



Cross-border Payments Operating Rules

National Payments Interface for Cross-Border (NPIx)

Ver 1.0

(Approved by PSD-NRB vide Letter Ref. No. PSD/Policy 04/101/080/81, dated 13th Chaitra 2080)

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Abbreviations and General Definitions

Abbreviations

AML/CFT - Anti Money Laundering/Combating the Financing of Terrorism
 API - Application Programming Interface
 BCM- Bank Central Module
 BFIs - Banks and Financial Institutions
 INR – Indian Rupee
 IPP - International Payment Partner
 KYC - Know Your Customer
 NID - National ID
 NPI – National Payments Interface
 NPR – Nepalese Rupee
 NPIx - Cross-border National Payments Interface
 NRB - Nepal Rastra Bank, the Central Bank of Nepal
 PAN - Permanent Account Number
 PII - Personal Identifiable Information
 PSO - Payment System Operator
 PSP - Payment Service Provider
 P2P – Person to Person payments
 P2M – Person to Merchant payments
 RPS - Retail Payment Switch
 RTGS - Real Time Gross Settlement
 SGF – Settlement Guarantee Fund
 VPA - Virtual Payment Address
 NCP- Net Clearing Position
 FCP- Fees, Charges and Penalties
 MDR- Merchant Discount Rate
 MCC- Merchant Classification Code

General Definitions

1. **Banks and Financial Institutions or BFIs** shall mean 'A', 'B' and 'C' class licensed banks and financial institutions in Nepal, having a license from NRB under Section 34 of the Bank and Financial Institution Act, 2017 (2073 B.S.).
2. **Cross-border Inward Transaction** means transactions where an entity sends money from foreign country to a domestic country.
3. **Cross-border Outward Transaction** means transactions where an entity sends money to a foreign country from domestic country.
4. **International Remittance** means a process of sending money from one country to another through normal banking channels or money transfer operators or exchange houses or remitting agencies.
5. **National Payments Interface or NPI** shall mean standard open APIs operated as a routing switch by NCHL for connecting multiple underlying core payment switch or systems and services and for interfacing with participating members and other networks. It enables mobile-based payments or web applications which fulfil NPI Specifications.
6. **NCHL Brand Guidelines** shall mean the guidelines that govern all uses of the NCHL Marks which shall be provided by NCHL to IPP and its participating members.
7. **Network** shall mean IPP Network or NCHL Network, as the case may be.
8. **IPP Settlement Account** shall mean the bank account held by IPP or its designated settlement bank(s) in the IPP territory having NOSTRO–VOSTRO arrangement with the Settlement bank in Nepal, to enable IPP to meet its settlement obligations under the Network to Network Agreement with NCHL.

9. **Participating IPP Member** shall mean the banks and financial institutions, payment service providers and other entities licensed by concerned regulator, who have duly entered into agreement with IPP to enable Cross-border Remittance in NCHL Territory (i.e. Nepal).
10. **Participating NCHL Member** shall mean the banks and financial institutions (licensed as A, B or C category banks), PSPs/ PSOs, and money transfer operators and other entities licensed by NRB, who have duly entered into agreement with NCHL to enable Cross-border Remittance in IPP Territory.
11. **Payee** shall mean a Person who is a beneficiary in the Cross-border Remittance Transaction i.e. the Person to whom the Payer intends to send funds.
12. **NCHL Payee ID** shall mean the virtual payment address (VPA)/proxy address of the Payee in NCHL network, which is locally branded as NEPALPAY Instant.
13. **IPP Payee ID** shall mean the virtual payment address (VPA)/proxy address of the Payee in IPP network.
14. **Payer** shall mean a Person who initiates the Cross-border Remittance Transaction and intends to transfer funds to the Payee.
15. **Domestic Settlement Account** shall mean the bank account maintained by the direct members at NRB for settlement of their financial obligation in RTGS.
16. **Cross-border Settlement Account** shall mean the bank account maintained by the designated settlement bank of the NCHL Territory, having NOSTRO arrangement with the correspondent bank in the IPP territory, to meet settlement obligations of cross-border transactions.
17. **Settlement Banks** shall mean the designated commercial banks who shall be responsible for cross-border settlement of the cross-border transactions and applicable fee & charges with the correspondent bank in the IPP territory.
18. **Settlement Files** shall mean file containing details of the Cross-border Remittance Transactions including the relevant transaction data, reconciliation file and net Settlement report, as may be applicable and agreed between the Parties, in relation to such Cross-border Remittance Transactions.
19. **Transaction Data** shall mean the Payer's and Payee's name; address, city, country and/or geographic code; Payer and Payee's identification details (if required); Payer and Payee's account details such as account number or card number (optional); Bank/Member Code; IPP Payee/Payer ID/mobile number, VPA ID, Payer/Payee ID; Cross-border Remittance Transaction amount, currency and purpose code as shared for validation and transaction processing.
20. **Issuing Members or Issuers** shall mean those participating members who issue payment instrument and provide channels to their customers for enabling cross border payments.
21. **Acquiring Members or Acquirers** shall mean those participating members who establish relationship with merchant and enable them to accept r cross border payments.
22. **Interchange Fee** shall mean percentage amount shared by the Acquirer to Issuer on cross border merchant payments.
23. **Merchant Discount Rate (MDR)** shall mean transaction fee charged to the Merchant by the Acquirer on acceptance of cross border merchant payments.

1. Introduction

1.1. Background

Nepal Rastra Bank (NRB) is empowered under Nepal Rastra Bank Act “to develop a secure, healthy and efficient system of payments” in Nepal. And it has been discharging its responsibilities for modernization of payment systems in Nepal through its policy decisions including NRB Strategic Plan, National Payment Systems Development Strategy, monetary policies and other various policies/directives. As part of the Pillar VII of Nepal Rastra Bank’s National Payment Systems Development Strategy related to ‘International remittances and other cross-border payments’, initiatives to cover remittance were included in NCHL’s NCHL-IPS and RPS systems including NPI for end-to-end integration and interoperability which are part of National Payment Switch (NPS).

National Payment Switch (NPS) implementation was approved by NRB through its approval Ref. No. PSD/11/6/077/78, dated 19th Kartik 2077. Now to enable cross border payment, NCHL has included such use case within the scope of Retail Payment Switch (RPS) with addition of NPIX to handle cross border transactions. And NCHL has tie-up or in process of such tie-ups with other central banks, international clearing houses, networks, aggregators, etc. either through bi-lateral or multi-lateral arrangements.

1.2. Cross-border National Payments Interface (NPIX)

NPIX is a cross-border engine within NPI for handling, validating, routing and processing cross border transactions. The Participating NCHL Members shall access NPIX through a secured communication link directly and use for transaction initiation from the channels provided by NCHL or through any of their own channels. The debtor member shall have at least one of the designated direct member of NCHL as its settlement bank and creditor member (beneficiary member or payment service providers) shall be the respective members itself.

The transactions initiated by a Participating NCHL Member shall be routed by NPIX towards underlying core systems for clearing and settlement of financial transactions and towards beneficiary member or PSPs. NPIX shall be integrated with the system or interface of international payment partner (IPP).

1.3. Objectives

This document provides description of the rules, regulations, guidelines and requirements which are applicable for cross-border transactions through Cross-border National Payments Interface (“NPIX”) from Nepal to any international jurisdiction and mandatory for the Participating NCHL Members to adhere to. The Participating NCHL Members must comply with the guidelines as mentioned in this document and with the additional guidelines issued by NCHL for cross-border transactions from time to time.

1.4. Legal and Regulatory Framework

This Operating Rules is established to define the procedure for operation of cross-border payment transactions. The legal basis of the Operating Rules shall be Nepal Rastra Bank Act 2058 BS (2002 AD) as per the provisions of Section 5, Sub Section 1 (i) and the prevailing Payment & Settlement Act 2075, Payment & Settlement Bylaw 2077 and prevailing Unified Foreign Exchange Management Circular. This Operating Rules shall be the regulatory framework that must be followed by all the concerned parties including NCHL, Participating Members of NCHL and IPP including Participating Members of IPP (to the extent of applicability), which shall be effective from the day of its issuance.

The approvals and regulations already issued by NRB for the operations of RPS and NPI with regards to its extended channels and use cases shall also be valid and binding for all the stakeholders and shall

be read as part of this Operating Rules. The NPIx, as part of the National Payments Interface is implemented and operated by Nepal Clearing House Ltd. (NCHL) as a clearing house, licensed and regulated by NRB as a payment system operator (PSO). Any modification in this Operating Rules shall be amended as per the recommendation of NCHL and upon approval by NRB. The Participating Members of NCHL, IPP and other relevant stakeholders shall be notified accordingly by NCHL. The IPP shall be responsible for notifying its Participating Members.

Section - I

2. Operating Rules for Cross-border Transactions

This Operating Rules is documented to manage the cross-border transactions through NPlx such that a complete business process is understood along with the roles and responsibilities of each participant. The purpose of this Operating Rules is to create and document rules, procedures and standards for the operation of cross border transactions through NPlx and RPS.

The Operating Rules shall govern the operations and use of NPlx through RPS for cross-border transactions. It sets the standards for the followings:

- Roles and responsibilities of NCHL and IPP as Network operator.
- Roles and responsibilities of participating members and settlement bank(s).
- Detailed operational rules, procedures and other authoritative information to the participants and relevant parties as to how the cross-border transaction functions in different business situations.

