

ZAMBIA ELECTRONIC CLEARING HOUSE LIMITED

**NATIONAL FINANCIAL SWITCH
Operating Rules
Automated Teller Machine (ATM)
and Point of Sale (POS)**

December 2019



ZAMBIA ELECTRONIC CLEARING HOUSE LIMITED

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1 INTRODUCTION

- 1.1 This document provides a framework on which the National Financial Switch (NFS) will operate. The document was formulated by the Zambian Banking Industry for use by all participants on the NFS. The document must be read and interpreted alongside other applicable laws for payment systems.
- 1.2 The national switching network in Zambia interconnects Automated Teller Machines (ATMs), Point of Sale (PoS) machines, mobile payment devices and other payment devices in the country.

2 TITLE

- 1.3 These rules shall be cited as the Automated Teller Machine (ATM) and Point of Sale (POS) National Financial Switch Rules, 2017.

3 DEFINITIONS

In these rules, unless the context otherwise requires, the following shall mean:

- 3.1 **Acquirer** - A participant or any other duly authorized person that enables merchants or Merchants to accept payment cards as a means of payment for goods and services and is responsible for merchant settlement or enables cardholders to withdraw cash or access a service at acceptance devices including but not limited to ATMs and POS terminals.
- 3.2 **Acquirer Identification** - Any unique feature used to identify the Acquirer as specified in the ISO8583:93 Interface Specification document.
- 3.3 **Acquired Transaction** - An ATM or POS transaction generated from a terminal of a designated participant and sent to the issuing bank through the NFS.
- 3.4 **Penalty fee** - A fee charged by ZEHL when a participant is in breach of these rules as tabulated in the Manual of Fees and Charges.
- 3.5 **Automated Teller Machine (ATM)** - An electromechanical device that allows authorised users, typically using machine-readable plastic cards, to withdraw cash from their accounts and/or access other services (allowing them, for example, to make balance enquiries, transfer funds or deposit money).
- 3.6 **Authorisation** - Confirmation given by an Issuer that funds, to the amount of the Transaction, are available in the cardholder's account. Except in the circumstances specified in these Rules, Authorisation should always be effected online.
- 3.7 **Authorised Device** - A secure cryptographic device that has been approved by ZEHL in accordance with ZEHL requirements specified in this document which may be amended from time to time.
- 3.8 **Bank Identification Number (BIN)** - A unique six digit numeric institutional identifier for a card issuer.
- 3.9 **Business Day** - The period between two cut-overs.
- 3.10 **Card** - A device issued to the cardholder that can be used by its holder to pay for goods and services, withdraw money or perform other transactions.
- 3.11 **Cardholder** - A person or entity to whom a card is issued and who is authorized to use that card.
- 3.12 **Certification** - Process of verifying that an applicant or participant meets the prescribed industry standards for products, services and devices.



- 3.13 Chip Card** - A card with an embedded microprocessor (chip).
- 3.14 Claims Processing System (CPS)** - An automated notification system with which the filing participant of NFS can notify the receiving participant and ZECHL of a disputed Transaction.
- 3.15 Clearing** - The process of transmitting, reconciling and confirming net settlement obligations.
- 3.16 Cold Card** - A card that is not restricted for transactions.
- 3.17 Cut-over** - The deadline set by the NFS system for the acceptance of transactions for a given business day.
- 3.18 Domestic Transaction** - A transaction between an acquirer and issuer who are both domiciled in Zambia.
- 3.19 EMV** - An acronym describing the set of specifications developed by the consortium of Europay, MasterCard and Visa
- 3.20 Failure To Settle (FTS)** - The inability to settle a settlement obligation by a participant as stipulated in these rules.
- 3.21 Financial Service Provider** - An entity licenced by the Bank of Zambia to provide financial services.
- 3.22 Hot Card** - A card that has been reported by the cardholder as lost or stolen, or for which there is evidence of fraudulent use.
- 3.23 Instant issue card** - A new or replacement card that is issued and activated instantaneously within the branch and can be used there and then.
- 3.24 Interchange Fee** - A transaction fee payable between the Acquirer and the Issuer of the card. Generally, the Acquirer reimburses the Issuer for Point of Sale transactions whereas the issuer reimburses the Acquirer for cash and Automated Teller Machine Transactions.
- 3.25 Issuer** - A participant or any other duly authorized person that issues cards.
- 3.26 Merchant** - A person or entity that is duly authorised by the acquirer to accept a card payment presented by a client in order to transfer funds to that person or entity
- 3.27 Participant** - An entity authorised to participate in the NFS.
- 3.28 Payment Card Industry Data Security Standard (PCI DSS)** - A set of information security standards for organizations that handle branded payment cards from the major card schemes developed by the consortium of Europay, MasterCard and Visa
- 3.29 Personal Identification Number (PIN)** - A personal and confidential numerical code used to authenticate a Cardholder in an ATM or POS transaction.
- 3.30 PIN Entry Device (PED)/Electronic PIN Pad (EPP)** - A component of a terminal which provides for the secure entry and encryption of the PIN in processing a Transaction.
- 3.31 Off-us transaction** - A transaction performed by a Cardholder on an ATM or POS of a participant or a duly authorised entity that is not the issuer of the card being used.
- 3.32 Offline PIN** - A card verification method for EMV chip cards. These cards store the PIN securely on the chip itself, so cardholder verification can occur even at a stand-alone kiosk not connected to a network.



