General Information (Origin of Request)		
☒ User Requirements Document (URD) ☐ User Detailed Functional Specification (UDFS) ☐ User Handbook (UHB) ☐ Other User Functional or Technical Documentation (SYS)		
Request raised by: ECB	**Institute:** ECB	**Date raised:** October 2019
1. **Request title:** Two-tier excess liquidity remuneration		**Request ref. no:** CSLD-0031-URD
Request type: Common		
1. Legal/business importance parameter: High		**2. Market implementation efforts parameter – Stakeholder impact:** Medium
3. Operational impact: Low		**4. Financial impact parameter:**
5. Functional/ Technical impact: High		**6. Interoperability impact:** na
Requestor Category: TSWG		**Status:** 4CB detailed assessment

Reason for change and expected benefits/business motivation:

This change request CSLD-0031-URD implements the following policy in T2/CLM (the text below is copied from the relevant ECB Communication):

The Governing Council of the European Central Bank (ECB) has decided to introduce a two-tier system for reserve remuneration, which exempts part of credit institutions' excess liquidity holdings (i.e. reserve holdings in excess of minimum reserve requirements) from negative remuneration at the rate applicable on the deposit facility. This decision aims to support the bank-based transmission of monetary policy, while preserving the positive contribution of negative rates to the accommodative stance of monetary policy and to the continued sustained convergence of inflation to the ECB's aim.

All credit institutions subject to minimum reserve requirements under Regulation ECB/2003/9 will be eligible for the two-tier system. The two-tier system will apply to excess liquidity held in current accounts with the Eurosystem but will not apply to holdings at the ECB's deposit facility. The volume of reserve holdings in excess of minimum reserve requirements that will be exempt from the deposit facility rate – the exempt tier – will be determined as a multiple of an institution's minimum reserve requirements. The multiplier will be the same for all institutions. The Governing Council will set the multiplier such that euro short-term money market rates are not unduly influenced. The multiplier may be adjusted by the Governing Council in line with changing levels of excess liquidity holdings. Any adjustment to the multiplier will be announced and will apply as of the following maintenance period after such decision is made. The size of the exempt tier is determined on the basis of average end-of-calendar-day balances in the institutions' reserve accounts over a maintenance period.

The exempt tier of excess liquidity holdings will be remunerated at an annual rate of 0%. The non-exempt tier of excess liquidity holdings will continue to be remunerated at zero percent or the deposit facility rate, whichever is lower.

The two-tier system will first be applied in the seventh maintenance period of 2019 starting on 30 October 2019. The multiplier that will be applicable as of that maintenance period will be set at 6. The remuneration rate of the exempt tier and the multiplier can be changed over time.

Note: Credit institutions using an intermediary to fulfil their minimum reserve requirements shall not be eligible for the two-tier system. Hence, all holdings of these institutions will continue to be defined as (non-exempt tier of) excess liquidity holdings and are to be numerated at zero percent or the deposit facility rate, whichever is lower.

For those credit institutions, using an intermediary to fulfil their minimum reserve requirements, the following example shall illustrate the requested change:

Bank A manages its minimum reserve requirements through an intermediary (Bank B). Bank A and B have minimum reserves requirements of 100 and 400 respectively. At the end of each maintenance period, the holdings on all accounts of Bank A will be considered as (non-exempt) excess reserve holdings and are to be numerated accordingly (at the remuneration rate for the non-exempt tier of excess liquidity holdings).

The holdings on the account(s) of Bank B will be tiered into

a) minimum reserve holdings: up to and including 500 (400 + 100 = 500),
b) exempt tier of excess liquidity holdings: from 500 onwards up to and including 3.500 (500 * 6 = 3.000) and
c) non-exempt tier of excess liquidity holdings: all holdings above 3.500.

At the end of the maintenance period, the holdings of Bank B are to be numerated accordingly at the minimum reserve remuneration rate applicable to tier a), the remuneration rate for the exempt tier of excess liquidity holdings applicable to tier b) and the remuneration rate for the non-exempt tier of excess liquidity holdings applicable to tier c).