2.1. Currency

The processing of cross-border payment transactions shall be in Nepalese Rupee (NPR) in the domestic leg in Nepal and respective local or designated settlement currency of IPP in the international leg.

2.2. Threshold/ Limits

Threshold shall be applied in the system to define maximum amount of cross-border transaction that can be processed. The thresholds shall be defined and validated automatically by the system as follows.

- System Limit: This is the maximum transaction limit allowed for cross-border transaction based on transaction type and channel.
- Participant Limit: This is the total net amount limit allowed for each Participating NCHL Member in a specific session. The participant threshold shall be the net debit cap of the participating Member in RPS.
- Transaction Limit: This is the per transaction limit allowed for cross-border transaction for each members and based on transaction type, which shall be as per the prevailing NRB directive and/or circular. However, participants will be able to define its own transaction limit, which shall be less than or equal to such global limit defined in the system. However, there shall be specific transaction limit for the specific nature of transaction as per the transaction type, purpose code or MCC defined.
- Channel Specific Limit: This is the transaction limit based on channels or instrument integrated with NPI for initiating cross border transaction. Such thresholds/ limit shall be available based on Amount Limit Per Transaction, Amount Limit Per Day or Transaction Count Per Day, Amount Limit Per Month or Transaction Count Per Month, Amount Limit Per Proxy Identifier or Transaction Count Per Proxy Identifier. It shall be less than or equal to the transaction threshold limits specified by NRB for such channels and/or as per specific approvals.

2.3. Debit Caps Management

Debit cap setup, utilization and refresh for each participating member BFIs shall be as per the rules of RPS and SGF. This will be same as the existing debit cap arrangement in RPS. The system will validate the debit cap of the participating member BFIs and settlement bank for every cross-border transaction (Off-Us) and the transaction will be restricted once the debit cap of the particular member is exhausted.

Participating member BFI shall be required to avail additional contribution in SGF to fulfill its financial obligation and depending on its transaction volume. Similarly, the designated settlement bank(s) will have to contribute additional fund in the SGF (as defined) to fulfill its settlement obligations.

2.4. System Validations

The system shall perform validation of every transaction presented against pre-defined technical setups prior to routing for processing which includes, but are not limited to, the following:

- Transaction Thresholds: Transaction value and count does not exceed transaction threshold limit and/or transaction specific limit.
- Debit Cap: The system shall validate that upon processing of the transaction the participating member BFIs and settlement bank will not exceed its debit cap.
- Member Status: Participant of the transactions are active and are not suspended or membership has not been terminated or withdrawn.
- Settlement Status: Participant of the transactions are active and are not suspended or the participant's membership has not been terminated or withdrawn during settlement.
- AML/CFT compliance screening: Every cross-border transaction shall be subject to AML/CFT compliance screening to be performed by initiating and beneficiary member.
- User Consent: Customer to provide explicit consent for sharing of information and for initiating and receiving cross-border transaction.
- Payment Types: The issuer is allowed to send or receive specified payment message or transaction types only.
- Transaction Currency: Payment transaction currency will be one of the supported currencies with domestic leg processed in NPR and international leg processed in local currency of IPP or specified settlement currency.
- Settlement Session: This is related to settlement of domestic leg of cross-border transaction in RPS between participating member BFIs based on transaction type, currency, settlement date and purpose code.

2.5. Response Mode

The cross-border transactions shall be immediately responded by the respective network partner (IPP). The transaction shall not be processed unless a confirmation is received from debtor network. The beneficiary account credit shall be on immediate basis for person to person transfer and as per the bilateral arrangement in case of person to merchant payments.

3. NCHL Participant Management

3.1. Participant Enrollment

The membership for cross-border transaction shall be open and eligible to all the existing direct members (BFIs) and technical members (PSPs) of Retail Payment Switch (RPS) and National Payments Interface (NPI). While direct members (BFIs) will have access to both cross border P2P and P2M as per the rules/ guidelines of Cross Border Payments Operating Rules, whereas the technical members (PSPs) will be allowed for incoming and outgoing P2P & P2M only to the extent allowed by Nepal Rastra Bank.

The direct members shall continue to hold settlement account at NRB to settle in RTGS for the financial obligations to other BFIs as per the existing arrangement. The technical members shall continue to meet their financial obligations through its settlement bank, however for such PSPs, the ultimate linked bank accounts will be used for cross border transactions and KYC verification. The transaction initiation may be from any of the channels of the system or alternate channels of the member.

Following shall be the eligibility criteria and prerequisites for enrollment of the members:

1. Shall be a member of Retail Payment Switch (RPS) and/or National Payments Interface (NPI).
2. Shall have entered into an agreement with NCHL for cross-border transactions.
3. Shall have identified one of the designated settlement banks for cross-border settlement.
4. Shall agree to provide necessary information of its customers for incoming and outgoing cross-border transactions.
5. Shall agree to comply with Cross Border Operating Procedures issued by NCHL and any specific rules specified by IPP.

For cross-border person to person transfer, such members:

6. Shall have enhanced its issuing app for handling cross-border inward and outward transfers.
7. Shall have established arrangement for VPA/Proxy Address identification and resolution of its customers for inward transfer.
8. Shall have integrated with NPIX or NPI Banks for KYC/ AML check.

For cross-border person to merchant payments, such members:

9. Shall have enhanced its issuing app for scanning IPP QR code and routing such QR message to NCHL.
10. Shall have enabled acquired NEPALPAY QR for international acceptance in Nepal.

3.2. Participant Agreement

1. Each participant shall sign an agreement with NCHL to enable cross-border payment, which shall be supplementary to the existing RPS or NPI agreement.
2. NCHL shall notify to all other participating members and IPP when new participant is enrolled.

3.3. Participant Suspension

A participant shall be suspended for the following reasons but shall not be limited to:

1. License revoked or declared as problematic by NRB or by any other statutory body.
2. Participant declared itself as insolvent or declared insolvent pursuant to prevailing Insolvency Act.
3. Fails to comply with the terms of the Operating Rules of RPS & NPI and/or Operating Procedure for SGF.
4. Fails to comply with the terms of this Operating Rules.
5. Fails to comply with the terms of the membership agreement.
6. Fails to comply repeatedly with the prevailing KYC and/or AML/CFT regulations.

The suspension shall be immediately effective after being identified by NCHL or being informed to NCHL or as directed by NRB. The participant shall not be able to exchange and process any transaction further. However, the transactions already initiated by a suspended participant, as debtor participant, shall be deemed as accepted. Therefore, the suspended participant shall continue to be liable to NCHL and other participants in respect of all its outstanding obligations and liabilities.

3.4. Participant Resumption

Resumption of a suspended participant may happen in case the reason for suspension has been rectified to the satisfaction of NCHL or as prescribed by NRB.

3.5. Participant Termination

Termination of a participant shall be accomplished when decision for permanent removal of a member is made. The membership of a participant shall be terminated in the system in case the participant satisfies one of the following conditions.

1. Suspended for more than six months due to failure to comply with the terms of this Operating Rules; or the Operating Rules of RPS or NPI.
2. Terminated as per the Operating Rules of RPS or NPI; or the Operating Procedure for SGF.
3. License revoked by NRB or by any other statutory body authorized to do so.
4. Declared insolvent or participant declared insolvency or similar.
5. Withdrawal requested by the participant.
6. Proven involvement of the participant in fraudulent and/ or illegal activity and/or money laundering or terrorist financing.
7. Any activity resulting into undue economic loss or damage to the goodwill of NCHL and/or IPP.
8. Any other reason that NRB deems appropriate.

Termination of a participant is permanent, where terminated participant will no longer be accessible to be part of cross-border payment ecosystem, although the participant information will remain for future reference. Once terminated, re-processing shall be necessary for participation, provided the reason for termination has been rectified satisfactory to eligibility due diligence by NCHL.

3.6. Participant Withdrawal

Any participant who would like to withdraw its membership from cross-border payments, as per its business decision, must send an official request ninety (90) days in advance. Once withdrawn, re-processing shall be necessary for participation.

4. System Architecture

Cross-border payments will be a part of National Payments Interface (NPI) with NPIx developed as a cross-border engine with underlying financial transactions processed through Retail Payment Switch (RPS). The cross-border payment will use the following systems or modules.

4.1. Retail Payment Switch (RPS)

The RPS is the existing core switch of the real-time payment system that will handle processing of the financial transactions. Host-to-host connection is established between the participants and NCHL through an integration with the participants for customer account debit and/or credit. Option for the participants will also be available to process its debit message by itself from its specific channels, corresponding to which the switch will process the credit message as immediate credit or deferred credit.

Cross-border transactions for Nepal (domestic) leg will be processed and settled through RPS, corresponding to which the necessary APIs for issuing instruments or initiating channels are exposed through NPI. Enhancements required within RPS for person-to-person and merchant payments will be handled by NPIx.

4.2. NCHL Central Module

NCHL Central module is an existing system used by NCHL for setup, management and monitoring of RPS, which shall also include setup, management and monitoring of the cross-border payment leg. It also includes the components related to system parameters, participant management, setups, Settlement session management, monitoring and reporting, notifications and alerts for NCHL to manage the system. All such necessary setups, management and monitoring for cross-border members and transactions will be done by NCHL in NCHL Central Module.

4.3. Bank Central Module (BCM)

Bank Central Module is an existing web-based component used by the direct member (i.e. BFIs) for transaction initiation and management of all systems. The bank maker and checker users can access bank central module to setup its security profiles, user management, limit setup, customer account linking, transaction initiation, monitoring, reporting and creditor/merchant enrollment. BCM will be used as bank's module for set-up and reporting of cross border transaction. It will also be used for cross-border person-to-person transaction initiation from bank branches. Additional role based controls will be available within BCM for cross border transaction and dispute handling.