- 3.33 Online PIN** - A card verification method for EMV chip cards with magnetic stripes. If the EMV chip card has an online PIN, the terminal must electronically contact the issuer over a network to verify that the PIN entered is correct every time the customer enters it.
- 3.34 Settlement** - The completion of a transaction by discharging participants' obligations through the transfer of funds.
- 3.35 Settlement Account** - An account held at Bank of Zambia or another settlement agent, which is used to settle obligations between participants in the payment system.
- 3.36 Switching Fee** - A standard fee charged by the switch for processing all transactions going through the NFS



4 APPLICATION OF RULES

- 4.1 These Rules shall govern the operations and use of the National Financial Switch (NFS) as well as define the roles and responsibilities of the participants and the managers of the system.
- 4.2 These Rules shall apply to all participants on the card switching system.

4.3 Switching Rules

- 4.3.1 All acquired domestic card transactions shall be routed through the NFS.
- 4.3.2 All participants shall subscribe to the relevant cards schemes.
- 4.3.3 These rules do not exclude the application of the applicable card scheme rules in force at any time, but insofar as the card scheme rules are in conflict with these rules, these rules shall prevail.

5 ADMINISTRATION OF THE RULES

- 5.1 ZEHL shall be responsible for the administration of these rules.

6 AMENDMENTS TO THE RULES

- 6.1 These Rules may be reviewed and amended by ZEHL, in consultation with all participants. Where these rules have been amended, all participants shall be required to sign-off.

7 GOVERNING LAW

- 7.1 The Items covered by these Rules shall be subject, in all respects, to the Laws of Zambia.

8 FUNCTIONS OF THE NFS

- 8.1 The National Financial Switch shall:

- 8.1.1 Switch and clear domestic transactions;
- 8.1.2 calculate interchange and billing fees on behalf of participants;
- 8.1.3 Calculate net settlement positions;
- 8.1.4 Transmit settlement instructions to the Settlement Agent for settlement; and
- 8.1.5 Provide a platform for dispute resolution

9 APPLICATION FOR PARTICIPATION ON THE NFS

- 9.1 All applicants wishing to participate on the NFS must be designated by the Bank of Zambia as NFS Payment System Participants.
- 9.2 An applicant shall be admitted as a participant on the NFS by ZEHL if:
 - 9.2.1 The applicant has met all the technical requirements specified in the 'General Requirements for Participation on the NFS' section below.
 - 9.2.2 An applicant who does not have a settlement account with the Bank of Zambia can provide proof of its settlement arrangement with a settlement bank.
 - 9.2.3 The applicant meets the prescribed standards for all of its devices as stipulated in the Banker's Association of Zambia Guidelines on Operation of Electronic Payment Channels.
 - 9.2.4 The applicant is PCI DSS compliant.
 - 9.2.5 The applicant has provided any further evidence of compliance which is reasonably requested by ZEHL.
- 9.3 The applicant shall advise ZEHL of the products/services that it intends to use which may include:

9.3.1 Cards

- 9.3.1.1 Transaction types to be supported



- 9.3.1.1.1 Terminals – ATM/POS
- 9.3.1.1.2 Issuing – ATM/POS
- 9.3.1.1.3 Acquiring – ATM/POS
- 9.3.1.1.4 Any other devices

10 GENERAL REQUIREMENTS FOR PARTICIPATION ON THE NFS

10.1 A participant admitted to participate on the NFS shall ensure that:

- 10.1.1 The Pin Entry Devices (PEDs) it uses satisfy applicable technical and security standards.
- 10.1.2 The key loading and transfer devices it uses satisfy applicable security standards.
- 10.1.3 Its interface satisfies applicable standards as outlined in the interface specifications document.
- 10.1.4 It puts in place measures to adequately mitigate operational risk.
- 10.1.5 It pays the NFS fees as provided in the NFS Manual of fees.
- 10.1.6 Any services provided by third parties are provided in conformance with the relevant standards and requirements specified in this document.
- 10.1.7 When operating as an Issuer the participant shall ensure that:
 - 10.1.7.1 The card it uses satisfies applicable Card-related Standards.
 - 10.1.7.2 PIN management satisfies relevant security requirements.
 - 10.1.7.3 The Hardware Security Module (HSM) it uses satisfies applicable Security Standards.
 - 10.1.7.4 Its interface satisfies applicable standards as outlined in the ISO 8583:93 interface specifications document.
 - 10.1.7.5 It puts in place measures to adequately mitigate operational risk.
 - 10.1.7.6 Any services provided by third parties conform to the relevant standards and requirements specified in this document.