Description of change:

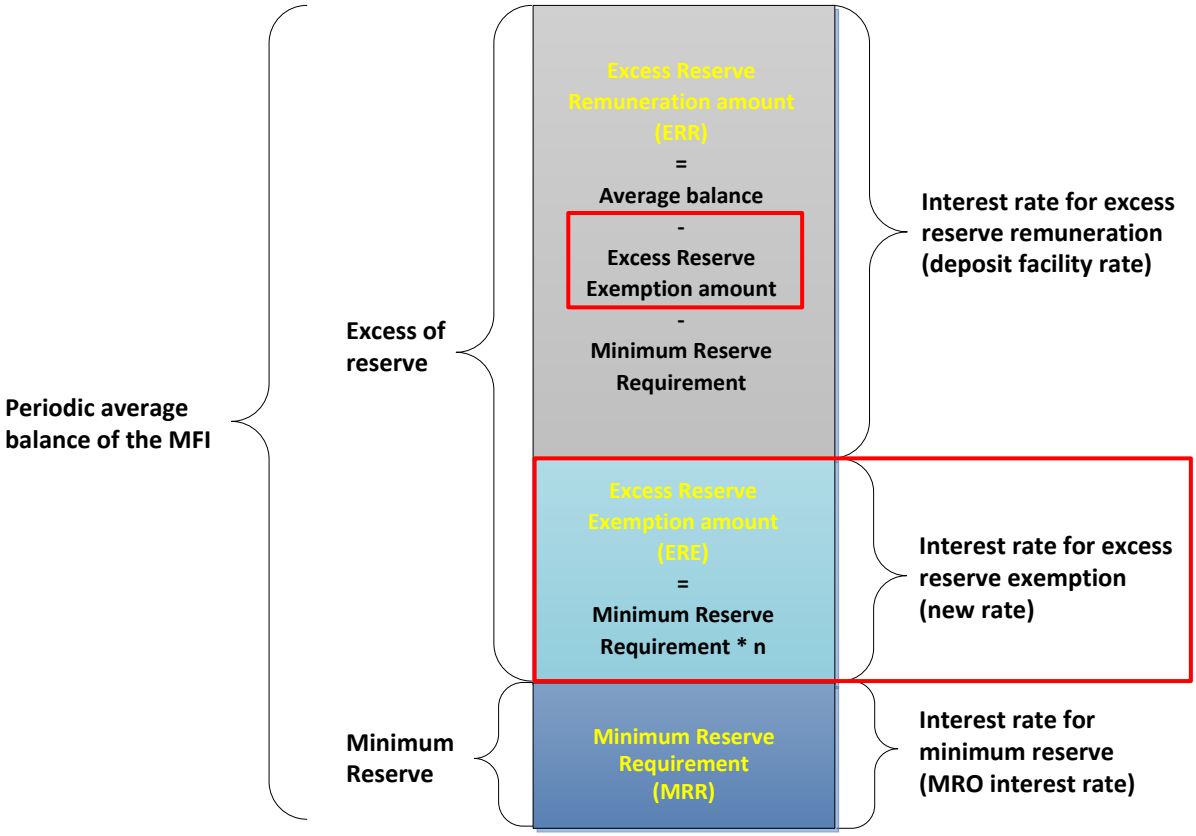
The remuneration of the excess of the minimum reserve requirements should be split and remunerated with two different interest rates (instead of one which was the current approach).
Therefore, a new interest rate needs to be introduced so that for the excess of reserve (if any) the interests will be computed by using 2 interest rates as follows:

1. New rate “Excess reserve interest rate (exempt tier)”: it is applied to the excess reserve amount up to/equal to the value “Minimum reserve requirement * n” (the so called “excess reserve exemption amount”). “n” is the “Factor for the calculation of the excess reserve exemption amount” and limited as follows: 99.99=>n>=0 (Note: the possibility to use the value ‘0’ allows the “deactivation” of the new feature, i.e. the exempt tier of excess liquidity holdings would be set to zero for all institutions).
2. Existing interest rate “Excess reserve interest rate (non-exempt tier)”: it is applied to the excess reserve amount beyond “Minimum reserve requirement * n” (the so called “excess reserve remuneration amount”). So this part of the excess is still to be remunerated at zero per cent or the deposit facility rate, whichever is lower, according to Article 2 of Governing Council decision ECB/2014/23 published on 5 June 2014.

This behaviour shall be applicable for balances held on cash accounts in CLM, RTGS, T2S and TIPS which are taken into account for fulfilling minimum reserve obligations, i.e. where the CLM Configuration attribute “Minimum Reserve Obligation” in CRDM is set to “Direct” or “Pool”. In case of “Pool”, the sum of balances of accounts in the pool is to be considered.

Note: The two-tier system shall be only applicable to institutions holding their minimum reserves directly on one (“Direct”) or several (“Pool”) accounts. Hence, no change is to be introduced for parties holding their minimum reserves through an intermediary (“Indirect”).
Amounts on overnight deposit accounts are remunerated with the rules already existing and no changes are to be applied there.