4.4. National Payments Interface Cross-border (NPIx)

NPIx is an extension of NPI comprising set of standard Application Programming Interfaces (APIs), operated in a hosted model by NCHL, for connecting multiple underlying core systems and services for routing of financial and non-financial messages and for interfacing with the participating NCHL Members for transactions. NPIx is a cross-border engine within NPI, which can be accessed by the members through the secured communication link of NPI. It will be used by the members for transaction initiation from the channels provided by NCHL or through any of their own channels.

The transactions initiated by a member to IPP member or vice versa will be routed first through NPIx for cross-border related conversions, validations and business workflow prior to being processed through NPI or prior to being delivered to IPP network.

4.5. NPI Banks

NPI Banks is a single service gateway hosted at bank’s end for accessing all the product and services of BFIs and also act as a middleware to process the financial and non-financial transactions of the underlying core system/service provided by NCHL. This component works as an intermediary API channel manager for the BFIs between its internal core system & external interfaces by providing standard API specification.

The existing NPI Banks hosted at respective member BFIs will be enhanced to integrate and extend the requirement of VPA/Proxy address resolution and KYC/ AML checks from the respective payee and payer BFIs. The BFIs will be responsible for such KYC/ AML checks of its customers, corresponding to which necessary information will be provided by the BFIs through NPI Banks. For the PSPs, such details of KYC/ AML will be that of the linked bank account.

4.6. Issuing App/ Channels

Issuing Apps are the channels provided by the member BFIs and PSPs for consent management by the customers and initiating or receiving cross-border transaction. Such channels could be mobile banking, wallets, internet banking, connectIPS or similar alternate channels. IPP specific conversion, format or business process for issuing leg will be handled by the Issuing App/ Channels.

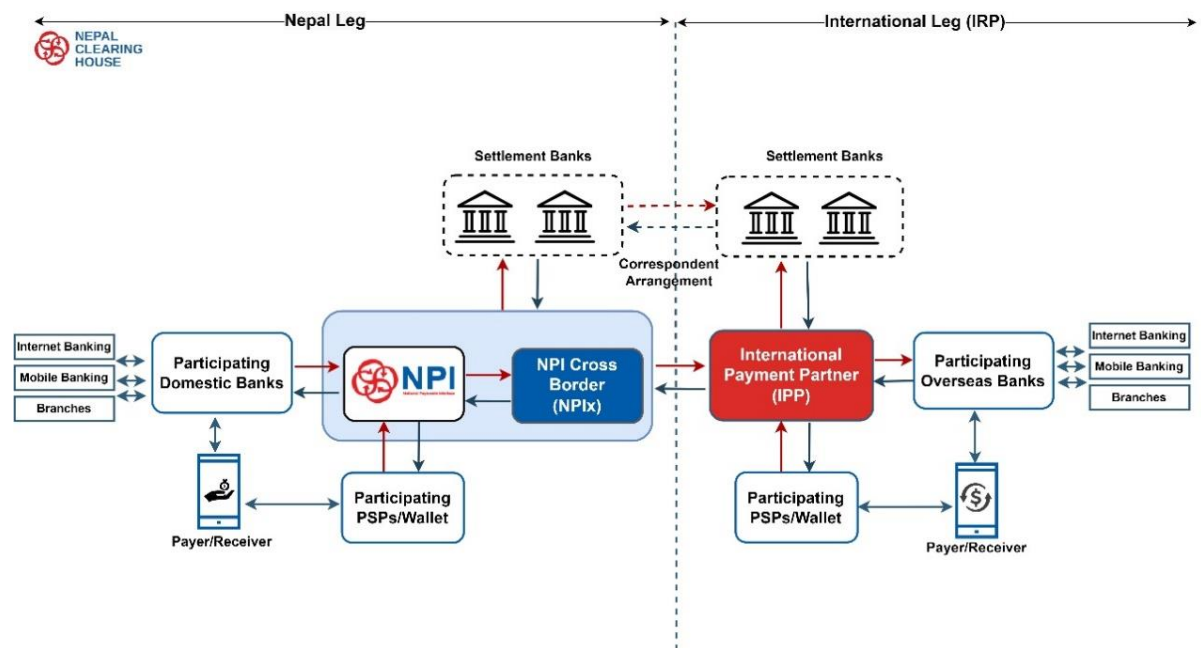
4.7. Settlement Bank

Settlement bank through its corresponding banking arrangement at IPP country will handle cross-border settlement and corresponding foreign exchange fund management. Such settlement bank could be one or multiple depending on an arrangement with particular IPP.

4.8. Process Flow

The integration of NCHL’s National Payments Interface (NPI) and IPP’s Product will enable both cross-borders Inward and Outward fund transfers initiated from the respective channels like mobile banking, issuing app, internet banking or bank branches.

The cross-border fund transfer transaction will involve domestic leg in Nepal and international leg in the foreign jurisdiction. NPIX, that is an extension of the existing NPI, will be responsible for all kinds of international communications with IPP’s Product in the IPP Territory. All domestic processes of cross-border transfer including interconnection with the participants will be handled by NPIX itself.



5. Roles and Responsibilities

5.1. Roles and Responsibilities of IPP

IPP must adhere to following roles and responsibilities:

1. Ensure due diligence and compliance to other regulatory requirements while enrolling and maintaining members and settlement bank(s). Also ensure technical readiness of its members and settlement bank(s).
2. Adhere to all relevant international and national legislations, including anti-money laundering (AML) and know-your-customer (KYC) requirements, through IPP or its participating members.
3. Ensure that cross-border transactions are conducted by its members in accordance with the applicable laws and regulations.
4. Collect and maintain accurate customer information through its participating members, transaction records and share with the network as required.
5. Ensure that cross-border transactions are executed accurately and promptly, including providing real-time or near-real-time information about the status of such transactions. Ensure availability of fund for the settlement of cross-border transactions with its participating members.
6. Implement robust security measures to safeguard customer information and transaction.
7. Monitor and report suspicious and fraudulent transactions as required by applicable regulations.
8. Provide clear and comprehensive information to customers about the cross-border transaction process, including estimated delivery times, potential delays, dispute handling and any other relevant details.
9. Ensure transparent disclosure of exchange rates, fees and any other charges associated with the cross-border transactions to customers before transaction is confirmed.
10. Establish a mechanism for addressing and resolving customer complaints, disputes, or issues related to cross-border transactions.
11. Ensure seamless integration with the cross-border transactions platform, including APIs, data exchange, and communication protocols.
12. Share regular reports regarding cross-border transaction volumes and related information with NCHL for necessary reporting and in case of disputes or customer issues through a standard process.
13. Ensure cross-border transactions are stored and retained for at least seven years as per NCHL Archival Policy. NCHL may mandate for transaction data retention period higher than that specified in NCHL Archival Policy as per the network to network agreement with concerned IPP, such that the transaction data can be produced/ shared as requested by NCHL or IPP or any regulatory/ law enforcement bodies of NCHL territory or IRP territory.
14. Ensure that the brand guidelines of NCHL are adhered by IPP and its members.

NRB and/or NCHL may add any other roles and responsibilities as may be required, which shall be duly informed to IPP for fulfillment.

5.2. Roles and Responsibilities of Participating Members

NCHL's participating members shall have following roles and responsibilities:

1. Maintain uninterrupted and secured integration with NPI for cross-border related non-financial and financial information.
2. Ensure adequate infrastructure and security arrangements for the integrations and associated services are implemented, timely upgraded and monitored. NCHL may specify additional security checklist to maintain a minimum standard for cross-border transactions.
3. Provide access to the customers to initiate and receive cross border transactions from its alternate channels and channel platforms provided by NCHL. Necessary changes and/or customization in such channels shall be done by the participating members.
4. Maintain VPA/Proxy identifier of customer and provide VPA resolution mechanism.

5. Conduct necessary due-diligence and KYC of its customers as part of the consent management and during transaction. It shall also maintain record of such due diligence, KYC and user consent.
6. Conduct risk assessment of the sending and receiving customer (at least based on high, medium, low risk categorization) as per the requirement of AML/CFT and take decisions based on such risk. Members are required to conduct assessment of both the sender and beneficiary in case of P2P outgoing and incoming transactions; and at least of sender in case of P2M to adhere with the relevant international and local regulations regarding KYC and AML/CFT.
7. Check transaction limits, consent management and other controls for cross-border transactions.
8. Ensure that a transaction is not initiated unless its customer is debited and timely credit of the beneficiary customer/ merchant.
9. Provide its customers with sufficient information to understand cross-border payment processes, their obligations and processing timelines. Also advise its customers about fee, charges and foreign exchange rates that may be levied for cross-border transactions and in line with NCHL published information to ensure uniformity.
10. Be responsible for any foreign exchange Gain/Loss related to cross-border transactions based on agreements and considerations specific to the involved parties.
11. Provide customer with sufficient information including return/reversal reasons in case transactions are rejected or failed due to technical or business reasons. Ensure that such failed and/or exceptional transactions are returned to the concerned party within the specified timeline and based on the member's reconciliation and applicable dispute management process.
12. Handle customer grievances and/or provide support to its customers with requested information in the event of exceptional transactions, disputes and complaints. Timelines and other exception handling shall be as per this Operating Rules. Member Banks/PSPs shall facilitate with its customer for such exception handling.
13. Ensure cross-border transactions are stored and retained for at least seven years. NCHL may mandate for transaction data retention period higher than that specified in NCHL Archival Policy as per the network to network agreement with concerned IPP, such that the transaction data can be produced/ shared as requested by NCHL or IPP or any regulatory/ law enforcement bodies of NCHL territory or IPP territory.
14. Comply with regulatory reporting requirements for the cross border transactions.
15. Adhere with Brand Guideline of NCHL and IPP, wherever applicable to ensure acceptance of IPP's marks or logo in the alternate channels of the participating members.
16. Advise NCHL, immediately of any event, which might affect its operations as a participant, including any contingent event, known or planned disconnection, or any significant changes in its core banking system or alternate channels that will or may restrict credit/debit of customer accounts.