11 NETWORK AND OPERATIONAL REQUIREMENTS

- 11.1 All Participants must ensure that they have adequate Business Continuity arrangements in place to deal with any disruptive events.
- 11.2 Acquiring participants have the responsibility for the network downstream to the Terminal.
- 11.3 Each participant is responsible for interconnectivity to the NFS.
- 11.4 All participants shall make provisions to meet the minimum service levels required by ZEHL.
- 11.5 The Acquirer switch should not add more than a maximum elapsed time through the components of its network to the total processing time of a Transaction, as stated in the Service Level Agreement (SLA).
- 11.6 The Issuer host should respond to a request for Authorisation within a period not exceeding a maximum time specified by ZEHL.
- 11.7 The Participants shall meet and exceed the SLA required by ZEHL. These service levels are detailed in the SLA signed by all Participants.
- 11.8 NFS interoperability links shall be supported 24 hours per day, every day including weekends and holidays. The availability of the Issuers and Acquirer's systems shall meet or exceed the SLA determined by ZEHL from time to time.
- 11.9 All major disruptive events from any participant must be reported to ZEHL within 30 minutes of occurrence of such event.
- 11.10 Where a disruptive event occurs at ZEHL, ZEHL shall inform all affected participants of such an event.
- 11.11 Examples of a major disruptive event include but are not limited to:
 - 11.11.1 Failure of or disruption to infrastructure.
 - 11.11.2 Host system failure.
 - 11.11.3 Major communications outage resulting from the failure of telecommunications provider to re-route interface traffic.
 - 11.11.4 Loss of primary and/or backup interface links.



12 BUSINESS CONTINUITY AND DISASTER RECOVERY

- 12.1 Participants shall ensure that they have Business Continuity Plans in place which shall ensure uninterrupted business operations and include all the organisational, technical and staffing measures employed in order to:
 - 12.1.1 Ensure the continuation of all business activities in the immediate aftermath of a crisis; and
 - 12.1.2 Gradually ensure the continued operation of all business activities in the event of sustained and severe disruption.
- 12.2 All participants shall be required to carry out bi-annual testing of their Business Continuity and Disaster Recovery Plans.
- 12.3 Participants are also responsible for compliance with disaster recovery procedures whenever initiated and/or requested by ZEHL.

13 SERVICE LEVEL AGREEMENTS

- 13.1 Each participant shall be required to enter into a Service Level Agreement (SLA) with ZEHL. A Participant who fails to meet the requirements set forth in the SLA may be suspended. SLA has been attached as Schedule XX

14 CONFIDENTIALITY

- 14.1 A Participant shall ensure that any information it receives relating to the NFS is kept confidential and only provided to its employees, legal advisers, auditors and any of its contractors, prospective contractors, consultants or prospective consultants, who have a need to know the information to carry out their roles, and not used or copied except for the purposes of the Rules, subject to an explicit approval from ZEHL.
- 14.2 A Participant's transaction activity reports are confidential and shall not be disclosed to any person or used in any form or format except as permitted by these Rules.
- 14.3 ZEHL may disclose aggregated data with respect to the volume and value of transactions or any particular type of transaction in line with these Rules.
- 14.4 ZEHL shall disclose and/ or use confidential information and/or transaction data as follows:
 - 14.4.1 For the benefit of the Participant providing the information.
 - 14.4.2 As required by the Bank of Zambia, a judicial authority or government agency.
 - 14.4.3 For Transaction processing, clearing and settlement.
 - 14.4.4 For resolving /processing claims and/or other forms of Disputes.
 - 14.4.5 For protection against, or prevention of actual or potential fraud, unauthorised transactions, claims or other liability.
 - 14.4.6 For Risk Management and compliance with these Rules.
 - 14.4.7 For the preparation of financial and monetary research and studies, statistical reports and analyses.
- 14.5 A Participant shall ensure that they are compliant with applicable laws in Zambia in cases where furnishing or disclosing confidential Transaction data is required.

15 COMPLIANCE

- 15.1 A Participant shall comply with all applicable regulatory requirements and requirements that may be issued by ZEHL
- 15.2 ZEHL may issue requirements with respect to:
 - 15.2.1 Transactions
 - 15.2.2 Interchange fees
 - 15.2.3 Switching fees;
 - 15.2.4 Deployed devices;
 - 15.2.5 Settlement of transactions and interchange fees;



- 15.2.6 Matters related to transactions or interchange fees;
- 15.2.7 Access to the NFS; and
- 15.2.8 Any other requirements as may be required for the operation of the NFS

15.3 Failure to comply:

15.3.1 Where a participant fails to comply, ZEHL may effect the following compliance enforcement processes:

- 15.3.1.1 Review of non-compliance and associated risk;
- 15.3.1.2 Agree on corrective/remedial actions to be taken;
- 15.3.1.3 Agree timeframes when remedial actions should be taken;
- 15.3.1.4 Depending on the severity of the non-compliance, fines or even suspension of services may result.

