Annex 13
Description of the EC's national registry, in accordance with the guidelines under Article 7 of the Kyoto Protocol

Description of the EC's national registry

The description of the EC's national registry follows the reporting guidance set down in Decision 15/CMP.1, part II (Reporting of supplementary information under Article 7, paragraph 1, E. National registries) under the Kyoto Protocol.

3.6.1 Name and contact information of the registry administrator designated by the Party to maintain the national registry

Name	Director General of the Environment Directorate General Mr Peter M. Carl
Address	European Commission 1049 Brussels
Country	Belgium
Telephone number	Tel: +32 2 298 4052
E-mail	Email: env-citladmin@ec.europa.eu

3.6.2 Names of any other party with which the party cooperates by maintaining their respective registries in a consolidated system
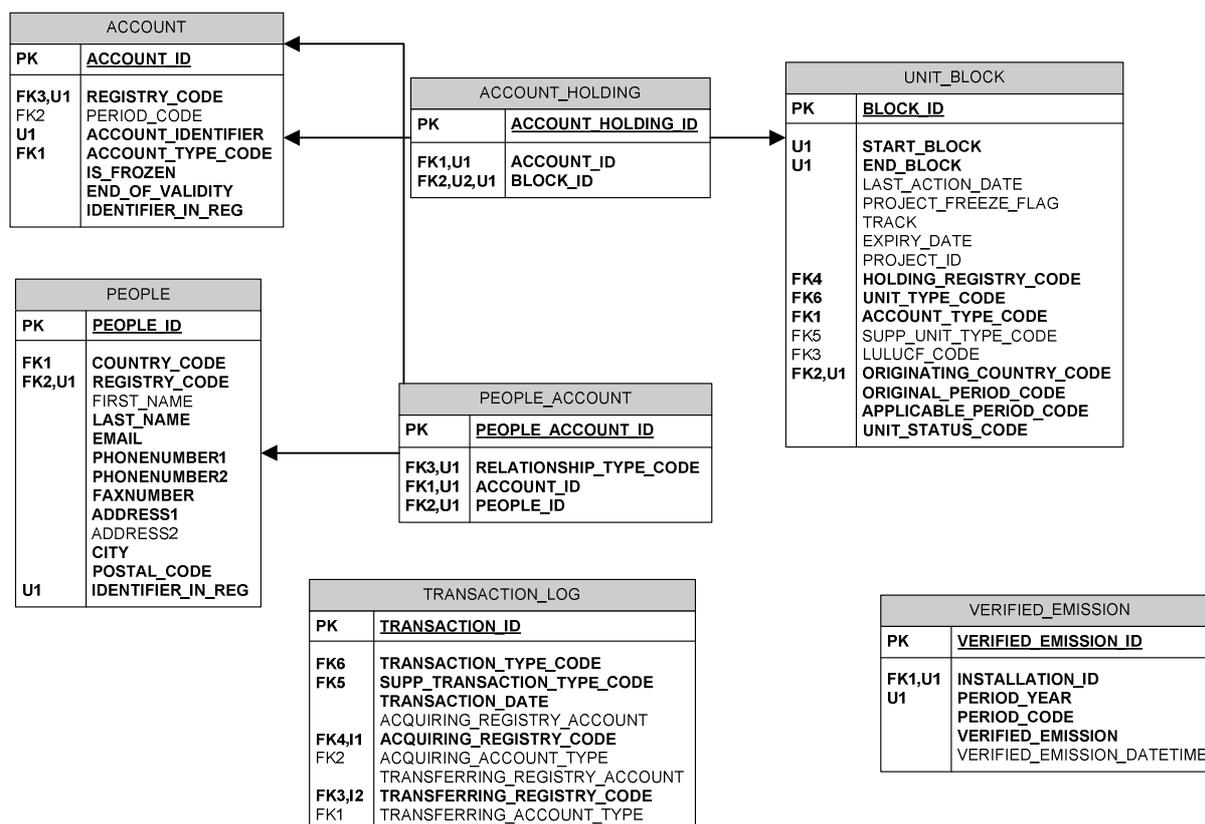
The EC National registry is not currently operated in a consolidated system with any other party's registry.

3.6.3 A description of the database structure used in the national registry

The Community Registry (CR) has been conceived and will operate in accordance with the European Commission Regulation (EC) No 2216/2004 of 21 December 2004 for a standardised and secured system of registries pursuant to Directive 2003/87/EC of the European Parliament and of the Council and Decision No 280/2004/EC of the European Parliament and of the Council.

