	Applicant (<u>SRO, ARO or TC</u>)	Switching Operator <u>CSS Certificate Authority</u>	Certificate Signing Request	Switching Portal
3.6.13 3.12	Following receipt of the Certificate Signing Request in 3.6.12.11.	Validate the request confirming that the request relates to an organisation that is authorised to request enduring production	Switching Operator <u>CSS Certificate Authority</u>		Internal process	N/A

		certificates in accordance with Paragraph 6.156.1 and progress with 3. 6.8.9 to 3. 6.118.10 .				
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4 Revocation of CSS Certificates

4.1 A certificate which has been issued by the CSS Certificate Authority shall be treated as valid for its stated purpose until such time as it is revoked.

4.2 The CSS Certificate Authority shall revoke a CSS User's certificate:

(a) where requested by the CSS User⁸;

(b) where any information in the certificate is known or suspected to be inaccurate;

(c) on suspected or known compromise of the private keys associated with the certificate;

(d) on suspected or known compromise of the media holding the private keys associated with the certificate;

(e) on instruction from the REC PAB (via the Code Manager), where the CSS User fails to comply with its obligations under this Code and/or its Access Agreement; or

(f) on instruction from the Code Manager, where the CSS User ceases to be a CSS User.

4.3 In addition, the CSS Certificate Authority may revoke a certificate in its sole discretion, to mitigate risk to the Switching Arrangements. Where this occurs, a report will be provided to the Code Manager within [5] Working Days.

4.4 Where certificates are revoked, the CSS Certificate Authority shall inform the relevant CSS User and include the relevant details on the Certificate Revocation List.

⁸[DCC to confirm if this is limited to the SRO or whether ARO and TCs can also revoke certificates]

45 Process for Establishing Webhooks

4.15.1 The "messaging" functionality within the CSS is based on real-time events triggered by action within the CSS, and these events are then pushed out to the relevant CSS Users who are subscribed to those events.

4.25.2 Prior to becoming a CSS User, an applicant shall subscribe to the events relevant to its role. ~~Its request will be validated by the CSS~~ Some event types are mandatory for certain roles where a Market Participant is required to send a Market Message in accordance with a REC Schedule; therefore, an applicant must subscribe to all of these and failure to do so will result in an error response. A request will be validated by the CSS Provider, making sure that it is eligible to be given access to the relevant event. Then a subscription key will be issued to the applicant and also stored within CSS.

4.35.3 An applicant may optionally request an x-api-key (normally a Universally Unique Identifier generated by themselves). This key can be updated by the CSS User at any time, by re-registering the webhook with a new x-api-key. The x-api-key is an additional means for a CSS User to ensure that messages originated from the CSS and for the CSS User to be in control of the keys and when they need to rotate them.

4.45.4 In order to establish webhooks and subscribe to the relevant events, applicants shall follow the process in the interface table below:

Ref	When	Action	From	To	Interface	Means
<u>45.4.1</u>	As required, following establishment of public and private keys.	Request details of the available event types and whether those event types have already been subscribed to.	Applicant	CSS Provider	Retrieve Webhook Services ⁹	CSS API
<u>45.4.2</u>	On receipt of the message described in <u>45.4.1</u> .	Perform synchronous validation and provide a response.	CSS Provider	Applicant	Standard Response Body ¹⁰	CSS API
<u>45.4.3</u>	Following <u>45.4.2</u> if message is valid.	Provide details of the available event types.	CSS Provider	Applicant	Available Webhook Services ¹¹	CSS API

⁹ [SV90127]

¹⁰ [SV90117]

¹¹ [SV90126]

4 5.4.4	Following receipt of the event details in 4 5.4.3.	Subscribe to the required event types. <i>Some event types are mandatory for certain roles, therefore an applicant must subscribe to all of these, failure to do so will result in an error response.</i>	Applicant	CSS Provider	Webhook Subscription ¹²	CSS API
4.4.5	<i>On receipt of the message described in 4.4.4.</i>	<i>Perform synchronous validation and provide a response.</i>	CSS Provider	Applicant	Standard Response Body¹³	CSS API
5.4.4.65	Following 5.4.4.5 if message is valid.	Store details within the CSS.	CSS Provider		Internal Process	
5.4.4.76	At any time, following 5.4.4.65 if a change to subscriptions is required.	Update subscription to required event types.	Applicant	CSS Provider	Webhook Subscription ¹⁴	CSS API
4.4.8	<i>On receipt of the message described in 4.4.7.</i>	<i>Perform synchronous validation and provide a response.</i>	CSS Provider	Applicant	Standard Response Body¹⁵	CSS API
5.4.4.97	Following 5.4.4.86 if message is valid.	Store details within the CSS.	CSS Provider		Internal Process	