15.4 Disclosure of Non-Compliance

15.4.1 A participant shall disclose by notice in writing to ZEHL each and every instance of non-compliance with the Rules by itself or any other participant immediately upon becoming aware of the non-compliance or the reasons for inability to comply.

16 SUSPENSION OF A PARTICIPANT

16.1 Suspension from Participation

16.1.1 ZEHL may suspend, by notice, a participant from the NFS upon:

- 16.1.1.1 Bank of Zambia requesting for suspension of the participant;
- 16.1.1.2 Failure to meet and maintain certification and Regulatory requirements;
- 16.1.1.3 Introducing material risk to the system;
- 16.1.1.4 Failure to meet obligations due to ZEHL; or
- 16.1.1.5 Any other material breach of these Rules.

16.2 Notice of Suspension

16.2.1 ZEHL shall immediately notify, in writing, BOZ and all participants of the suspension of a participant.

16.3 Effect of Suspension

16.3.1 On suspension, ZEHL shall block the Participant from participating in the NFS

16.3.2 A Participant, if suspended from NFS, shall:

- 16.3.2.1 Not process any acquired transactions;
- 16.3.2.2 Decline all transactions that its cardholders attempt to perform at a terminal of another participant for suspended participants authorisation;
- 16.3.2.3 Make sure its terminals do not process/acquire any transactions from other Participants' cardholders.
- 16.3.2.4 Not engage in any other NFS activities;

16.3.3 The suspension of a Participant does not relieve the Participant of its obligations under the NFS

16.3.4 Suspension of a Participant will not affect any rights or obligations of other Participants arising under these Rules.

16.4 Re-admission of Suspended Participants

16.4.1 ZEHL may readmit a participant to the NFS if;



- 16.4.2 The participant has settled all outstanding obligations incurred under these Rules; and
- 16.4.3 The participant has rectified any breach of these Rules and/or any other regulations associated with its suspension.

17 IMPOSITION OF CONDITIONS TO PARTICIPATION

- 17.1 ZEHL may impose conditions on a participant, where the participant's activities may be deemed to potentially introduce additional risk on the NFS.
- 17.2 Any conditions imposed by ZEHL should be necessary to preserve the reputation, integrity, security, reliability and stability of the NFS.
- 17.3 ZEHL will immediately notify all participants in writing of any conditions, waivers or variations imposed unless notification is not required having regards to the reputation, integrity, security, reliability, confidentiality and stability of the NFS.

18 TERMINATION

- 18.1 ZEHL may, upon approval by the Bank of Zambia, terminate the participation to the NFS of a participant by notice in writing to the participant if;
 - 18.1.1 The Bank of Zambia revokes the participant's designation/license.
 - 18.1.2 A participant becomes insolvent or makes an arrangement of composition with creditors generally.
 - 18.1.3 A participant is wound up, dissolved or otherwise ceases to exist.
 - 18.1.4 A suspended participant fails to comply with the conditions under which the participant was suspended.
- 18.2 Upon such termination, ZEHL shall write to Bank of Zambia to advice of the termination.
- 18.3 A participant aggrieved by the decision will express this to the Central Bank as provisioned for in section 41 of the NPSA of 2007
- 18.4 A Participant whose participation has been terminated is not entitled to a refund of any part of the Certification, NFS Operations, or other fee paid.

18.5 Notice of Termination

- 18.5.1 ZEHL shall immediately notify, in writing, all participants of the termination of a participant.

18.6 Effect of Termination

- 18.6.1 Any termination of participation does not relieve a participant from any outstanding obligations to ZEHL and to any other participant on the NFS.

19 ROLES, RIGHTS AND OBLIGATIONS OF STAKEHOLDERS ON THE NFS

19.1 THE REGULATOR (BOZ)

- 19.1.1 The Bank of Zambia, in its role as regulator and overseer of payment systems shall:
- 19.1.2 Designate and issue participants with Certificate of designation to participate on the NFS (with the power to impose sanctions).
- 19.1.3 Apply these rules and take necessary measures it may deem appropriate regarding any violations of the provisions in these rules, including imposing punitive charges and enforcement of actions applicable under the Banking and the Payment Systems laws
- 19.1.4 As settlement provider, ensure the settlement of transactions on behalf of the participants at the pre-determined time(s) in the course of a business day.