Database structure

Please find below an extract of the database structure for the account management:

ACCOUNT

PK	ACCOUNT_ID
FK3,U1	REGISTRY_CODE
FK2	PERIOD_CODE
U1	ACCOUNT_IDENTIFIER
FK1	ACCOUNT_TYPE_CODE
	IS_FROZEN
	END_OF_VALIDITY
	IDENTIFIER_IN_REG

ACCOUNT_HOLDING

PK	ACCOUNT_HOLDING_ID
FK1,U1	ACCOUNT_ID
FK2,U2,U1	BLOCK_ID

UNIT_BLOCK

PK	BLOCK_ID
U1	START_BLOCK
U1	END_BLOCK
	LAST_ACTION_DATE
	PROJECT_FREEZE_FLAG
	TRACK
	EXPIRY_DATE
	PROJECT_ID
FK4	HOLDING_REGISTRY_CODE
FK6	UNIT_TYPE_CODE
FK1	ACCOUNT_TYPE_CODE
FK5	SUPP_UNIT_TYPE_CODE
FK3	LULUCF_CODE
FK2,U1	ORIGINATING_COUNTRY_CODE
	ORIGINAL_PERIOD_CODE
	APPLICABLE_PERIOD_CODE
	UNIT_STATUS_CODE

PEOPLE

PK	PEOPLE_ID
FK1	COUNTRY_CODE
FK2,U1	REGISTRY_CODE
	FIRST_NAME
	LAST_NAME
	EMAIL
	PHONENUMBER1
	PHONENUMBER2
	FAXNUMBER
	ADDRESS1
	ADDRESS2
	CITY
	POSTAL_CODE
U1	IDENTIFIER_IN_REG

PEOPLE_ACCOUNT

PK	PEOPLE_ACCOUNT_ID
FK3,U1	RELATIONSHIP_TYPE_CODE
FK1,U1	ACCOUNT_ID
FK2,U1	PEOPLE_ID

TRANSACTION_LOG

PK	TRANSACTION_ID
FK6	TRANSACTION_TYPE_CODE
FK5	SUPP_TRANSACTION_TYPE_CODE
	TRANSACTION_DATE
	ACQUIRING_REGISTRY_ACCOUNT
FK4,I1	ACQUIRING_REGISTRY_CODE
FK2	ACQUIRING_ACCOUNT_TYPE
	TRANSFERRING_REGISTRY_ACCOUNT
FK3,I2	TRANSFERRING_REGISTRY_CODE
FK1	TRANSFERRING_ACCOUNT_TYPE

VERIFIED_EMISSION

PK	VERIFIED_EMISSION_ID
FK1,U1	INSTALLATION_ID
U1	PERIOD_YEAR
	PERIOD_CODE
	VERIFIED_EMISSION
	VERIFIED_EMISSION_DATETIME

Capacity of the registry

The registry is designed to support the management of the 3000-5000 accounts. Its architecture is scalable in order to be able to increase its capacity if needed.
The registry is currently not in used, there is no account opened.

3.6.4 A description of how the national registry conforms to the technical standards for the purpose of ensuring the accurate, transparent and efficient exchange of data between national registries, the clean development registry and the independent transaction log, including (i) to (vi) below

The Community Registry (CR) has been conceived and will operate in accordance with the European Commission Regulation (EC) No 2216/2004 of 21 December 2004 for a standardised and secured system of registries pursuant to Directive 2003/87/EC of the European Parliament and of the Council and Decision No 280/2004/EC of the European Parliament and of the Council. The Community Registry adheres to the data exchange standards for registry systems under the Kyoto Protocol (DES), technical specifications Version 1.1.

(i) A description of the formats used in the national registry for account numbers, serial numbers for ERUs, CERs, AAUs, and RMUs, including project identifiers and transaction numbers

The formats used in the registry are as specified in the DES 1.1 Annex F — Definition of identifiers.
The display format is controlled via the registries web configuration file.

(ii) A list, and the electronic format, of the information transmitted electronically when transferring ERUs, CERs, AAUs, and/or RMUs to other registries:

The formats used in the registry to transmit information to other registries are specified in the DES 1.1.