NRB and/or NCHL may add any other roles and responsibilities as may be required, which shall be duly informed to the Participating NCHL Members for fulfillment.

5.3. Roles and Responsibilities of Settlement Banks

The settlement arrangement through settlement bank(s) may be in the form of many to many or one to one basis and which shall be identified based on the understanding with the IPP network operator. Settlement bank(s) shall have the responsibilities to:

1. Maintain correspondent Nostro account in the settlement currency and in the bank prescribed as settlement bank by IPP and at the specified jurisdiction and shall have technical readiness established with IPP and correspondent bank in IPP Territory.
2. Fund/ prefund the Nostro account in the correspondent bank and ensure availability of sufficient fund at all the times.
3. Maintain additional balance in the settlement guarantee fund (SGF) for domestic leg of the cross-border transaction processing through RPS.

4. Conduct risk assessment of participating members and transaction, as may be required.
5. Execute payment instructions in RPS through designated funded account for the domestic leg of the transaction, corresponding to which it shall provide debit and credit authorization for necessary entries/ settlements.
6. Monitor the cross-border payment transactions.
7. Provide foreign exchange rates to NCHL for the necessary accounting and information sharing to the participants in the network.
8. Be responsible for any foreign exchange Gain/Loss related to cross-border transactions based on agreements and considerations specific to the involved parties.
9. Ensure daily reconciliation and settlement of domestic and international leg of the cross-border transactions, applicable fees & charges as per respective settlement cycle.
10. Responsible for the reconciliation and settlement of disputed cross-border transactions in coordination with corresponding settlement bank in IPP territory.
11. Ensure that the reporting to NCHL and regulatory for cross-border transactions are provided.

NRB and/or NCHL may add any other roles and responsibilities as may be required, which shall be duly informed to the settlement bank(s).

5.4. Roles and Responsibilities of NCHL

NCHL shall have the responsibilities to:

1. Maintain uninterrupted and secured host-to-host connectivity between NPlx of NCHL and the system of IPP to ensure that cross-border payment instructions are transmitted as per defined transaction workflow and security standards.
2. Maintain uninterrupted and secured host-to-host connectivity between NPl/ RPS and member BFIs to ensure that cross-border instructions are transmitted as per the defined transaction workflows.
3. Ensure that adequate infrastructure and security arrangements for the system, integrations and associated services are implemented, timely upgraded and monitored. Maintain arrangements to enroll, amend, suspend, terminate, resume or withdraw participating members .
4. Provide platform for user consent management for inward and outward cross-border transactions.
5. Provide mechanism for routing and resolving VPA/Proxy identifier as part of non-financial validation.
6. Validate transaction limits and other control checks as per the responses provided by the participating members, IPP and/or settlement bank and relay the responses to the concerned parties for cross-border transactions.
7. Ensure system validations on the payment instruction prior to routing of transaction to settlement bank, participating member and/or IPP.
8. Facilitate and provide necessary support to the settlement banks, participating members and/or IPP, in case of exception transactions, disputes and reconciliation.
9. Monitor debit cap utilization and notify participating member in case of reaching upper limit as per Operating Procedure of SGF.
10. Ensure transaction and fees/ charge files of cross-border transactions are included within RPS to ensure timely settlement.
11. Manage settlement sessions for cross-border transactions within RPS and coordinate with respective settlement banks for international funding and settlements.
12. Monitor settlement bank and change such settlement bank in case such a need arises.
13. Establish Helpdesk for 1st line of support for the participating members and IPP; and 2nd line of support to the customers of the participating members during business hours. Necessary notification to the members shall be issued by NCHL through an appropriate communication channel.

14. Maintain transaction archive for a period of at least seven years and make it available to the members through Archiving System, with direct access for a period of at least six months. NCHL may mandate for transaction data retention period higher than that specified in NCHL Archival Policy as per the network to network agreement with concerned IPP, such that the transaction data can be produced/ shared as requested by NCHL or IPP or any regulatory/ law enforcement bodies of NCHL territory or IPP territory.
15. Inform all participants and IPP of any event, which might affect the operations of cross-border transactions including any contingent events, known or planned disconnection or significant changes at any of the participants' end or at NCHL.
16. Monitor cross-border payment systems to avoid misuse of the system from member's end and to ensure that the members comply with the Operating Rules. NCHL shall act as a custodian of the member customer data and information received and/or stored in processing, clearing and settlement of the transactions.
17. Publish related user manuals, guidelines, fees & charges schedule, penal fees, as may be required.
18. NCHL may monitor and restrict processing of suspected fraudulent transactions in coordination with and/or as per instruction of Nepal Rastra Bank or investigation authority or law enforcement agencies.
19. Provide dispute management platform to the participating members with respect to cross-border transaction via Bank Central Module.
20. Recommend to amend provisions of the Operating Rules, as may be required.
21. NCHL as a network operator of the cross-border transactions shall not be held liable under any circumstances for any fraudulent cases involving transactions initiated from participating members.

NRB may add any other roles and responsibilities as may be required, which shall be duly fulfilled by NCHL.

5.5. Roles and Responsibilities of Issuing Member (Merchant Payments)

NCHL's issuing members for cross-border QR payment shall adhere to following roles and responsibilities:

1. Maintain uninterrupted and secured integration of its issuing app for scanning IPP QR for cross-border QR payment.
2. Provide access to the customers to initiate cross-border QR payment from its alternate channels and channel platforms provided by NCHL. Necessary changes and/or customization in such channels shall be done by the issuing members as per the standard or specification published by NCHL.
3. Ensure adequate infrastructure and security arrangements for the integrations and associated services are implemented, timely upgraded and monitored. NCHL may specify additional security checklist to maintain a minimum standard for cross-border transactions.
4. Conduct necessary due-diligence and KYC of its customers as part of the consent management and during transaction. It shall also maintain record of such due diligence and KYC.
5. Conduct risk assessment of its issuing customers (at least based on high, medium, low risk categorization) as per the requirement of AML/CFT and take decisions based on such risk. Adherence to all relevant international and local regulations regarding KYC and AML/CFT.
6. Check transaction limits, consent management and other controls for cross-border QR payment transactions. Incorporate Geo-location tagging or similar tool/ appliance in its issuing apps, as may be required, to ensure all cross-border QR payment complies as 'customer present' transaction.
7. Ensure that a transaction is not initiated unless its customer account is debited and include such transaction in the available session for the settlement and reconciliation.
8. Provide its customers with sufficient information to understand cross-border QR payment processes, their obligations and processing timelines. Also advise its customers about fee, charges

- and applicable foreign exchange rates that may be levied for cross-border QR payment transactions and in line with NCHL published information to ensure uniformity.
9. Provide customer with sufficient information including return/reversal reasons in case transactions are rejected or failed due to technical or business reasons. Ensure that such failed and/or exceptional transactions are returned to the concerned party within the specified timeline and based on the member's reconciliation and applicable dispute management process.
 10. Handle customer grievances and/or provide support to its customers with requested information in the event of exceptional transactions, disputes and complaints. Timelines and other exception handling shall be as per this Operating Rules. Member Banks/PSPs shall facilitate with its customer for such exception handling.
 11. Ensure cross-border QR payment transactions are stored and retained for at least seven years NCHL may mandate for transaction data retention period higher than that specified in NCHL Archival Policy as per the network to network agreement with concerned IPP, such that the transaction data can be produced/ shared as requested by NCHL or IPP or any regulatory/ law enforcement bodies of NCHL territory or IPP territory.
 12. Comply with regulatory reporting requirements for the cross border transactions.
 13. Adhere with Brand Guideline of NCHL and IPP, wherever applicable to ensure acceptance of IPP's marks or logo in the alternate channels of the participating members.
 14. Advise NCHL, immediately of any event, which might affect its operations as an issuing participant, including any contingent event, known or planned disconnection, or any significant changes in its core banking system or alternate channels that will or may restrict debit of customer accounts.

NRB and/or NCHL may add any other roles and responsibilities as may be required, which shall be duly informed to Issuing Members for fulfillment.