Graphical illustration of the new requirement:



Example for the calculation with the current rates:
Periodic average balance of the MFI: 1,000,000 EUR
Minimum reserve requirement of the MFI: 100,000 EUR
Factor for calculation of the excess reserve exemption amount ("n"): 6
MRO interest rate: 0.00% => to be applied for 100,000 EUR
New excess reserve exemption interest rate: 0.00% => to be applied for 600,000 EUR (6*100,000 EUR)
Excess reserve interest rate: -0.40% => to be applied for 300,000 EUR (1,000,000 - 100,000 - 600,000 EUR)

Changes in CRDM and in the DWH:

New objects/attributes need to be foreseen in CRDM (Minimum Reserve Management/Minimum Reserve Configuration) for CLM and in the DWH in order to be able to calculate and display the "excess reserve exemption amount" for each institution and pay the respective interest on it:

- Factor for calculation of the excess reserve exemption amount ("n"): 99.99>=n>=0.00
- Excess reserve exemption rate (new/additional interest rate being used to calculate the interest on the excess reserve exemption amount stemming from CRDM)
- Excess reserve exemption amount (only in DWH)

In addition, the following changes have to be made (CLM/DWH):

- The CLM GUI screen(s) and CLM minimum reserve queries need to be adapted in order to reflect the new information (e.g. the excess reserve exemption amount) stemming from the two-tier exemption scheme per institution/community accordingly.
- The minimum reserve excess reserve calculation and the minimum reserve excess reserve interest calculation in CLM need to be adapted taking into account the two-tier exemption scheme and the new data objects.
- Within the DWH the predefined report MIR01 needs to be adapted in order to reflect the excess reserve exemption amount and the respective interest amount for each institution respectively.
- The new data (objects) and calculation results need to be foreseen for the CLM data transfer into the DWH (EoD)

Description of requested change:

- Changes to CLM URD - CB Annex:
  - Section 2.10 “Minimum Reserve and Excess Reserve Management”
  - CLM.CB.UR.CBS.UI.020 and CLM.CB.UR.CBS.UI.030
- Changes to CLM.UR.CLM.UI.040 of the CLM URD

Reports and queries currently foreseen should include information on the exempt and non-exempt excess reserves. This applies in particular to:

- Predefined Datawarehouse report MIR01 (As MIR02 only contains information on (aggregated) minimum reserve requirements (but not on excess reserves), it is not impacted by the exemption scheme)
- Camt.004, introduction of new balance typesrepresenting the threshold between the exempt and non-exempt tiers of excess reserve /Document/RtrAcct/RptOrErr/AcctRpt/AcctOrErr/Acct/MulBal/Tp/Cd
  - «EXRE« for Excess Reserve Exemption(tier 1)
  - «EXRR« for Excess Reserve Renumeration (tier 2)
  - **Note:** For camt.004 data type ExternalSystemBalanceType1Code is used, i.e. new code needs to be registered at ISO 20022 with a dedicated CR to be addressed to Payment SEG
-)
- Camt.998 ReturnPeriodicInformationMinimumReserve introduction of new Balance Type codes (/Document/PrtryMsg/PrtryData/PrtryData/FlowRpt/AcctRpt/Acct/**MulBal/Tp**) :
- «EXRE« for Excess Reserve Exemption(tier 1)«EXRR« for Excess Reserve Renumeration (tier 2)
- Camt.054 /Document/BkToCstmrStmt/Stmt/Ntry/NtryDtls/TxDtls/**LclInstrm/Prtry** :
  - «MREX« for Interest on Excess Reserve Exemption (tier 1)
  - Amendment description of code « MRER - Interest on excess reserve » by « (tier 2)«
- Camt.053 /Document/BkToCstmrStmt/Stmt/Ntry/NtryDtls/TxDtls/**LclInstrm/Prtry**:
  - «MREX« for Interest on Excess Reserve Exemption (tier 1)
  - Amendment description of code « MRER - Interest on excess reserve » by « (tier 2)«

Submitted annexes / related documents:

None

Proposed wording for the Change request:

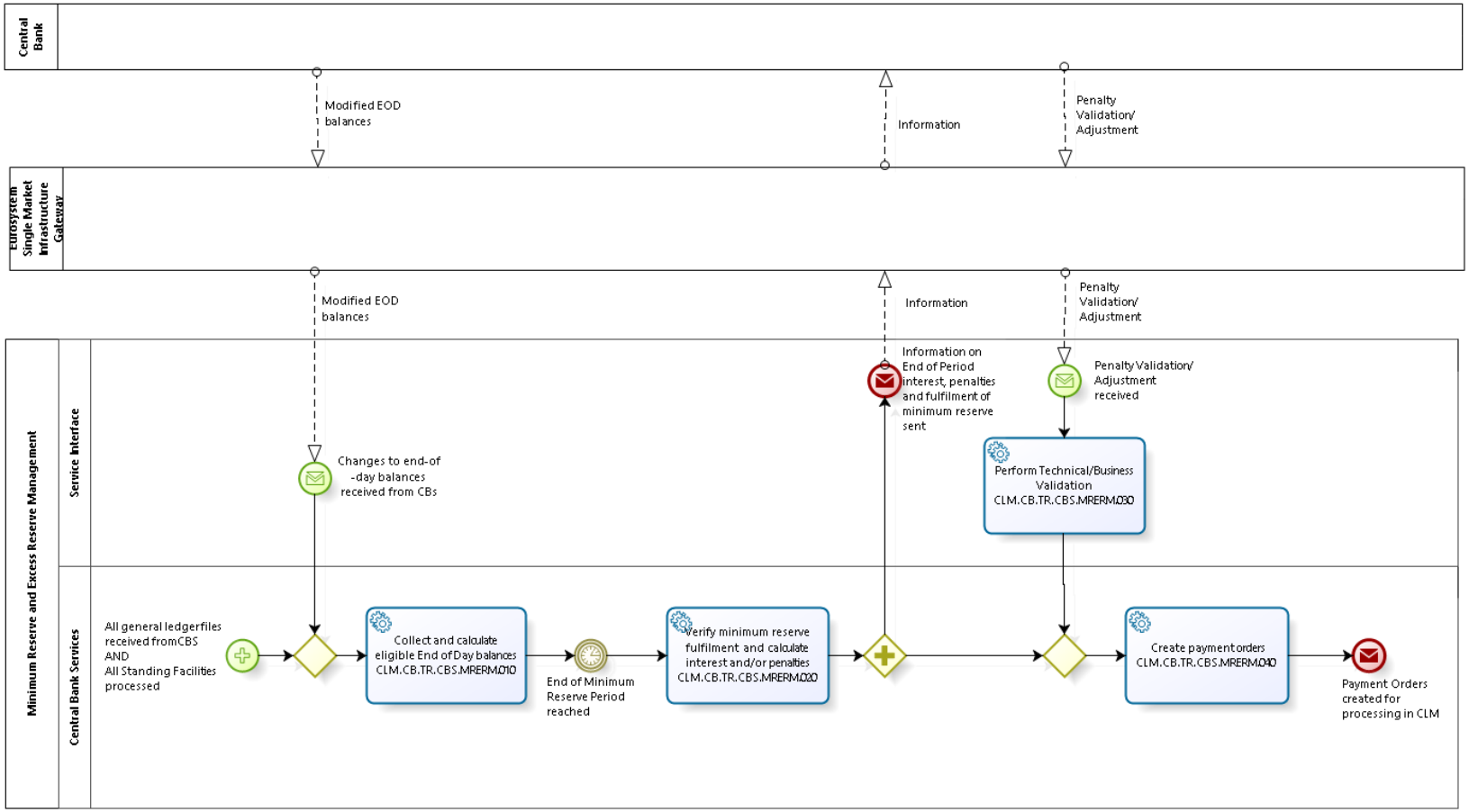
Changes to Section 2.10 of document T2-T2S Consolidation - User Requirements Document - T2 - Central Liquidity Management - CB Annex

2.10 Minimum Reserve and Excess Reserve Management

Business Process Ref: **CLM.CB.BP.CBS.MRERM**

Business Process Model

Business Process Model 1: Minimum Reserve and Excess Reserve Management



Process Overview

Process goal:

This process describes how CBS shall perform the minimum and excess reserve requirements management, e.g. verify the minimum reserves fulfilment, calculate the excess of reserve and calculate the interest to be paid to / received from credit institutions for minimum reserves / the exempt and non-exempt tiers of the excess of reserve.

Pre-conditions:

CBS shall receive all End of Day general ledger files from the settlement services (e.g. CLM, RTGS, T2S and TIPS).

CBS shall provide the functionality to adjust the minimum reserve fulfilment of a CLM account holder through U2A and A2A interface.

Time constraints:

CBS shall manage the minimum and excess reserve requirements after the settlement of Standing Facilities and before the start of the new business day.

Expected results:

CBS shall:

- Calculate daily for each MFI the End of Day balance as well as the running average balances;
- Verify daily the minimum reserve fulfilment for each MFI and calculate the adjustment balance for the rest of the maintenance period;
- Calculate the interest to be paid to MFIs for minimum reserves after the end of the maintenance period;
- Calculate the penalties related to the reserve requirements infringement to be submitted to the relevant CB's validation process at the end of the maintenance period;
- Calculate interest on the exempt tier of the excess of reserve at the end of the maintenance period;
- Calculate ~~negative~~ interest on the non-exempt tier of the excess of reserve at the end of the maintenance period;
- Notify the CBs of the minimum reserve fulfilment, due interest and possible penalties for the pertaining MFIs at the end of the maintenance period;
- Create automatically the related credit and debit instructions for the interest payments concerning the minimum reserve fulfilment and send them to CLM at the end of the maintenance period; and

- Create automatically the related credit and debit instructions for the interest payments concerning the exempt and non-exempt tiers of the excess of minimum reserve and send them to CLM at the end of the maintenance period.