(iii) A list, and the electronic format, of the information transmitted electronically when acquiring ERUs, CERs, AAUs, and/or RMUs from other national registries or the CDM registry:

The formats used in the registry to acknowledge the messages transmitted to other registries are specified in the DES 1.1.

(iv) A list, and the electronic format, of the information transmitted electronically from the national registry to the independent transaction log when issuing, transferring, acquiring, canceling and retiring ERUs, CERs, AAUs, and/or RMUs:

The formats used in the registry to transmit information to other registries are specified in the DES 1.1.

(v) An explanation of the procedures employed in the national registry to prevent discrepancies in the issuance, transfer, acquisition, cancellation and retirement of ERUs, CERs, AAUs, and/or RMUs

In order to minimise discrepancies between the Community Registry (CR) and the transaction log, the following approach has been adopted for the registry system development for the EU Emissions Trading Scheme.

- Communications between the national registry and the ITL are via web-services using XML messages — as specified in the DES 1.1. These web services, XML message format and the processing sequence are checked by the registry to ensure the compliance with DES 1.1;
- The registry validates data entries against the formats of information as specified in Annex F of the DES 1.1;
- The registry implements internal controls in accordance with the checks performed by the ITL — as documented in Annex E of the UN DES 1.1. The checks are performed in addition to the checks performed by the ITL and prior to sending transaction requests to the ITL for processing. To the extent of the information managed by the registry, these measures prevent the users to send erroneous transaction requests to the ITL;
- All units that are involved in a transaction shall be earmarked internally within the registry; thereby preventing the units from being involved in another transaction until a response has been received from the ITL and the current transaction has been completed;
- The web service that sends the message to the ITL for processing will ensure that a message received acknowledgement is received from the ITL before completing the submission of the message. Where no acknowledgement message has been received following a number of retries, the web-service would terminate the submission and roll back any changes made to the unit blocks that were involved;

- Where a 24 hour clean-up message is received from the ITL, the existing web service would rolling back any pending transactions and the units that were involved, thereby preventing any discrepancies in the unit blocks between the registry and the ITL;
- Finally, if an unforeseen failure were to occur, the data discrepancies between our registry and the ITL can be corrected via a manual intervention function within our registry. Following this, reconciliation will be performed to validate that the data is in sync between the registry and the ITL.

If a discrepancy reoccurs in the registry, the following measures will be applied:
- Identification, and registration of the discrepancy;
- Identification of the source of the discrepancy (DES, registry specifications, erroneous programming code);
- Elaboration of a resolution plan and testing plan;
- Correction and testing of the software;
- Release and deployment of the corrected software.

(vi) An overview of the security measures employed in the national registry to deter unauthorized manipulations and minimize operator error

For the EC registry the following security measures have been taken:

Identification and Authentification
Access to the registry is allowed via a personal username and password in accordance with annex XV of the European Commission Regulation (EC) No 2216/2004 of 21 December 2004 for a standardised and secured system of registries pursuant to Directive 2003/87/EC of the European Parliament and of the Council and Decision No 280/2004/EC of the European Parliament and of the Council.

Access control
The system manages access rights for each user and for a particular role to the user. Only users with the role "Administrator" are authorised to manage to registry software and to assign access rights themselves. Users with the role "Operator" are only allowed to view their own transactions and accounts. Each access to a function of the registry is first verified whether the user has the corresponding rights.

Authentication attempts and access are recorded by audit. Database manipulations are only carried out by protected, internal stored procedures which are not accessible directly from the user interface and can only be invoked by our internal web services.

Access protection
In order to prevent operator errors, our registry software incorporates validations on all user inputs to ensure that only valid details are submitted for processing;
The registry displays confirmation of user input to help the user to spot any errors that had been made and implements an internal approval process for secondary approval for relevant operations before submitting the details to the ITL for processing.

3.6.5 A list of the information publicly accessible through the user interface to the national registry

The information which will be publicly accessible by means of the user interface to the national registry is described under annex XVI of the European Commission Regulation (EC) No 2216/2004 of 21 December 2004 for a standardised and secured system of registries pursuant to Directive 2003/87/EC of the European Parliament and of the Council and Decision No 280/2004/EC of the European Parliament and of the Council.

3.6.6 An explanation of how to access information through the user interface of the national registry

The Community Registry is currently not in use, therefore not accessible to the public via an internet address. When the registry will be in use, the information accessible via the registry web site will be classified as following:

Public information: Information available via the registry web site which does not require any user authentication (e.g. Public reports)

Restricted information: Information available after logging in the registry software and related to the authentified users (e.g. Account holdings, Transactions, installations, ...).