¹² [SV90128]

¹³ [SV90117]

¹⁴ [SV90128]

¹⁵ [SV90117]

56 Process for CSS Testing

5.16.1 The arrangements for CSS Testing are set out in the Qualification and Maintenance Schedule.

Prior to initiating CSS Testing, applicants shall [placeholder for inclusion of any requirements to be confirmed by DCC] Testing shall be initiated following confirmation from the Code Manager in accordance with Paragraph 3.5 and provision of the required security certificates in accordance with the process in Paragraph 3.8.

6.2 Each applicant shall ensure the Systems it plans to use for constructing Market Messages, sending Market Messages and receiving responses or alerts over the CSS interface can detect any unauthorised software that has been installed or executed on them and any unauthorised attempt to install or execute software on them. If unauthorised software is detected or any attempt to install or execute software, the installation or execution of that software shall be prevented; and where any such software has been installed or executed, the applicants shall take remedial action.

6.3 Where a Market Participant or Switching Data Service Provider intends to use a CSS Interface Provider, the CSS Interface Provider may undertake testing on behalf of the applicant, or the applicant can place reliance on the testing executed by the CSS Interface Provider. The extent to which this is permissible will be determined by the Code Manager based on the overall business solution and the previously tested scenarios.

6.4 Before commencing CSS Testing the applicant shall:

- (a) produce relevant test artefacts and ensure these have been approved by the Switching Operator (which includes notification of intention to undertake testing, test readiness report, and a test plan incorporating the test schedule);
- (b) provide confirmation to the Switching Operator that an appropriate level of resource is available to support the CSS Testing process;
- (c) successfully complete connectivity testing to validate that the environment and test data are in place and that the applicant has implemented sufficient technology to support synchronous messaging;
- (d) ensure test data is in place and been verified; and
- (e) all required test tooling is in place and is available for the applicant as needed.

6.5 Where the Switching Operator is not satisfied that the applicant has met the criteria set out in Paragraph 6.4 it may:

- (a) prevent the applicant from undertaking CSS Testing until such time as Switching Operator is satisfied that the applicant meets the criteria;
- (b) provide provisional approval of the test readiness report (and approval to proceed) with an understanding that the outstanding documentation shall be provided before the start of testing, otherwise testing will not commence; or
- (c) refer the matter to the Code Manager. Where the Code Manager determines that the applicant has met the criteria, the Switching Operator shall schedule the start of testing as soon as reasonably practicable.

6.6 The Switching Operator shall make the test environments available and provide a test support service from 09:00 to 17:00 on each Working Day. The test environment may be used for testing outside these hours but will be unsupported.

6.7 Following completion of CSS Testing, the applicant shall provide a test completion report to the Switching Operator. The Switching Operator shall review test evidence and determine whether to approve the test completion report.

6.8 With 10 Working Days of receipt of the test completion report, the Switching Operator shall provide a test report to the applicant and the Code Manager identifying whether the applicant has successfully completed testing. Where the Switching Operator considers that the applicant has not successfully completed testing, the applicant may appeal the decision to the Code Manager.

~~5.26.9~~ Following successful completion of CSS Testing, the Code Manager shall inform the ~~Switching Operator~~ CSS Certificate Authority that the applicant is authorised to install ~~enduring~~production security certificates in accordance with Paragraph ~~3.6.3.8~~.

6.7 Undertakings by CSS Users¹⁶

6.17.1 Each CSS User shall:

- (a) comply with the CSS Certificate Policy published on the Switching Portal by the CSS Certificate Authority¹⁷;
- (b) ensure all information submitted in support of a certificate application is true, accurate and that they hold such rights as necessary to any trademarks or other such information submitted during the application for a certificate;
- (c) review the issued certificate to confirm the accuracy of the information contained within it before installation and first use;
- (d) use a trustworthy system for generating or obtaining a key pair and to prevent any loss, disclosure, or unauthorised use of the private key;
- (e) keep private keys confidential;
- (f) keep confidential, any passwords, passphrases, PINs, private keys or other personal secrets used in obtaining authenticated access to certificates and CSS Certificate Authority facilities until it is securely destroyed or deleted;
- (g) make only true and accurate representations to the CSS Certificate Authority as to the information required to determine eligibility for a certificate and for information contained within the certificate; and
- (h) exclusively use the certificate for legal purposes and restricted to those authorised purposes detailed within this REC Schedule.