Triggers:

CBS shall automatically initiate the minimum and excess reserve requirements management after receiving all End of Day general ledger files from the individual settlement services.

User Requirements

Collect and calculate eligible End of Day balances

Task Ref: CLM.CB.TR.CBS.MRERM.010

Id	CLM.CB.UR.CBS.MRERM.010.010
Name	Collect End of Day balances
Description	CBS shall collect the End of Day balances of all accounts to be included in the minimum reserve and excess of reserve calculation.

Id	CLM.CB.UR.CBS.MRERM.010.020
Name	Calculate global End of Day balance and running average
Description	CBS shall calculate for each Party the global End of Day balance of the previous business day (which is the sum of the End of Day balances of the accounts to be included in the minimum reserve and excess calculation, but potentially reduced by the credit line usage on the respective MCAs) as well as the running average of the Party's global End of Day balance up to the previous business day.

Id	CLM.CB.UR.CBS.MRERM.010.040
Name	Verify daily the minimum reserve fulfilment for each MFI
Description	CBS shall also verify on a daily basis for each MFI the minimum reserve fulfilment by calculating the adjustment balance, i.e. the balance necessary to fulfil the minimum reserve.

Verify minimum reserve fulfilment and calculate interest and/or penalties

Task Ref: CLM.CB.TR.CBS.MRERM.020

This task shall take place at the end of the maintenance period, i.e. the period over which compliance with reserve requirements is calculated and for which such minimum reserves must be held on reserve accounts.

Id	CLM.CB.UR.CBS.MRERM.020.010
Name	Verify minimum reserve fulfilment for each MFI
Description	At the end of the maintenance period, CBS shall verify the minimum reserve fulfilment for each MFI, i.e. compare the MFI's global End of Day balance running average during the maintenance period with the minimum reserve requirement defined by the relevant CB.

Id	CLM.CB.UR.CBS.MRERM.020.020
Name	Calculate interest for minimum reserves
Description	At the end of the maintenance period, CBS shall calculate the interest to be paid to MFIs for the amounts up to the minimum reserve requirement according to the relevant interest rate.

Id	CLM.CB.UR.CBS.MRERM.020.030
Name	Calculate penalties
Description	At the end of the maintenance period, CBS shall calculate the penalties related to the reserve requirements infringement in case the running average during the maintenance period is lower than the minimum reserve requirement for an MFI.

Id	CLM.CB.UR.CBS.MRERM.020.040
Name	Calculate excess of reserve and interest on excess of reserve
Description	At the end of the maintenance period, CBS shall calculate the excess of minimum reserve and the interests on the exempt and non-exempt tiers of the excess of reserve according to the relevant interest rates. For credit institutions subject to minimum reserve requirements, the excess of reserve is the difference between the global End of Day balance running average and the minimum reserve requirements. For credit institutions not subject to minimum reserve requirements and other Parties (with the exception of CBs), the excess of reserve is the global End of Day balance running average.

Id	CLM.CB.UR.CBS.MRERM.020.050
Name	Notification to CB systems
Description	After verifying the minimum reserve fulfilment and the interest / penalties calculation, CBS shall send a notification to the CB systems on the minimum reserve fulfilment, due interest and possible penalties for the pertaining Parties.

With regards to penalties, a feedback from CBs is required before creating the payment orders.

Perform Technical/Business Validation

Task Ref: CLM.CB.TR.CBS.MRERM.030

CBS shall perform technical and business validation checks on the feedback received from the CB systems with regards to penalties. The validation of penalties shall be possible on a U2A basis.

Id	CLM.CB.UR.CBS.MRERM.030.010
Name	Check relevance of CB system feedback
Description	CBS shall check that the response received from the CB system is related to a notification it has sent and for which it requires a feedback.

Create payment orders

Task Ref: CLM.CB.TR.CBS.MRERM.040

After the interest and penalties calculation, CBS shall create payment orders to be processed within CLM.

Id	CLM.CB.UR.CBS.MRERM.040.010
Name	Create payment orders for minimum reserve fulfilment
Description	After the interest and penalties calculation, CBS shall create automatically the related payment orders for minimum reserve fulfilment (the payment order with regards to penalties shall only be created after the CB validation process) and send them to CLM for further processing.