Administration information: Information only available to the registry administrator (National account management, registry configuration, message logging, reconciliation information,...)

CR web site menu:
> **Welcome**
> **Account Creation**
> - Request OHA , - Request PHA, - Request Party Account
> **Public Reports**
> - Account Holdings, -Transaction Info, -Project List, -Account List
> **My Registry**
> - My Accounts, - My Transactions, - My Notifications
> **Registry Mgt**
> - Issuance, - Account Approval, - Reconciliations ,- Clean Up
> **ETS Management**
> - Upload NAP, - Allowance Allocation, - Allowance Correction, - Cancel - Replace
> - Retirement 2005-2007, - Retirement 2008-2012, - Permit Mgt, Installation Mgt, Trading Agreements
> **Kyoto Management**
> - Create Project, - Project Mgt, - Carry Over, - Retirement 2008-2012
> **Registry Support**
> - Authorisation Limits, - Message Log, - Unit Blocks, - Unit Holding Permission, - Time Synchronisation, - User Mgt, -Welcome Mgmt, - Registry Locking

TEST procedures

This plan documents the testing activities to be conducted by the MS registry administrator or the assigned testing coordinator in order to demonstrate the ability of the registry to perform the processes required under the ETS and its good functioning in conjunction with the Community Independent Transaction Log.

The test cases are mainly based on prior work including:

- The *Commission Regulation (EC) 13/11/2006,* document contains the detailed specifications of the technical aspects of the system, including the details of the WSDL and the definitions of the process flows to be tested;

- The *Data Exchange Standards for Registry Systems under Community Scheme V2.2*, document containing the description of the processes, transaction types and supplementary transaction types applicable to the EC registry system

Guiding principles and Assumptions

The purpose of process testing is to verify that (i) data acceptance, processing, and retrieval is achieved properly, and (ii) both the UNFCCC Data Exchange Standards and EC Data Exchange Standards have been implemented properly.
The process testing will be achieved through the definition of test cases covering all categories of test as summarized in the table below:

Category (code)	Description
Transaction Specific Tests ("xx-yy")	Validation of the transaction processes by performing a complete life cycle of transaction testing.
Management Tests: • clAcc • crAcc • uAcc • uVE	Registry Management Tests: • Close Account • Create Account • Update Account • Update Verified Emissions
Reconciliation Tests ("RECO")	Validation of the reconciliation process.
Upload of Nap tests (NAP)	Validation of the Nap upload functions
Transaction Status (TXST)	Validation of the GetTransactionStatus function

Test cases will be identified by the following attributes:
- Test ID: Test case unique identifier, which will consist of a category code followed by a unique identification number;
- Test Name: Name of the test case;
- Test Description : Description of the purpose of the test case;
- Pre-Requisites: Description of the situation within the CITL before the test case has been initiated; this describes the accounts involved in the test case as well as their relation to the unit blocks before the test case has been initiated;
- Expected Results: Description of the situation within the CITL once the test case will have been completed; this describes the accounts involved in the test case as well as their relation to the unit blocks after the test case has been completed;
- Response codes: List of response codes expected from the test case;
- The parameters: Information submitted by the MS Registry to the CITL.

Prerequisites
- The database has to be reset so all old data is deleted.
- The XML-files for the NAP have to be created in advance

Test results annex H with ITL:
Title: Community Registry Test results November 2007
Date of Testing : 5th and 6th November 2007
Person responsible for Testing : Susanne Stjernstroem