19.2 ZEHL



- 19.2.1 As the NFS operator, ZEHL shall ensure that the NFS is operating according to the highest standards and best practices; this includes:
 - 19.2.1.1 The availability of the centralized payment switch at the pre-determined service levels for the interconnection of transactions between an acquirer and an issuer.
 - 19.2.1.2 The provision of interchange, transaction, and statistical reports to participants on demand, or on periodic basis.
 - 19.2.1.3 The means for participants to settle their net positions at the end of the business day as defined by BOZ.
 - 19.2.1.4 The notification of participants on status of settlement positions.
 - 19.2.1.5 The operation of secure connectivity from the participant's system to the NFS based on ZEHL standards and specifications, which shall be based on international standard and best practices.
 - 19.2.1.6 The routing and switching of transactions amongst participants.
 - 19.2.1.7 The maintenance and management of transactions and statistics as required for the measurement of service levels.
 - 19.2.1.8 The enforcement of all agreements reached with the participants.
 - 19.2.1.9 The application of the relevant fees and charges to all transactions passing through the NFS.
 - 19.2.1.10 The maintenance of transaction integrity and security for all transactions passing through the NFS.
 - 19.2.1.11 The notification of all existing participants of the joining of new participant, and/or the addition of the new BIN.
 - 19.2.1.12 The maintenance of service levels according to a set of predefined criteria included in a Master SLA between ZEHL and the provider of the NFS. These include:
 - 19.2.1.12.1 Availability;
 - 19.2.1.12.2 Response;
 - 19.2.1.12.3 Load;
 - 19.2.1.12.4 Accuracy;
 - 19.2.1.12.5 Batch Service;
 - 19.2.1.12.6 Service Goals;
 - 19.2.1.12.7 Measurement;
 - 19.2.1.12.8 Performance;
 - 19.2.1.12.9 Technical Assistance;
 - 19.2.1.12.10 Communications;
 - 19.2.1.12.11 Maintenance.
- 19.2.2 Interpret and enforce these rules.
- 19.2.3 Resolve any dispute between or among participants relating to their activities on the NFS
- 19.2.4 Suspend or terminate participation, participation rights, or both of any participant who does not comply with any rule
- 19.2.5 Levy fines and penalties on participants for violations of these operating rules, in accordance with the compliance clauses and proceedings in these rules
- 19.2.6 Oversee the exception handling process on behalf of the participants with regard to disputed transactions
- 19.2.7 ZEHL may, from time to time, check for adherence to set standards to ensure compliance with these Rules and other regulations.

19.3 PARTICIPANTS

19.3.1 GENERAL

- 19.3.1.1 A participant on the NFS shall
 - 19.3.1.1.1 Ensure compliance with these Rules and set standards.
 - 19.3.1.1.2 Fulfil and perform every obligation and duty imposed on it by, or pursuant to the Rules.
 - 19.3.1.1.3 A participant shall be responsible for settlement of transactions in compliance with these rules, technical standards and procedures, and agreements



- 19.3.1.1.4 A participant must allow each other to perform transactions at all terminals, subject to the applicable Issuer's right and justifiable reason, to decline a transaction.
- 19.3.1.1.5 A participant must comply with the rules and notice periods applicable to the BIN database with respect to the addition, deletion and amendment of BINs and their associated records and devices.
- 19.3.1.1.6 A participant shall comply with the interchange fees and charges as determined under these rules.

19.3.2 Card Authentication

- 19.3.2.1 A participant shall ensure that cards support functionalities consistent with international standards such as PCI DSS, EMV, and ISO in terms of:

- 19.3.2.1.1 Application Selection;
- 19.3.2.1.2 Data Authentication;
- 19.3.2.1.3 Processing Restriction;
- 19.3.2.1.4 Cardholder Verification;
- 19.3.2.1.5 Terminal Risk Management;
- 19.3.2.1.6 Card Action Analysis;
- 19.3.2.1.7 Online Processing; and
- 19.3.2.1.8 Script Processing.

- 19.3.2.2 An issuer shall ensure that a card issued is able to transact at any ATM, POS or other terminal deployed within Zambia.

19.3.3 TRANSACTIONS

- 19.3.3.1 Participants shall support and be capable of processing a variety of transaction types such as purchase, reversal, refund, purchase with cash back, balance inquiry, mini statement request and PIN change to promote efficient commerce;
- 19.3.3.2 An Acquirer may elect to exclude one or more Merchants from Refund and Offline capability according to its own internal policies.
- 19.3.3.3 An issuer may elect to exclude one or more cardholders from Refund Offline capability and Contactless spending limit according to its own internal policies.
- 19.3.3.4 An issuer shall make purchase with cashback available to a cardholder. An Issuer may elect to exclude a cardholder from this function according to its own internal policies and procedures.
- 19.3.3.5 An acquirer shall make purchase with cashback available to a merchant. An Acquirer may elect to exclude a merchant from this function according to its own internal policies and procedures. The Acquirer must be ready to provide for such exclusion if requested by ZEHL.
- 19.3.3.6 All ATM and POS domestic transactions must be denominated in Zambian Kwacha (ZMW).
- 19.3.3.7 Issuer shall ensure that a validation mechanism is put in place based on their internal policies and procedures for transactions to minimize risk
- 19.3.3.8 EMV PIN based transactions may be processed online or offline at POS terminals based on an issuer's internal policies and procedures.
- 19.3.3.9 EMV PIN based transactions will be processed online at ATM terminals.