5.6. Roles and Responsibilities of Acquiring Member (Merchant Payments)

NCHL's acquiring members for cross-border QR payment shall adhere to following roles and responsibilities:

1. Maintain uninterrupted and secured integration of its merchant management system or similar acquiring system for processing of cross-border QR merchants. Necessary changes and/or customization in its system and/or process shall be done by the acquiring members as per the standard or specification published by NCHL.
2. Ensure adequate infrastructure and security arrangements for the integrations and associated services are implemented, timely upgraded and monitored. NCHL may specify additional security checklist to maintain a minimum standard for cross-border QR payment transactions.
3. Conduct necessary due-diligence of its merchants as part of KYB compliance, ensure PAN details are linked and proper merchant category code (MCC) are included in acquiring information.
4. Conduct risk assessment of its merchants (at least based on high, medium, low risk categorization) as per the requirement of AML/CFT and take decisions based on such risk. Adherence to all relevant international and local regulations regarding KYC and AML/CFT.
5. Check transaction limits and other controls for cross-border QR payment transactions.
6. Ensure merchant account is credited after the settlement or as per the arrangement with such merchant. Necessary reporting and reconciliation details of such cross border QR payment shall be provided to the merchants by acquiring member.
7. Provide its merchants with sufficient information to understand cross-border QR payment processes, their obligations and processing timelines. Also advise its merchants about merchant discount rate (MDR), charges and applicable foreign exchange rates that may be levied for cross-border QR payment transactions and in line with NCHL published information to ensure uniformity.
8. Provide merchant with sufficient information including return/reversal reasons in case transactions is to be rejected or failed due to technical or business reasons. Ensure that such failed and/or

exceptional transactions are returned to the concerned party within the specified timeline and based on the member's reconciliation and applicable dispute management process.

9. Handle merchant grievances and/or provide support to its merchant with requested information in the event of exceptional transactions, disputes and complaints. Timelines and other exception handling shall be as per this Operating Rules. Member Banks/PSPs shall facilitate with its customer for such exception handling.
10. Ensure cross-border QR transactions are stored and retained for at least seven years. NCHL may mandate for transaction data retention period higher than that specified in NCHL Archival Policy as per the network to network agreement with concerned IPP, such that the transaction data can be produced/ shared as requested by NCHL or IPP or any regulatory/ law enforcement bodies of NCHL territory or IPP territory.
11. Comply with regulatory reporting requirements for the cross border transactions.
12. Adhere with brand guideline of NCHL and IPP, wherever applicable to ensure acceptance of IPP's marks or logo in the alternate channels of the participating members.
13. Advise NCHL, immediately of any event, which might affect its operations as an acquiring participant, including any contingent event, known or planned disconnection, or any significant changes in its core banking system or alternate channels that will or may restrict credit of merchant accounts.

NRB and/or NCHL may add any other roles and responsibilities as may be required, which shall be duly informed to Acquiring Members for fulfillment.

6. Settlement Management

6.1. Cross-border Settlement

6.1.1. Domestic Settlement of Cross-border Transactions

Domestic settlement of cross-border transactions between participating members shall be managed by the respective networks. In case of Nepal, it shall be processed and settled through RPS with final settlement of the member BFIs to be done in RTGS, corresponding to which the transactions shall be backed by SGF or as per the alternate arrangement with the settlement bank.

6.1.2. International Settlement of Cross-border Transactions

Cross-border transactions settlement shall be through an arrangement between the designated settlement bank(s) in Nepal and its correspondent bank in respective IPP country. Designated settlement bank in Nepal shall pre-fund its Nostro account to handle outgoing and incoming cross-border transactions. The pre-funding mechanism shall be as per the arrangement between the designated settlement bank in Nepal and its correspondent bank in respective IPP country.

6.2. Settlement Sessions and Schedules

The domestic settlement of cross-border transactions shall be through RPS, therefore the existing settlement sessions of RPS shall be applicable for domestic settlement. All transactions received and processed, including cross-border transactions, for participating debtor and creditor members shall be netted for settlement at the end of the scheduled time. Each settlement session shall be identified by a session identifier and currency for each IPP transactions. Necessary transaction and NCP reports of the sessions shall be available to the participants for necessary reconciliation.

The pre-defined intervals and/or frequency for international settlements shall be prescribed based on an arrangement with respective IPP. Such information shall be shared by NCHL with all the participating members.

6.3. Finality of Settlement

The cross-border inward transaction shall be credited to the beneficiary in the NCHL territory once IPP confirms the debit leg of financial transaction. Similarly, the cross-border outward transaction shall be credited to the beneficiary at IPP's end once NPlx confirms the debit leg of financial transaction,. However, for the disputed transactions, workflow for recall and return are available for both cross-border inward and outward transactions. For the domestic settlement, the Net Clearing Position (NCP) shall be settled in participants NRB Nostro account through RTGS system, which will be on a deferred basis and shall be backed by SGF.

It shall be obligatory for all BFIs to settle their positions in RTGS at the pre-defined intervals. In case of insufficient fund for any of the participants and last resort at NRB including ILF facility been exhausted or not successful, SGF shall be invoked to meet the insufficient obligation of the defaulting participant. The execution of the SGF including application of penalties and fines to the defaulting participant shall be as per the Operating Procedure for SGF. The settlement of PSPs shall be conducted through existing arrangement through its settlement bank.

6.4. Additional SGF Requirement

Since, the domestic leg of the cross-border transactions shall be processed by RPS, the debit cap assigned to the member BFIs as per SGF for processing RPS transaction shall continue for processing the cross-border transactions as well. The respective member BFIs shall be required to monitor its debit cap utilization and accordingly fund SGF to support its cross-border transactions. The designated domestic settlement bank(s) in Nepal for cross-border transactions shall be required to make additional contribution of at least twenty-five (25) percent of its existing requirements in SGF, to be implemented

within six (6) month of activation of such settlement bank. The process for additional SGF contribution shall be as per existing Operating Procedure for SGF and SGF Alternate Guarantee Contribution Process.

7. Fees, Charges and Penalties

Members of cross-border payment shall pay fees and charges to NCHL for their participation and its usage. The fees and charge shall be applicable as per network to network agreement between NCHL and the respective IPP, which shall be communicated to the members for specific IPPs. Revenue sharing with the participating members shall be as specified in the membership agreement with the participating members and shall be specific for each IPP. NCHL shall reserve the right to define or modify the fees and charges at any time with prior notice and sufficient time provided to the participants. However, the applicable fees, charges and penalties shall be fixed in a fair, reasonable and non-discriminatory manner.

7.1. Annual Subscription Fee

Each member shall pay annual subscription fee to NCHL. However, such fee to the BFIs shall be waived, who are already the members of RPS and/or NPI. Non-BFI members shall be given access through NPI.

7.2. Transaction Fee

1. Participating members shall pay transaction fees or receive revenue on each transaction based on the type of transactions. In a normal scenario, except for specific cases communicated separately, transaction fees liability in person-to-person transaction will be on debtor bank and it will be on creditor bank for merchant payments.
2. Transaction fee shall be on a revenue sharing basis (may vary for each IPP) between debtor bank, creditor bank, initiating or receiving channel (as applicable), domestic settlement bank and NCHL, except for specific cases or instrument or channel defined as per the rules of such case or instrument or channel as communicated by NCHL. NCHL may allocate part of such revenue sharing for contribution in settlement guarantee fund (SGF) and market development fund (MDF). Such sharing shall be post fees charged by or shared with IPP and exclusive of any taxes or liabilities generated from IPP.
3. Transaction fee for Person to Merchant (P2M) QR payment transactions shall be on Interchange model between the Issuer and Acquirer (Re-imburement by the Acquirer to Issuer), except in specific cases where surcharge shall be applicable. All such specific cases shall be separately prescribed by NCHL.
4. For transactions with revenue sharing, the participating members shall ensure that their customers (debtor or creditor) are appropriately charged for transaction fee.
5. NCHL shall circulate transaction fees structure including sharing basis with the participating members as and when they are activated or changed in the system.

7.3. Other Charges

NCHL or as per NRB's instruction may define and apply Other Charges/ Penalties on:

- Insufficient funding at settlement bank account.
- Complaints on delayed customer account credit.
- Complaints such as Incorrect Rejection Reason.
- Complaints on delayed merchant settlement at the Participant's end.
- Charge backs as per exception handling cases.
- Penalties for violation of the Operating Rules.
- Penalties imposed by IPP.

8. Reports

Reports and queries shall be available for the participants for the required reporting/ reconciliation and for sharing with its customers, as may be required. Some of the reference reports, but are not limited to, are as follows:

Retail and Creditor Modules:

1. Transaction Query
2. Transactions Report/ Advise

Bank Central Module:

1. Transaction Query
2. Fees and Charges Query
3. Billing Summary Report
4. Net Clearing Position Report
5. Transaction Report/ Advise
6. Dispute Related Reports
7. Cross-Border Settlement Report

API (Application Programming Interface)

1. Transaction Report/Advise
2. Fee and Charge Related
3. Cross-Border Settlement Report

9. Continuity of Business

This section provides the continuity of business information for the related parties of the system in the unlikely events of disruption to preserve customer confidence, ensure regulatory compliance and mitigate systemic risks. NCHL shall ensure availability, consistency and recoverability of NPIx including NPI and RPS. All the participants shall also adopt and implement a business continuity plan to ensure its resilience and preparedness for any such unplanned disruptions. All the participants shall ensure recovery time objective (RTO) of maximum 2 hours in case of disruptions other than one caused due to cyber incident.

The participating member shall contact the first line support team (Helpdesk) or alternate channels made available by NCHL in case of any disruptions.

IPP and NCHL shall coordinate in case of any situation or contingency impacting continuity of business in their respective territory.

9.1. Communication Failure at Member's Site

The participating member shall immediately inform NCHL in case of facing any communication failure, connectivity problem or any other disruption situation from their end.

NCHL shall evaluate the disruption situation and in coordination with the participating member facing communication failure take measures as per the Business Continuity Planning Policy (BCP Policy). This includes communication with other participant and IPP and escalating to NRB or otherwise as per the BCP Policy and impact assessment.