Step	Description	Result	Tx-Type	Remarks
1	NAP Upload from National Registry of EC-CR for Commitment Period 0	OK		
2	NAP Upload from National Registry of EC-CR for Commitment Period 0	OK		
3	NAP Upload from National Registry of EC-CR for Commitment Period 1	OK		
4	Upload of corrected NAP from National Registry of EC-CR for Commitment Period 0	OK		
5	Upload of corrected NAP from National Registry of EC-CR for Commitment Period 1	OK		
6	Creation of Party Holding Accounts, Cancellation Accounts and Retirement Accounts	OK		
7	Creation of two Operator Holding Accounts and their related installations and two Person Holding Accounts.	OK		
8	Issuance of Allowances for Commitment Period 0 (2005-7)	OK	1-51	
9	Allocation of Allowances to Operators during Commitment Period 0 (2005-7).	OK	10-53	
10	Internal Transfer of Allowances having 0 as both original and applicable Commitment Period from a party holding account to an operator holding account.	OK	10-0	
11	Internal Transfer of Allowances having 0 as both original and applicable Commitment Period between 2 operator holding accounts.	OK	10-0	
12	Issuance of additional Allowances having 0 as both original and applicable commitment period	OK	1-51	
13	Upload of corrected NAP from National Registry of EC-CR for Commitment Period 0	OK		
14	Correction of Allowances having 0 as both original and applicable Commitment Period from a party holding account to an appropriate national cancellation account.	OK	10-55	
15	External transfer of Allowances having 0 as both original and applicable commitment period.	OK	3-21	Transfer to DE and DK
16	Update of account	OK		
17	Update of Verified Emissions.	OK		
18	Account closure.	OK		
19	Get transaction status.	OK		
20	Time synchronisation	OK		
21	Issuance of 40,000 Force Majeure Allowances having 0 as both original and applicable commitment period.	OK	1-54	
22	Cancellation of Allowances having 0 as both original and applicable Commitment Period from an operator holding account to an adequate cancellation account.	OK	10-1	
23	Surrendering of Allowances having 0 as both original and applicable Commitment Period from an operator holding account to a party holding account.	OK	10-2	
24	Issuance, in a party holding account within the national registry of EC-CR, of AAUs having 1 as both original and applicable commitment period.	OK	1-0	
25	Cancellation and replacement of allowances having 0 as both original and applicable commitment period into allowances having 1 as both original and applicable commitment period.	OK	10-41	
26	Retirement of Allowances having 0 as both original and applicable Commitment Period from a party holding account to the appropriate retirement account having 0 as applicable commitment period.	OK	4-3	
27	Conversion, into a party holding account within the national registry of EC-CR, of AAUs having 1 as both original and applicable commitment period into ERU's having 1 as both original and applicable commitment	OK	2-0	

	period, in the context of a project having 222 as project unique identification number and 2 as track number.				
28	External transfer of AAUs having 1 as both original and applicable commitment period, from a party holding account within the national registry of EC-CR to a party holding account within the national registry of Belgium.	OK	3-0		Transfer to DE and DK
29	Issuance, in a party holding account within the national registry of EC-CR, of allowances having 1 as both original and applicable commitment period.	OK	10-52	
30	NAP Upload CP1	OK			
31	Correction of Allowances having 1 as both original and applicable Commitment Period in a party holding account by converting back to AAUs.	OK	10-55		
32	Surrendering, for the year 2010 of allowances having 1 as both original and applicable Commitment Period from an operator holding account to a party holding account.	OK	10-2		
33	Issuance, in a party holding account within the national registry of EC-CR, of AAUs having 2 as both original and applicable commitment period.	OK	1-0		
34	Cancellation and replacement of allowances having 1 as both original and applicable commitment period into allowances having 2 as both original and applicable commitment period.	OK	10-41		
35	Retirement of allowances having 1 as both original and applicable commitment from a party holding account to a retirement account having 1 as applicable commitment period	OK	5-0		
36	Negative Reconciliation.	OK			The balance of one operator account was manually changed, so we could see the manually intervention
37	Positive Reconciliation.	OK			
ANNEX H FUNCTIONS					
Section 3					
1	Issuance CP1	OK	01.00		
2	Conversion	OK	02.00		
3	External transfer	OK	03.00		
4	Cancellation	OK	04.00		
5	Retirement	OK	05.00		
6	Replacement	OK	06.00		
7	Carry-over	OK	07.00		
8	Expire date change	OK	08.00		
9	Time sync	OK			
10	Reconciliation	OK			
Section 4					
10	Issuance	OK	01.00		
11	Conversion	OK	02.00		
12	External transaction	OK	03.00		The external transaction is on purpose terminated
13	24 hours clean up	OK			
14	External transaction	OK	03.00		From the CDM
15	Cancellation	OK	04.00		
16	Expire date change	OK	08.00		
17	Retirement	OK	05.00		
18	Replacement	OK	06.00		
19	Carry-over	OK	07.00		
Section 5					
20	Account management	OK			Create account Update account Close account Verify emission
21	Internal transaction	OK	10.00		Between different account types