19.3.4 BRANDING STANDARDS

- 19.3.4.1 ZEHL may prescribe the NFS brand mark and branding standards for acquiring devices to promote consumer awareness for the NFS which participants shall be required to comply with. A participant shall display such brand mark and comply with such standards as may be prescribed by ZEHL.

19.3.5 ACQUIRER

19.3.5.1 General Acquirer requirements

- 19.3.5.1.1 A participant serving as an acquirer shall comply with certification processes required by ZEHL



19.3.5.1.2 An acquirer shall set terminal parameters to ensure that the NFS risk management requirements are fulfilled.

19.3.5.1.3 The acquirer may set floor limits for a merchant based on their internal policies and procedures.

19.3.5.2 Merchant Service Agreement

19.3.5.2.1 An agreement entered into between an Acquirer and a merchant shall specify terms and obligations of each party. Such agreement shall include the following obligations on the part of the merchant;

19.3.5.2.1.1 The merchant shall accept all cards supported by the acquirer as a method of payment for goods and services.

19.3.5.2.1.2 The merchant shall not surcharge a customer that uses such supported cards as a method of payment for goods and services;

19.3.5.2.1.3 The merchant must not retain sensitive authentication information after authorization.

19.3.5.2.1.4 The merchant shall not set minimum limits on the purchase amount before accepting a card as a method of payment for goods and services; and

19.3.5.2.1.5 The merchant shall surrender any card left at its premises by a cardholder to the acquirer not later than five (5) working days after the card is left.

19.3.5.2.2 An Acquirer shall retain all records concerning the investigation of any Merchant with which it has entered into a Merchant Services Agreement for a period as specified in the applicable laws relating to data retention.

19.3.5.3 Billing Errors

19.3.5.3.1 Billing errors include:

19.3.5.3.1.1 A transaction that is not made by the primary cardholder.

19.3.5.3.1.2 A failure by the issuer to properly post a transaction to the cardholder's account.

19.3.5.3.1.3 An error of computational or accounting nature that is made by the issuing bank, where a charge is either over or understated, including application fees or penalty charges that are not in accordance with the terms and conditions of the Account Opening and Card Application agreements in force.

19.3.5.3.2 The issuer shall handle billing errors in such manner as may be set by ZEHL including:

19.3.5.3.2.1 Advising the customer of the process.

19.3.5.3.2.2 Adhering to the mandated timeframes for resolution that may be stipulated in the Dispute Resolution section.

19.3.5.4 Transaction Receipts

19.3.5.4.1 An Acquirer shall ensure that a transaction receipt displays, at the minimum, the following;

19.3.5.4.1.1 The last four digits of the card number;

19.3.5.4.1.2 Acquirer identification;

19.3.5.4.1.3 Local Time;

19.3.5.4.1.4 Local Date;

19.3.5.4.1.5 Transaction Amount;

19.3.5.4.1.6 Terminal Identifier;

19.3.5.4.1.7 Transaction Type;

19.3.5.4.1.8 Transaction Sequence Number; and

19.3.5.4.1.9 Authorization code.

19.3.5.5 Transaction Logs



- 19.3.5.5.1 An acquirer shall maintain a terminal transaction log, which shall include, at a minimum, the same information as provided on the transaction receipt.
- 19.3.5.5.2 The log, whether paper or an online authorization file, shall be available for reference purposes at the acquirer's site, but shall not include the PIN or any discretionary data from the card's magnetic stripe or chip.
- 19.3.5.5.3 The terminal shall not electronically record or store a card's full magnetic stripe or chip for the purposes of allowing or enabling subsequent authorization requests.
- 19.3.5.5.4 In the event of a declined transaction, the log should include the reason code.
- 19.3.5.5.5 An Acquire shall ensure that transaction logs for every terminal in the network are being recorded, maintained and can be retrieved for reconciliation and dispute resolution purposes. This includes both ATM and POS transaction journals. These logs shall be held for the period as specified in the applicable laws relating to data retention.

19.3.5.6 Data Retention of Transaction Records

- 19.3.5.6.1 Acquirers must retain records of each financial Transaction they process for a period of ten (10) years or such longer period as may be revised in the Financial Intelligence Centre Act.
- 19.3.5.6.2 If a transaction is subject to dispute before the end of the minimum retention period, then the records of that transaction must be maintained until the dispute is resolved. If required, the retention period for these records may be extended by BOZ.
- 19.3.5.6.3 The Transaction record in the Acquirer's site must contain at a minimum, the data elements that support the following message classes:
 - 19.3.5.6.3.1 Authorisation.
 - 19.3.5.6.3.2 Financial Transactions.
 - 19.3.5.6.3.3 Reversal.
 - 19.3.5.6.3.4 Claim Adjustment.
 - 19.3.5.6.3.5 Reconciliation.
- 19.3.5.6.4 Acquirers are obliged to maintain records for failed and declined transactions.
- 19.3.5.6.5 Acquirers can only use transaction details for their intended use.