7.2 Each CSS User shall:

¹⁶[Further work required to ensure all required provisions from the policy documentation have been included]

¹⁷ The CSS Certificate Authority is obliged by this Code to ensure that the CSS Certificate Policy remains consistent with this Code. In the event of any inconsistency with this Code, the requirements of this Code shall prevail.

- (a) retain all audit logs of basic user activities (e.g. logon, logoff, failed attempts) and security events for all information systems and services that interact with the CSS, within legal constraints, for a minimum of six months.
- (b) have a logical network schematic of the information systems and services in scope that interact with the CSS, and include:
 - (i) ~~Services~~ [Systems] and functionality ~~;~~ and
 - (ii) gateway/boundaries functionality ~~;~~ ;
- (c) ensure that the edge routers and switches in the data centres are physically secured with direct access only being granted to staff who have a demonstrable and approved need for access ~~;~~ and
- (d) ~~agree that it will~~ use its own time source for time synchronisation with its organisation and that time does not need to be synchronised across organisational boundaries.

~~6.27.3~~ CSS Users must report to the ~~Switching Operator~~ CSS Certificate Authority (via the Switching Portal) any compromise or suspected compromise of the private keys associated with any of their certificates as soon as they become aware of such breach or suspected breach, providing the ~~Certificate~~ 'Certificate Distinguished Name' and ~~Certificate~~ 'Certificate Serial Number' to enable certificates to be revoked. ~~Where certificates are revoked, the PKI Service Provider will include the relevant details on the Certificate Revocation List¹⁸, published in accordance with the PKI Service Definition.~~

7.4 ~~Where a CSS User is relying on a certificate to authenticate another organisation named in the certificate, it shall check the Certificate Revocation List to ensure the relevant certificate has not been revoked.~~

~~6.37.5~~ CSS Users shall maintain their CSS subscriptions in relation to mandatory event types at all times. Where a CSS User attempts to delete a subscription in relation to a mandatory event type, the CSS will reject the request.

7.6 ~~Each CSS User shall ensure that it carries out assessments that are designed to identify any vulnerability of its Systems prior to accessing any testing services using such Systems and on at least an annual basis.~~

7.7 ~~Where a CSS User detects a material vulnerability in its Systems, the CSS User shall take reasonable steps to ensure that the cause of the vulnerability is rectified, or the potential impact of the vulnerability is mitigated, as soon as is reasonably practicable. The CSS User shall also promptly notify the Code Manager and the Switching Operator, of the steps being taken to rectify its cause or mitigate its potential impact on CSS Systems and the timescales for rectification.~~

~~6.47.8~~ CSS Users shall comply with ongoing assurance requirements in accordance with the ~~REC~~ Qualification and Maintenance Schedule.

~~6.57.9~~ A CSS User's breach of this Paragraph ~~767~~ shall constitute an Event of Default for the purposes of Clause 16 of the main body of this Code.

¹⁸~~[URL for the Certificate Revocation List to be included in the Service Definition]~~

78 Ceasing to be a CSS User

~~7.18.1~~ An organisation shall cease to be a CSS User where its Access Agreement is terminated (or ends in so far as applicable to the CSS arrangements); or it ceases to be a Party in accordance with the Exit Management Schedule.

~~1~~ **Appendix 1**

8.2 Where an organisation ceases to be a CSS User, the Code Manager shall notify the CSS Certificate Authority who will revoke the relevant security certificates.