9.2. Failure at NCHL Main Site

NCHL shall immediately inform NRB, IPP and all participants of the failure and then activate the Disaster Recovery site to continue or re-state the operations accordingly.

9.3. NCHL Disaster Recovery Plan

In addition to the high availability provided for the system (from the main site and DR site), NCHL shall maintain and periodically update its disaster recovery plan in compliance with the requirement as prescribed by NRB and meet the international best practices/ standards. NCHL shall also test its disaster recovery plan to address:

1. the replication and restoration of NPIx and RPS; and services that ensures processing from alternate facility;
2. the backup and recovery of critical data within defined recovery point objective;
3. the operational recovery within defined recovery time objective.

10.Helpdesk

A dedicated first-line support team shall be available during NCHL's support hours to support the participating members for smooth operation of NPIx and RPS/ NPI; troubleshoot and provide suitable diagnosis if any member faces problem in the system. The participating member shall assign a person to contact the helpdesk and report problems through a proper communication channels that shall be shared with NCHL.

The helpdesk shall have clear prioritization criteria to the requests from members, such that the reported query shall be categorized according to their urgencies and priority levels.

Priority	Definition
Urgent	A catastrophic problem which may severely impact NPIx and/or RPS/NPI operation, or in which the system is down and not functioning with no procedural work around available. A prompt response and a quick action must be taken.
High	A problem where NPIx and/or RPS/NPI is functioning but in a severely reduced capacity. The situation is causing significant impact in the NPIx and/or RPS/NPI business and functions.
Normal	A problem with a medium or low impact to NPIx and/or RPS/NPI business and functions. Such problem is considered as a "Minor" with limited loss or no loss of functionality or impact to the participating members' daily process.

11.Reconciliation and Exception Handling

A payment instruction either on debit leg or credit leg in Cross-Border Payment may fail due to various reasons such as loss of network connectivity, failure of core banking system of BFIs, failure of integration middleware, incorrect beneficiary details, other business or technical reasons or failure at IPP network. Following are the major cases of transaction failure and process for exception handling, some of which will be automated, whereas others may require manual intervention by the member BFIs.

S.No.	Exception	Description	Resolution
Generic Exceptions			
1	Declined Transaction i. Business Decline	<ul style="list-style-type: none"> Invalid beneficiary Bank Account Details/ VPA ID Insufficient funds in settlement Bank's NOSTRO account, Any rejection during compliance check of sender and beneficiary details. Beneficiary account rejections due to invalid account details and account status as closed, dormant, etc. 	NA
	ii. Technical Decline	<ul style="list-style-type: none"> Transaction may be declined due to technical issues at retail payment switch, network or connectivity issue, participating bank's CBS down, transaction timeout, etc. IPP, Correspondent Bank or Beneficiary Bank's which are located overseas has connectivity issue or their CBS is down. 	NA
Cross-Border Outward Transactions:			
2	Debit Reversal and Confirmation (DRC)	<ul style="list-style-type: none"> If the sender bank does not send debit authorization to RPS switch or if beneficiary bank declines a transaction with clear return reason, then NCHL will send debit reversal request message to sender bank. If remitter bank fails to respond to the debit reversal message in online mode, then sender bank is expected to reconcile, initiate suitable actions (wherever applicable) and update the status (i.e. Debit Reversal Confirmation) for such un-responded reversals in Bank Central Module on T+1 business day applicable. 	<ul style="list-style-type: none"> i. Customer account has been reversed online but failed to respond in online mode to NCHL, the sender bank shall update DRC in Bank Central Module. ii. Customer account has NOT been reversed online – Customer account is reversed post Recon and update the status in Bank Central Module. iii. Customer account has not been debited hence no reversal required.
3	Refund/Return Reversal Confirmation	This occurs in case refund message is received from IPP for approved/settled transaction and/or return message is received from IPP for deemed approved transaction.	NCHL shall download all the refund and/or return reversal message through the interface availed by IPP on T+1 business day and credit the payer customer account. Once refund/reversal are successfully processed, the sender bank shall provide Refund/Return Reversal Confirmation (RRC) through the bank central module.
4	Debit Reversal	In case the sender bank does not avail debit authorization to NPIx/IPP's system or in case the beneficiary bank declines the transaction, then NCHL/IPP shall send debit reversal request message to the sender bank.	The sender bank shall respond to debit reversal message in the online mode. If failed to respond, then the sender bank shall reconcile, initiate necessary action and provide Debit Reversal Confirmation (DRC) for such un-responded reversals through the interface availed by

			NCHL on T+1 business day applicable.
5	Recall Transaction	After completion of settlement process, the remitter may initiate recall if the beneficiary account is not credited.	Similar to step 3 above.
Cross-Border Inward Transactions:			
6	Deemed Approved	<p>If the beneficiary bank does not respond with the status of transaction as success or failed, then such transactions will be treated as deemed approved transactions in the RPS and funds are settled in RTGS in favor of beneficiary bank.</p> <p>Beneficiary banks are expected to reconcile all such deemed approved transactions by T+1 business day and initiate suitable actions so that customers shall get the funds latest by T+1 business day, otherwise penalty will be imposed.</p>	<p>Beneficiary bank shall settle such deemed approved transaction and raise the transaction credit confirmation (TCC) via Bank Central Module:</p> <ul style="list-style-type: none"> i. Customer's account credited online but failed to provide credit authorization. ii. Customer's account credited offline. iii. Customer account cannot be credited due to any reason, in such case beneficiary bank shall initiate the return workflow to the remitter bank.

12. Dispute Management

12.1. Role of Network Operator

NCHL and IPP shall not have any duty to determine legality, validity or enforceability of any transaction processed as cross-border transactions or to determine whether such transaction is contractually void or voidable. NCHL and IPP shall be entitled to consider all transaction(s) initiated from the participating member and executed under the system as legal, valid and enforceable. However, NCHL in coordination with IPP, shall review the contentious dispute claim and mutually decide the responsibility for resolution. The network operator shall promptly inform all the participants of any suspicion of misuse of cross-border platform, with available evidence in its custody such that the probable damage can be mitigated.

12.2. Role of Participating Member

In case of customer complaints related to cross-border transactions, the first point of contact for customer shall be its issuing or acquiring BFIs or PSPs. If any information and necessary coordination are required to the BFI or PSP, then it shall request to NCHL or to liaison with IPP for appropriate support. Consequent to which, NCHL shall raise dispute claim to IPP and seek necessary coordination from IPP for resolution through its concerned participating IPP member. Appropriate tool or portal shall be provided by NCHL to the Participating Members for tracking such reported complaints.

In case any participating member is aware of malfunctioning or misuse pertaining to transactions in which it was involved, it shall be the responsibility of such participating member to notify to the concerned stakeholders with all pertinent documents, which are in its custody.

12.3. Role of Beneficiary Bank

In case of a disputed transaction reported by an authorized person from sender bank, NCHL and/or IPP, the beneficiary bank shall support in resolving the dispute and/or investigation, until which it shall block the transaction amount or mark as lien in case of insufficient balance, as may be the case, based on such request.

12.4. Mutual Assistance

It shall be role of all the participating stakeholders in the network to network arrangement for cross-border transactions to mutually assist one another to resolve disputes amicably and within the stipulated timeline as agreed by the network operators.

12.5. Maintenance of Disputed Transaction Records

The participating members shall maintain detailed records of all disputed transactions including correspondence until the disputes are resolved. The network operator shall coordinate with its participating members to avail details of all disputed transactions to corresponding network operator and the concerned participating member in a timely manner, whenever requested.

Details to be provided for disputed transaction record includes, but not limited to, the following:

1. Date, time and transaction reference number
2. Transaction amount
3. Logs from compliance, sanction screening for sender and receiver, if any
4. Logs from participating member for authentication
5. Logs from settlement bank for securing debit or credit from settlement account
6. Logs from beneficiary bank showing proof of credit
7. Logs from issuing bank showing proof of debit
8. Copy of customer complaint letter
9. Amount disputed

In the event of dispute or differences arising between the participants and if the parties are unable to resolve amicably, the matter shall be referred to NCHL by its member and NCHL shall be responsible to coordinate with IPP for dispute handling or arbitration, which shall be as per the arrangement with IPP. The cost of resolution of such dispute and/or arbitration shall be equally borne by the disputed parties. And in the event of the dispute between NCHL and the participant(s), which the parties are unable to resolve amicably, the matter shall be referred to a final and binding arbitration. Inter network disputes and related arrangement shall be as per the agreement between NCHL and IPP.

NRB shall be the final authority to interpret this Operating Rules in case of dispute related to clauses mentioned in this Operating Rules for NCHL and participating members.

13. Disclaimer

NCHL undertakes no responsibility in respect of any failure/defect, forgery, theft, or any wrongful copying of any software, password, or any combination of them, assigned to or designated by a member/participant or NCHL or IPP. It is a responsibility of each participating members or IPP to have an insurance coverage or any other arrangement against such or any other incidents.