19.3.5.7 Retained Cards – ATM

- 19.3.5.7.1 Rules regarding retained cards shall be governed by the Alternative Payment Channels (APC) document;
- 19.3.5.7.2 An ATM acquirer shall execute card retention instructions whenever these are provided in an Issuer's authorisation response/advice.
- 19.3.5.7.3 An ATM acquirer shall retain an inserted card when the time to allow the cardholder to remove the card from the ATM expires. An audio alert sound or ATM screen prompts must alert the cardholder before the card is retained.
- 19.3.5.7.4 An ATM acquirer should refer a cardholder whose card has been captured during an off-us transaction to the Issuer.

19.3.6 ISSUER

19.3.6.1 General Issuer responsibilities

- 19.3.6.1.1 Each issuer shall ensure that:
 - 19.3.6.1.1.1 Reasonable care and diligence is taken in investigating the integrity of a customer issued with a card.
 - 19.3.6.1.1.2 Details of all current cards issued (including lost and stolen cards) are updated daily within the relevant system to enable authorization requests to be responded to promptly.



- 19.3.6.1.1.3 It complies with all applicable regulatory requirements with respect to the provision of a card to a customer.
- 19.3.6.1.1.4 It does not impose upon a customer to whom it has issued a card any terms or conditions that conflict with these Rules.
- 19.3.6.1.2 The issuer shall monitor on an ongoing basis the card transaction activity by undertaking the following tasks and verifying with BOZ its compliance with applicable Anti Money Laundering (AML) requirements:
 - 19.3.6.1.2.1 Keep up to date the primary Cardholders verification data held on record as required:
 - 19.3.6.1.2.2 Verify transactions records at regular intervals, where the frequency will depend on the level of risk attributed to the primary cardholder, to ensure that these fall within the scope agreed in the contract established with the primary cardholder:
 - 19.3.6.1.2.3 Maintain a log of all the transactions undertaken using the services. This data must be available for scrutiny by BOZ as appropriate when requested:
 - 19.3.6.1.2.4 Report suspicious activity promptly to Financial Intelligence Centre:
 - 19.3.6.1.2.5 Conduct transaction screening as well as account and primary cardholder behaviour monitoring to identify any unusual activity:
- 19.3.6.1.3 An issuer agrees to settle all liabilities created by authorised transactions on their issued cards, when presented for settlement.
- 19.3.6.1.4 An issuer shall issue cards which are fully compliant with set standards.
- 19.3.6.1.5 An Issuer shall put in place adequate controls to prevent, track and minimize fraud.
- 19.3.6.1.6 An issuer shall ensure that production, delivery and activation are conducted according to best security practices as may be stipulated by PCI DSS from time to time.
- 19.3.6.1.7 An issuer shall notify their Cardholders of the process for reporting a retained card.

19.3.6.2 CARDS

19.3.6.2.1 A Card issued by an issuer shall be:

- 19.3.6.2.1.1 EMV Compliant as directed by the BOZ.
- 19.3.6.2.1.2 Issued with a BIN that is in the BIN database, as an active BIN.
- 19.3.6.2.1.3 Issued with new features and functionality that comply with the set card scheme standards.

19.3.6.2.2 Chip Card Combinations

19.3.6.2.2.1 A card shall:

- 19.3.6.2.2.1.1 Support multi-applications as provided under section 18.3.2.1.
- 19.3.6.2.2.1.2 Support online PIN.
- 19.3.6.2.2.1.3 Have a chip application compliant with the EMV version mandated by ZEHL; both chip and application will be approved by ZEHL.
- 19.3.6.2.2.1.4 Shall comply with the data transmission elements and file formats as specified in the technical documentation provided by ZEHL
- 19.3.6.2.2.1.5 Have payment capability to support domestic transactions.

19.3.6.2.2.2 An issuer shall ensure that the declining of a transaction is not in breach of these Rules.

19.3.7 Cardholder Support Services

- 19.3.7.1 An issuer shall provide cardholder support services with a minimum of a dedicated telephone service for cardholder notification of lost or stolen cards, complaints, transaction dispute, and enquiries on terms and conditions.



19.3.7.2 An issuer shall not bill or charge a customer for an unsolicited card unless and until the card is fully accepted and activated by the cardholder.

19.3.7.3 Billing Errors

19.3.7.4 Billing errors include:

19.3.7.4.1 A transaction that is not made by the primary cardholder.

19.3.7.4.2 A failure by the issuer to properly post a transaction to the cardholder's account.

19.3.7.4.3 An error of computational or accounting nature that is made by the issuing bank, where a charge is either over or understated, including application fees or penalty charges that are not in accordance with the terms and conditions of the Account Opening and Card Application agreements in force.