Id	CLM.CB.UR.CBS.MRERM.040.020
Name	Create payment orders for excess of minimum reserve
Description	After the interest calculation, CBS shall create automatically the related payment orders for both the exempt and non-exempt tiers of the excess of minimum reserve and send them to CLM for further processing (in case of interest rate =0% no payment order shall be created).

Id	CLM.CB.UR.CBS.MRERM.040.030
Name	Value date of payment orders
Description	The value date of interest related payment orders shall be two business days after the end of the maintenance period.

B. Updates to CLM.CB.UR.CBS.UI.020 and CLM.CB.UR.CBS.UI.030

Id	CLM.CB.UR.CBS.UI.020
Name	Query minimum reserve requirements per CLM account holder
Description	CBS shall provide a functionality to query the minimum reserve requirements per CLM account holder. The Central Bank user can query within his data scope, which is determined by the Party BICs and MCA numbers. The user shall specify the following mandatory selection criteria.

	Mandatory selection criteria: • Maintenance period (current or upcoming) • Either Party BIC or Party Name The query shall return all relevant information about minimum reserve requirements including both the exempt and non-exempt tiers of excess reserve and the minimum reserve running average per CLM account holder.

Id	CLM.CB.UR.CBS.UI.030
Name	Query minimum reserve of a banking community
Description	CBS shall provide a functionality to query the minimum reserve requirement of a whole banking community listing the CLM account holders being subject to minimum reserve requirement. The Central Bank user can query within his data scope/ banking community, which is determined by the Party BICs and MCA numbers. The user shall specify the following mandatory selection criterion. Mandatory selection criterion: • Maintenance period (current or upcoming). The query shall return all relevant information about minimum reserve requirements including both the exempt and non-exempt tiers of excess reserve and the minimum reserve running average for the whole banking community listing the minimum reserve requirements per CLM account holder.

Changes to document T2-T2S Consolidation - User Requirements Document - T2 - Central Liquidity Management

Id	CLM.UR.CLM.UI.040
Name	Query Minimum Reserve
Description	CLM shall provide the functionality to query the minimum reserve information.

	The user can query within his data scope, which is determined by the Party BIC and the MCA number (Party BICs and MCA numbers in case of a Central Bank as a user). In case the user is the MFI leader or a Central Bank, the user shall be able to specify whether the query shall return all attributes for this Party BIC as a MFI leader or as a MFI member. The query shall return all business attributes of the minimum reserve requirement for the specified Party (MFI leader or MFI member) including its fulfilment for the current maintenance period, including: • Party BIC • Party Name • MCA/DCA number • Current Maintenance Period • Value of required Minimum Reserve • Value of threshold between the exempt and non-exempt tiers of excess reserve (i.e. value of required minimum reserve times the relevant multiplier) • End of Day balances of the previous business day • Running average balance up to the previous business day • Value of Running Average (the value of running average to fulfil the minimum reserve requirement calculated at the end of the previous day) • Adjustment Balance the amount that is needed at the end of each day in order to fulfil the reserve requirement • Consolidated position (on MCA(s) and DCA(s)) (current position)

Changes to document T2-T2S Consolidation - User Requirements Document for Common Components:

Id	SHRD.UR.BDD.090
Name	Cash Account
Description	This entity shall denote any cash account required by the Eurosystem Market Infrastructure Services. For certain Cash Account Types, the Account Owner may not have any other Cash Accounts. … (no changes in the above mentioned sub-chapter (mandatory attributes)) Optional attributes: … (no changes in chapter optional attributes except: • **Automated generation of Interest payment (System generated)** Indicates whether interest payment is automatically generated by CLM (yes/no)) … (no changes in the below mentioned information related to this URD)

Add the following requirement :

Id	SHRD.UR.BDD.060
Name	Minimum reserve configuration
Description	This entity shall store reference data for the current period of minimum reserve Mandatory attributes: • **Current Maintenance Period From** Date range of the current maintenance period • **Current Maintenance Period To** Date range of the current maintenance period • **Minimum reserve interest rate** Interest rate applied to the average minimum reserve holding at the end of the maintenance period • **Minimum reserve penalty rate type 1** Interest rate applied to compute the minimum reserve penalty in case of single infrigement • **Minimum reserve penalty rate type 2** Interest rate applied to compute the minimum reserve penalty in case of repeated infringement • **Excess reserve interest rate (exempt tier)** Interest rate applied to the average excess reserve exempt tier at the end of the maintenance period • **Excess reserve interest rate (non-exempt tier)** Interest rate applied to the average excess reserve non-exempt tier at the end of the maintenance period • **Overnight deposit interest rate** Interest rate applied to overnight deposit • **Marginal lending interest rate** Interest rate applied to marginal lending • **Excess reserve exemption factor** Factor for the calculation of the excess reserve exemption amount Optional attributes: • n/a

High level description of Impact:

CRDM :

The « Excess reserve interest rate » attribute, foreseen in the « Minimum Reserve Configuration » object, will be split into two attributes for the exempt and non-exempt tier.