14. Obligations

14.1. Indemnity

1. Participants shall indemnify and hold harmless NCHL, its directors, officers, and employees from all liabilities or expenses (including but not limited to reasonable attorney fees and costs of investigation and defense) resulting from: (i) any business loss resulting from breach of the terms of this Operating Rules; (ii) any violation of any statute, ordinance, or regulation; (iii) any act or omission constituting negligence or willful misconduct or breach of fiduciary duty in connection with NCHL performance or services. Participant hereby represents and warrants that in the event of any suits, claims, disputes or such differences are brought directly against NCHL with respect to NPIx and/or RPS, as a consequence of breach of the terms and conditions of this Operating Rules, participants shall assist NCHL in defending such suits, claims, disputes or differences. (iv) in the event that NCHL becomes aware of any obligations, representation or warranty of participants as being false or misleading, participants shall be liable to indemnify NCHL for any such injury, loss or damage arising out of such misrepresentation. For clarity, participants shall only be liable for actions that originated from participants or any third party acting on its behalf and participants shall not be liable for issues arising solely and independently from NCHL.
2. In the event that after a member has participated in the system, NCHL becomes aware of any obligations, representation or warranty of the participant as being false or misleading, participant shall be liable to indemnify NCHL for any such injury, loss or damage arising out of such misrepresentation.
3. The debtor and creditor customer agree, at its own expense, to indemnify, defend and hold harmless NCHL, the participating BFI and/or IPP, its directors and employees, representatives, agents, and its service providers against any claim, suit, action or other proceeding brought against NCHL, the BFI and/or IPP, its affiliates, directors and employees, representatives or agents by a third party, to the extent that such claim, suit, action or other proceeding brought against NCHL, BFI and/or IPP, its service provider, directors and employees, representatives or agents is based on or arises in connection with the use of cross-border transactions.

14.2. Confidentiality

Participants and IPP shall use all reasonable endeavors to ensure that information relating to cross-border transaction, which is not in the public domain shall be treated as confidential and shall not be

disclosed to anyone except with the prior written consent of NCHL and except as may be required by law or by any Government Authority. Nothing in this clause shall however prevent any of the parties from disclosing any of the information to their agents and representatives or attorneys, provided that such disclosure is on a need to know basis and for the purpose of normal functioning of business activities. All information provided by participant in cross-border transactions shall not be used to secure a commercial advantage over the other.

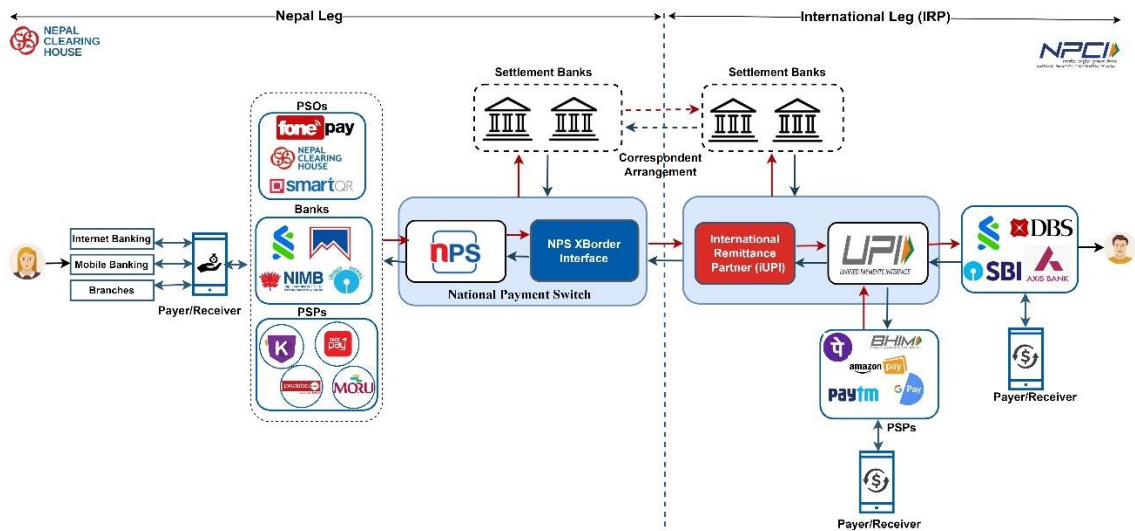
14.3. Force Majeure

NCHL shall promptly notify NRB, participants and IPP in writing or through an appropriate channel of any situation or of occurrence of any event beyond the control of NCHL, which makes it impossible for NCHL to continue operation of cross-border transactions. NCHL shall not be liable for any delay in meeting or for failure to provide its services under this Operating Rules due to any cause beyond its reasonable control.

Section II Nepal-India Specific Cross-border Transactions

15. Person-To-Person Process Flow

15.1. Cross-border Architecture



Cross-border Process Architecture

15.2. Cross-Border Inward Transaction Flow

This is related to a case where customer sending money from India to Nepal based on VPA/Proxy address. A general transaction flow of cross-border inward shall be as follows.

1. Indian customer initiates a fund transfer request using UPI enabled applications of their Payer/PSPs Bank and PSPs wallets.
2. NPCI forwards the non-financial request to NPIX through UPI International (iUPI) for the purpose of customer validation and AML/CFT screening.
3. NPIX verifies the request's authenticity, checks availability of beneficiary consent and transfers it to NPI for further processing.
4. If consent is not available in NPIX, NPI forward the request to beneficiary bank to obtain the customer consent with sharing of customers' personal identifiable information.
5. Beneficiary bank performs the customer validation, VPA resolution and AML/CFT related screening and provide the consolidated response back to NPIX.
6. NPIX sends the consolidated response of non-financial request back to NPCI via UPI international.
7. Upon successful validation of non-financial leg, customer confirms the fund transfer request. UPI debits the customer account and forwards the financial request to UPI international.
8. UPI international handovers the fund transfer request to NPIX. NPIX checks the transaction limit and performs the velocity check before forwarding to RPS switch for crediting the beneficiary account.
9. RPS switch debits the settlement account and sends the instruction to creditor bank for crediting the beneficiary account.
10. RPS switch sends the debit and credit confirmation back to NPIX.
11. NPIX sends the response of financial transaction back to UPI International.
12. UPI International, relays the transaction response to its payer's bank through UPI.
13. The payer's bank delivers the final payment confirmation to the payer.

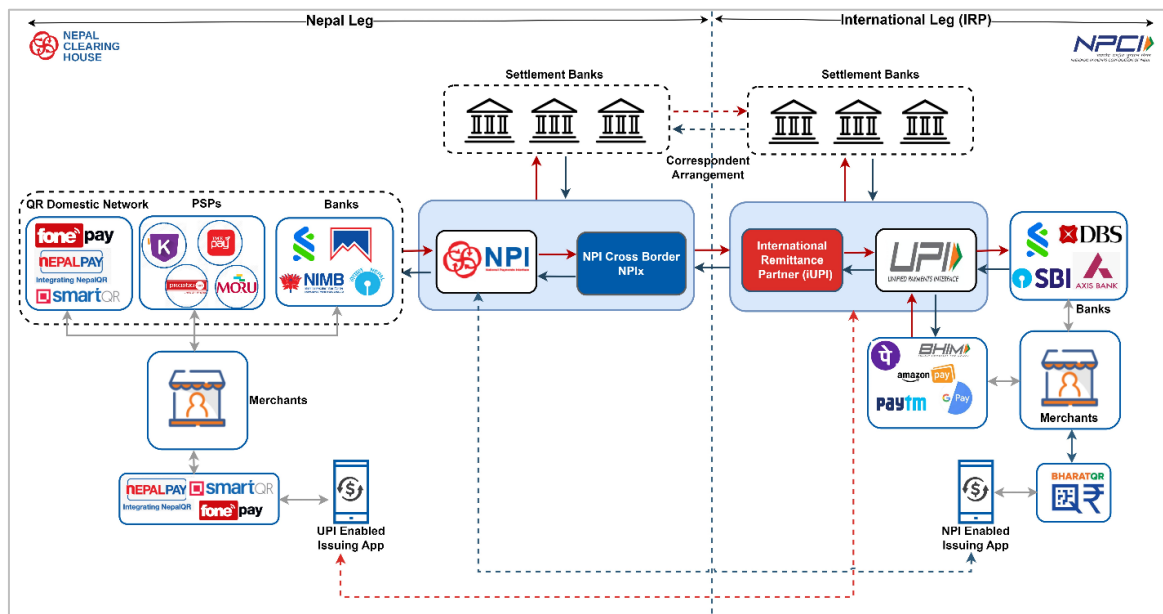
15.3. Cross-Border Outward Transaction Flow

This is related to a case where customer sending money from Nepal to India based on VPA/Proxy address. A general transaction flow of cross-border outward shall be as follows.

1. Nepali customer initiates a fund transfer process by using any of the NPI integrated issuing instruments provided by the banks.
2. Payer bank forward the customer's non-financial request to NPIX, which subsequently sends a validation request to UPI International.
3. UPI International validates the request message and then, it forwards the transfer message to its payee bank for necessary customer validation and to Compliance Screening Banks for AML & CFT related screening as per the arrangement.
4. Following successful validation and screening of the Payee customer, UPI International sends the response back to NPIX for initiating a financial leg.
5. NPIX than routes the response further to the payer's bank via NPI.
6. Payer customer authorizes the fund transfer request and which is further send to NPIX via NPI by payer bank.
7. NPIX conducts the limit and other checks before routing the request to RPS switch.
8. RPS switch initiates a debit instruction to payer's bank & credit instructions to settlement bank.
9. Following successful debit and credit transaction in Nepal leg, an international fund transfer request is sent to the Payee Bank through NPIX to iUPI.
10. Payee bank's account is credited once the fund transfer request is successfully validated at UPI end. A credit confirmation is then relayed from the Payee Bank to NPIX through iUPI.
11. NPIX forwards the confirmation response to the Payer Bank via NPI.
12. The Payer Bank provides payment confirmation to the payer, completing the process.