Appendix 1 SRO / ARO Validation Procedures

1 Senior Responsible Officer

- 1.1 The SRO is an executive or senior individual within the CSS User (or applicant) organisation who has the authority to make decisions for or on behalf of the organisation.
- 1.2 The ~~SRO~~ Senior Responsible Officer is ultimately responsible, on behalf of the organisation, for all activities associated with the PKI Managed Service, including:
- (a) appointment of an ~~ARO~~ Appointed Responsible Officer;
 - (b) appointment of a Technical Contact ~~(see Technical Contact (TC));~~;
 - (c) ensuring the appointment of ~~the SRO and ARO~~ Appointed Responsible Officer is validated in accordance with ~~the SRO/ARO Employment Validation procedures detailed in paragraph 4 of this Appendix 1;~~
 - (d) ensuring the ~~ARO~~ Appointed Responsible Officer and Technical Contact agree to the terms of usage as defined in ~~the Paragraph 3.3;3.4 of this REC Schedule;~~
 - (e) if an employee of a CSS Interface Provider is appointed as the Technical Contact for the Market Participant, ensuring that the CSS User has appropriate security controls in place with the CSS Interface Provider for the management of security credentials;
 - (e)(f) ensuring he/she is aware of certificate activities such as Certificate Signing Requests (CSRs) or requests for certificates where the Senior Responsible Officer is not directly engaged in the process;
 - (f)(g) issuing requests for revocation certificates to the ~~Switching Operator~~ CSS Certificate Authority; and
 - (g)(h) establishing effective communication between the ~~SRO, ARO~~ Senior Responsible Officer, Appointed Responsible Officer and Technical Contact to ensure their awareness of certificate activities and that duplicate requests for certificates are not being submitted to the Switching Operator.
- 1.3 It is a mandatory requirement that each ~~organisation~~ CSS User (or applicant) seeking to obtain certificates appoints ~~an SRO~~ a Senior Responsible Officer.

2 Appointed Responsible Officer ~~(ARO)~~

- 2.1 The ~~SRO~~ Senior Responsible Officer may at any time nominate an individual to become an Appointed Responsible Officer ~~(AROs)~~. It is not mandatory to appoint an ~~ARO~~ Appointed Responsible Officer.
- 2.2 The ~~ARO~~ Appointed Responsible Officer will have the key responsibilities of requesting certificates on behalf of the organisation. Broader responsibilities, as defined above for the ~~SRO~~ Senior Responsible Officer, are at the discretion of the organisation.
- 2.3 The level of seniority of ~~the ARO~~ each CSS User's Appointed Responsible Officer is at the discretion of the ~~organisation~~ CSS User.
- 2.4 The term or duration of time the ~~ARO~~ Appointed Responsible Officer will serve in this capacity

is at the discretion of the SRO.

2.5 The ~~ARO~~Appointed Responsible Officer should ensure the ~~SRO~~Senior Responsible Officer is aware of all activities relating to certificates. The method by which this is achieved is the responsibility of the organisation, not the ~~Switching Operator~~CSS Certificate Authority.

2.6 An ~~ARO~~Appointed Responsible Officer, if appointed, must be validated in accordance with Employment Validation procedures detailed in paragraph 4 of this Appendix 1.

3 ~~Technical Contact (TC)~~

3.1 The ~~TC~~Technical Contact is an individual who has the technical knowledge and capability to create Certificate Signing Requests and address all technical matters associated with the certificates on behalf of the organisation.

~~3.2 The TC has the authorisation to request certificates on behalf of the organisation and to discuss all things technical in relation to the certificates with the Switching Operator.~~

~~3.3.2~~ A ~~TC~~CSS User's Technical Contact does not need to be an employee of the ~~organisation~~CSS User.

~~3.4.3~~ It is not a requirement for the ~~TC~~appointment of the Technical Contact that his/her employment to be by the appointing organisation is validated by the organisation. This is because a ~~TC~~Technical Contact may be an employee of a different organisation such a service provider. In this case it is expected that there will be a commercial agreement between the employer of the Technical Contact and the CSS User. It is the responsibility of the ~~SRO~~CSS User (via its Senior Responsible Officer) to ensure that there is effective communication between the ~~SRO, ARO~~Senior Responsible Officer, Appointed Responsible Officer and ~~TC~~Technical Contact.

4 Employee Validation

4.1 The requesting organisation must validate¹⁹ the ~~SRO~~Senior Responsible Officer and ~~ARO~~Appointed Responsible Officer (if one is appointed) ~~and the Technical Contact (if he/she is an employee of their organisation).~~

4.2 The following list of roles (in order of priority) will be accepted by the ~~Switching Operator~~CSS Certificate Authority to confirm employment ~~;~~:

(a) any ~~Officer, except the SRO, officer~~ that is identified in Companies House as an ~~Officer or officer of~~ the requesting organisation;

~~(b) the executive of human resources; or~~

~~(b)(c) the Chief Executive of Human Resources; Officer, Chief Operating Officer or Chief Technical Officer.~~

~~(c) the CEO, COO or CTO.~~

~~4.3 The appropriate officer shall send the forms and confirmations required by the CSS Certificate Authority in accordance with the process defined in Paragraph 3.8 of this REC Schedule.~~

¹⁹ Neither the SRO nor ARO will be required to submit personal information.

4.4 Once a CSS User has received a letter of confirmation from the CSS Certificate Authority, the CSS User can create its Certificate Signing Requests.