The URD will be aligned to include the full list of attributes of the « Minimum Reserve Configuration » object.

The « Interest rate type » attribute of the Cash Account object (not explicitly specified in the URD) will be modified in order to accept two possible values for excess reserve interest rate instead of the existing one. Additionally, a new boolean attribute for « Automated generation of Interest payment (System generated) » will be added (editorial change to align documentation).

GUI screens will be aligned accordingly.

The factor for the calculation of the excess reserve exemption amount has to be foreseen as a new attribute in the « Minimum Reserve Configuration » object. The factor shall be valid for the duration of a maintenance period and modifiable between different maintenance periods. The permissible range of values for the factor shall be as follows: 99.99>=n>=0.00.

Changes in the DWH:

New objects need to be foreseen for the DWH:

- Factor for calculation of the excess reserve exemption amount (“n”): 99.99=>n>=0
- Excess reserve exemption rate
- Excess reserve exemption amount

In addition, the following changes have to be made (CLM/DWH):

- The CLM GUI screen(s) and CLM minimum reserve queries need to be adapted in order to reflect the new information (e.g. the excess reserve exemption amount) stemming from the two-tier exemption scheme per institution/community accordingly.
- The minimum reserve excess reserve calculation and the minimum reserve excess reserve interest calculation in CLM need to be adapted taking into account the two-tier exemption scheme and the new data objects (calculation at the end of minimum reserve period).
- Within the DWH the predefined report MIR01 needs to be adapted in order to reflect the excess reserve exemption amount and the respective interest amount for each institution respectively (calculation also for inter minimum reserve period).
- The new data (objects) and calculation results (at the end of minimum reserve period) need to be foreseen for the CLM data transfer into the DWH (EoD)

Reports (including predefined DWH report MIR01) and queries (CLM) currently foreseen should include information on the exempt and non-exempt excess reserves.

Impacts on other projects and products:

Outcome/Decisions:

EUROSYSTEM ANALYSIS – GENERAL INFORMATION

			Process	User Interaction	Business Data Definition	Non-functional Requirements
CENTRAL LIQIDITY MANAGEMENT (CLM)	GENERAL	CLM Payment Order	X			
		CLM Liquidity Transfer Order				
		CLM Liquidity Reservation				
	CENTRAL BANK SERVICES	Modify Credit Line				
		Connected Payments				
		Overnight Deposit				
		Marginal Lending				
		Minimum Reserve Management	X	X		
		EoD General Ledger Files				
REAL-TIME GROSS SETTLEMENT (RTGS)	GENERAL	RTGS Payment Order				
		Queue Management				
		RTGS Liquidity Transfer Order				
		RTGS Liquidity Reservation				
		RTGS Services for Ancillary Systems (AS)				
	CB SER-VICES					
COMMON COMPONE	GENRAL	ESMIG				
		CRDM		X	X	

		Business Day				
		User Roles and Access				
		Information and Reporting				
		Data Warehouse Services		X	X	
	CENTRAL BANK SERVICES	Billing				
		Legal Archiving				
		Contingency Settlement				
4CB internal categories		Operational Tools				
		Automation				

Impact on major documentation		
Document	**Chapter**	**Change**
Impacted UDFS chapter	CRDM UDFS 1.3.3 Cash Account (Data Model) 1.3.9 Configuration Parameters (Data Model) CLM UDFS: 3.3 Static data configuration for minimum reserve management and interest calculation 3.5 Shared reference data 5.10 Subscription for a debit or credit notification 5.5.1 Overview 5.5.4 Periodic calculations 5.5.5 Generate payment orders 9.24.3 Process minimum reserve 12.2.2 ReturnAccount (camt.004) 12.2.13 BankToCustomerStatement (camt.053) 12.2.14 BankToCustomerDebitCreditNotification (camt.054) 13.3.8 ReturnPeriodicInformationMinimumReserve (camt.998) - specific for CBs 15 Glossary DWH UDFS: 3.3 Predefined reports	Amendment of list of possible attributes for "Interest Rate Type" New attribute for "Automated generation of interest payment" (editorial change to align documentation) Inclusion of new attributes References to the new CRDM attributes have to be added The new calculation in addition with the generation of multiple payment orders has to be introduced. The business description for predefined report MIR01 has to be adapted in order to reflect the two-tier exemption scheme
Additional deliveries for	CLM: ReturnAccount (camt.004)	