16. Person-To-Merchant (QR) Payment Flow

16.1. Cross-border Merchant Payment Architecture



Cross-border Merchant Payment Process Architecture

16.2. Cross-Border Merchant Payment (Inward)

This is related to a case where UPI customer scans NEPALPAY network QR (including interoperable QR scheme) for merchant payment in Nepal. A general transaction flow of cross-border QR payment transaction acquiring in Nepal shall be as follows.

1. UPI enabled issuing app scans NEPALPAY Interoperable QR (including inter-network QR) in Nepal.
2. The UPI app forwards the QR payload/string to UPI, which will identify the merchant country (as Nepal) and forwards the QR details to NCHL for merchant validation.
3. NCHL validates the merchant details with respective acquirer and provide the response back to UPI, which will then be forward the validation response to UPI app.
4. User confirms the payment after which UPI processes for customer debit.
5. UPI sends the debit confirmation to NCHL, which will then forward the response to respective acquirer for merchant notification.
6. Acquirer sends the merchant response to NCHL, which will send the response back to UPI and then to the issuer app to notify its customer about the status of the payment.

16.3. Cross-Border Merchant Payment (Outward)

This is related to a case where customers of Issuing Members of NCHL scans UPI enabled QR for merchant payment in India. A general transaction flow of cross-border QR payment transaction in India shall be as follows.

1. NEPALPAY enabled issuing app scans UPI QR in India.
2. The issuing app forwards the QR payload/string to NCHL (through NPIX), which will identify the merchant country (as India) and forwards the QR details to UPI for merchant validation.
3. NCHL receives the merchant validation response from UPI and forwards the validation response to the Issuer app.
4. User confirms the payment after which NCHL processes for customer debit.
5. NCHL sends the debit confirmation to UPI, which will then forward the response to respective acquirer for merchant notification.
6. Acquirer sends the merchant response to UPI, which will send the response back to NCHL and then to the issuer app to notify its customer about the status of the payment.

17. Transaction Threshold

The outgoing transaction and/or payment from Nepal shall be as per the limits specified by Nepal Rastra Bank. Similarly, such limit for inward to Nepal shall be specified by the Reserve Bank of India or NIPL/ NPCI as may be the cases.

Limits for cross-border person-to-person transaction (P2P/ P2B) for outgoing from Nepal to India shall be as follows.

Particulars for P2P/ P2B	Per Txn	Per Month
Initiated from BFIs' Issuing Instruments (<i>Mobile Banking, connectIPS & Similar</i>)	As specified by NRB	As specified by NRB
Initiated from Account Linked Other Issuing Instruments (Wallets & similar)*	As specified by NRB	As specified by NRB
Initiated from Bank Central Module (P2P) For Specific Purpose	As specified by NRB (As per supporting document)	N/A
Initiated from Bank Central Module (P2B) For Specific Purpose	As specified by NRB (As per supporting document)	N/A

* KYC of the linked bank account shall be considered.

Limits for cross-border merchant payment transaction for outgoing from Nepal-India shall be as follows.

Particulars for P2M	Per Txn	Per month
Initiated from BFIs' Issuing Instruments (<i>Mobile Banking, connectIPS & Similar</i>)	As specified by NRB	As specified by NRB
Initiated from Other Issuing Instruments (Wallets & Similar)**	As specified by NRB	As specified by NRB
Initiated from BFIs' Issuing Instruments (<i>Mobile Banking, connectIPS & similar</i>) For Specific Purpose or Merchant Category	As specified by NRB	As specified by NRB

** Customer should be fully KYC compliant for such other issuing instruments.

NRB shall define transaction limits for outgoing transactions and shall prevail. Similarly, NRB may also prescribe a differentiated limit for specific purpose for category codes. However, the participating members may define their own limits, which shall be equal or less than the prescribed limits. For incoming transactions, the receiving member in Nepal shall ensure monitoring and compliance of such transactions as per the prevailing AML/ CFT provisions.

18. Dispute Resolution

18.1. Dispute Life Cycle and Turn-around Time

S. No	Dispute	TAT (Calendar Days)	TAT Reference	Pre-requisite	Description	Financial/Non-Financial	Raising Party	Liability	Flag	Description
1	Transaction Credit Confirmation (TCC)	60	Transaction Date	Deemed Approved Transaction	Confirmation of credit to beneficiary for deemed transaction	Non-Financial	Beneficiary	NA	TCC	Customer account credited online
										Customer account credited manually
										Return to be initiated
2	Reversal Confirmation	60	RET/ Credit Adjustment Date	Approved Transaction	Remitter A/c has been credited	Non-Financial	Network /Remitter Bank	NA	RRC	Remitter Account has been Credited
3	Return (RET)	60	Transaction Date	Deemed Approved Transaction	Deemed transaction which beneficiary wants to return	Financial	Beneficiary	Beneficiary Bank->Network Settlement Bank Network-> Remitter Bank	RET	Account closed
										Account does not exist
										Party instructions
										NRI account
										Credit freeze
										Invalid beneficiary details
Any other reason										
4	Credit Adjustment	180	Transaction Date	Approved Transaction	Return of transaction amount	Financial	Beneficiary	Beneficiary Bank-> Network Settlement Bank Network-> Remitter Bank	C	Beneficiary Bank unable to credit their customer account
5	Debit Reversal Confirmation	60	Transaction Date	Failed Transaction	Failed transaction reversal to Customer	Non-Financial	Network /Remitter Bank	NA	DRC	Remitter has been reimbursed
6	Recall attempt	60	Transaction Date	Approved / Deemed Approved	To check transaction Status	Non-Financial	Network/ Remitter Bank	NA		Funds not credited to Beneficiary
7	Response to recall	60	From recall attempt	Recall	Response to recall	Non-Financial	Beneficiary	NA		Refund credited to beneficiary

18.2. Applicable Penalty Structure

In case participating member fails to confirm the transaction credit confirmation, debit refund confirmation and return by the stipulated turnaround time, the penalty shall be levied for the delay in such confirmation. Applicable penalty shall be as per the arrangement with NIPL/NPCI, which shall be informed to the participating members.

18.3. Non-Compliance Penalties

The non-compliance penalties applicable to the participating member in case of violation of relevant operating rules of the respective IPP (NNOR in case of India) shall be as per such IPP's operating rules or guidelines and applicability shall be to the liable participating member. Such cases of non-compliance penalties are as follows:

Description	Penalties
<p>General Non-Compliance Assessment</p> <p>NCHL may assess a non-compliance assessment for violation of operating regulations, related publications and operating circulars issued from time to time.</p>	<p>First Violation – Warning letter with a request for compliance/ resolution plan.</p> <p>Second Violation within 12 months after the date of warning letter for first violation. Penalty as specified in IPP operating rules/ guideline Plus NRs 1,000.</p>
<p>Delayed pre-funding of the Settlement Account – Any Settlement not remitted to the IPP Settlement Account</p>	<p>Warning letter with a request for compliance/ resolution plan.</p> <p>Penalty as specified in IPP operating rules/ guideline Plus NRs 1,000 per violation.</p>
<p>Missing, Late or Inaccurate Reporting - Any report required which is not submitted by the designated due date or not populated with appropriate data</p>	<p>First Violation – Warning letter with a request for a compliance/resolution plan.</p> <p>Second Violation – If compliance is not achieved as per the resolution plan. Penalty as specified in IPP operating rules/ guideline Plus NRs 1,000 per month until resolved.</p>
<p>Data Quality - Data elements required as per the specifications are not populated with required data.</p>	<p>Fee may be levied if data quality is not resolved within sixty (60) calendar days from the date of notification and the number of such violation exceeds 2% of transactions volume. Penalty as specified in IPP operating rules/ guideline Plus NRs 1,000 per month until resolved.</p>
<p>Data Security - Non-compliance with security requirements or vulnerability remediation</p>	<p>First Violation- Warning letter with a request for a compliance/resolution plan.</p> <p>Second Violation Fee levied until noncompliance is resolved. Penalty as specified in IPP operating rules/ guideline Plus NRs 1,000 per month until resolved.</p>

Annexure 1: RPS Return Reason and Response Codes

Debit Response Code	Debit Description	Credit Response Codes	Credit Description
"000"	Debit Success	"000"	"Credit success"
		"DEFER"	Deferred credit payment/success
		"999"	"Credit Time Out". (Considered as credit success in settlement)
		"ENTR"	"Credit in progress". (Call back API to be used to get final status).
		"1001"	"Bank's network not reachable". Subject to debit reversal.
		Other CBS Codes (Credit Rejected)	"Credit Rejected". (Subject to debit reversal).
		Null	"Suspicious Transaction. Manual verification required"
"1001"	"Bank Network not reachable"	"1000"	"Credit Rejected As Debit is Rejected"
"999"	"Debit ISO Time Out. Manual verification required "	"1000"	"Credit Rejected As Debit is Rejected"
"ENTR"	"Debit In Progress" (Call back API to be used to get final status)	Null	"Credit In Progress" (Call back API to be used to get final status. Manual verification required)
Other CBS Codes	Debit Rejected	1000	"Credit Rejected As Debit is Rejected"

Note: If Debit status or Credit status is Empty or Null, it will be considered as Suspicious transaction and will require manual reconciliation by the participating BFIs.

Note: The merchant category codes, transaction purpose codes, and other associated response codes related to cross-border payments will be published separately on a regular basis.