Message Specification/ MyStandards	BankToCustomerStatement (camt.053) BankToCustomerDebitCreditNotification (camt.054) ReturnPeriodicInformationMinimumReserve (camt.998) CR to ISO20022 to register new codes in external code list "ExternalSystemBalanceType1Code"	
UHB	Predefined reports, DWH data objects	The new data objects have to be taken into account for the detailed description of the predefined report MIR01 and the description of the DWH data objects in the UHB data objects chapter.
External training materials		
Other documentations	Data migration tool (Cash Account) CRDM Data model	Amendment of list of possible attributes for "Interest Rate Type" in Cash Account object Inclusion of new attribute for Automated generation of Interest payment (System generated) (editorial change to align documentation) Inclusion of new cash account attribute for Automated generation of Interest payment (System generated) (editorial change to align documentation)

Links with other requests				
Links	Reference		Title	

OVERVIEW OF THE IMPACT OF THE REQUEST ON THE T2SYSTEM AND ON THE PROJECT

Summary of functional, technical, operational, stakeholder, financial and interoperability impacts

CRDM:
Minimum Reserve Configuration object to be amended to include two attributes (for exempt/non-exempt tiers) instead of just one for excess reserve interest rate.
Cash Account attribute "Interest Rate Type" should accept new values for exempt/non-exempt tiers of excess reserve instead of just the existing one. Moreover a new Boolean attribute for "Automated generation of Interest payment (System generated)" will be included (editorial change to align documentation).
Moreover, the factor for the calculation of the excess reserve exemption amount has to be foreseen as a new attribute in the « Minimum Reserve Configuration » object. The factor shall be valid for the duration of a maintenance period and modifiable between different maintenance periods. The permissible range of values for the factor shall be as follows: 99.99>=n>=0.00.

CRDM (GUI):
GUI screens to be updated accordingly.

CLM:
Various chapters and processing descriptions are affected:
References to the new CRDM attribute "Factor for calculation of the excess reserve exemption amount" needs to be implemented.
Interest on the exempt tier of the excess of reserve and the (negative) interest on the non-exempt tier of the excess of reserve shall be calculated at the end of the maintenance period.
After the interest calculation the related payment orders for both interest amounts (exempt and non-exempt tier) shall be created automatically.

The inclusion of new cash account attribute for Automated generation of Interest payment (System generated) (editorial change to align documentation) is required.

CLM (GUI):
Enhanced functions as interest rates and the multipler should be entered and displayed on the screen.

CLM (Queries):
The CLM minimum reserve queries need to be adapted in order to reflect the excess reserve exemption amount per institution/community

DWH:
New objects need to be foreseen in the DWH:

- Factor for calculation of the excess reserve exemption amount ("n"): 99.99=>n>=0
- Excess reserve exemption rate (new/additional interest rate being used to calculate the interest on the excess reserve exemption amount stemming from CRDM)
- Excess reserve exemption amount

The predefined report MIR01 needs to be adapted in order to reflect the excess reserve exemption amount and the respective interest amount for each institution respectively.
The datamodels for the different layers have to be updated to include the new objects. The interface between CRDM and DWH has to be updated as well.
Assumption: the minimum reserve period will not start with go-live of CSLD. Therefore also historic data will be needed in DWH (from CLM).
Assumption: The excess liquidity remuneration will take place in the DWH and not in CLM.

Cost drivers:
CRDM:
The additional attributes in the Minimum Reserve Configuration as well as a new attribute value in the Cash Account lead to impact on the related data model, specifications and DMT documentation.
The inclusion of the additional attributes and the factor for the calculation of the excess reserve exemption amount as well as the change of Cash Account functions cause considerable effort on the create and update backend and GUI functions and the DMT.
Moreover, a substantial part of the effort is related to testing particularly because of the sensitive nature of the Cash Account as an object shared also with T2S and TIPS, which leads to the need for significant non-regression testing.

CLM:
Adaption of the CLM to the new CRDM data model changes.
Complex testing scenario's and regression testing campaign have to be prepared and processed referring factor calculation. Excess reserve exemption (rate and amount), will be tested comprehensively.

DWH:
Historic data from CLM for the new factor calculation has to be taken into account. The update of the calculation.
Complex testing scenario's and regression testing campaign have to be prepared and processed referring factor calculation. Excess reserve exemption (rate and amount), will be tested comprehensively.

Summary of dependencies

T2S: This CR impacts a sub-table (minor entity) of the Cash Account object which is not used by T2S. Nevertheless, as there is a change on commonly used object, the T2S community has to be informed about it via clarification note

No ECMS, TIPS impact

Summary of project risk

None

Security analysis

No potentially adverse effect was identified during the security assessment.