19.3.7.5 The issuer shall handle billing errors in such manner as may be set by ZEHL including:

19.3.7.5.1 Advising the customer of the process.

19.3.7.5.2 Adhering to the mandated timeframes for resolution that may be stipulated in the Dispute Resolution section.

19.3.7.6 Conditions for Card Issuance

19.3.7.6.1 An issuer shall furnish a cardholder with the terms and conditions in the appropriate language governing the use of the card and the card shall only be activated after the cardholder has consented to the terms and conditions. Such terms shall include at a minimum:

19.3.7.6.1.1 Fees and charges for accessing the service;

19.3.7.6.1.2 Daily transaction limits on ATM and POS transaction values;

19.3.7.6.1.3 Termination;

19.3.7.6.1.4 Loss, theft and misuse of card; and.

19.3.7.6.1.5 Grievance, complaints and dispute procedures.

19.3.7.6.2 An issuer shall ensure that all transactions processed through NFS, both completed and incomplete, are recorded to assist with cardholder enquiries.

19.3.7.6.3 The issuer will give a cardholder reasonable notice before changes are made to the terms and conditions of his card agreement and shall be given the option to opt-out the card contract without penalty.

19.3.7.6.4 The issuer is liable for card frauds arising from card skimming or other compromises of the issuers security system, including payment effected with hot-listed cards. This shall be in line with the prescribed card scheme rules.

19.3.7.6.5 Issuers will ensure that Cardholders are provided with a reference that includes as a minimum the date and time which the card was reported by the cardholder as lost, stolen or suspected in use for fraudulent purposes.

19.3.7.6.6 Issuers must ensure that the cardholder's notification can be uniquely tracked in the Issuer's system for the purpose of maintaining a valid record of the event.

19.3.7.6.7 Where available, issuers who provide offline limits will ensure the terms for such limits are fully understood and agreed with the customer as part of the card application and issuance process.

19.3.7.6.8 Irrespective of the status of a cardholder's account at the time of the transaction, the issuer shall be liable to settle the amount to an acquirer when an authorization response is provided to an acquirer's authorization request, while it takes the appropriate measures to recover the funds from the cardholder.

19.3.7.6.9 The issuer will be responsible for any loss or theft of funds from the cardholder's account arising from any use or operation of a card after it has been reported lost or stolen by a cardholder and there is unquestionable proof of the cardholder's notification of the incident.



- 19.3.7.6.10 Notifications to the issuer of loss or theft of the card is deemed given when the cardholder in person, in writing or by telephone has taken steps to notify the issuer about the loss, theft or possible unauthorized use of the card.
- 19.3.7.6.11 The introduction of a new BIN by the issuer, or other identification code or deletion of or change in the routing of an existing BIN or identification code must occur on a pre-determined change date in coordination with ZEHL.
- 19.3.7.6.12 To comply with best practice in implementing standards, the issuer must follow two steps to card issuance. These two phases separate the card and the PIN.

19.3.7.7 PIN ISSUANCE

- 19.3.7.7.1 The issuer shall issue a PIN to each Cardholder.
- 19.3.7.7.2 Issuers must offer their Cardholders the option to select/modify their PIN. PIN changes made by the cardholder, will be performed by the Issuing Bank according to the Issuers PIN Issuance policy.
- 19.3.7.7.3 In the case of "instant issue" cards, when provided by an issuer, the PIN must be selected by the cardholder through a dedicated PED in a secure environment and in compliance with the applicable PCI-DSS standard(s).

20 DISPUTE RESOLUTION

- 20.1 All disputes shall be resolved in accordance with the Dispute Resolution Guidelines.

21 OPERATIONS

21.1 Clearing of Fees

- 21.1.1 ZEHL shall administer the clearing of all interchange and other fees due to all participants.
- 21.1.2 An issuer shall pay the ATM acquirer or POS acquirer for the net interchange fees generated from cash transactions.
- 21.1.3 An acquirer shall pay the issuer the net interchange fees generated from non-cash POS transactions.

21.2 Settlement, Reconciliation and Exceptions

- 21.2.1 All settlement obligations arising from the NFS shall be settled at the Bank of Zambia. Settlement shall take place at times prescribed in Schedule 1 – Cut-over and Settlement.
- 21.2.2 Each bank shall ensure that the settlement account at BOZ is sufficiently funded to meet the settlement obligations from the NFS.
- 21.2.3 Each bank settling on behalf of another participant shall ensure that it has sufficient funds to meet its own obligations and that of the sponsored participants.
- 21.2.4 Sponsor Banks shall ensure that they put in place adequate settlement arrangements with the sponsored participant.
- 21.2.5 Penalties arising from failure to settle shall be borne by the settlement bank.
- 21.2.6 All settlement banks shall maintain collateral as prescribed by the BOZ.
- 21.2.7 Participants must balance the reconciliation totals of transactions provided through the dedicated link with their own internal records at the end of each business day.
- 21.2.8 Discrepancies must be processed through the prescribed claims processing arrangements put in place.
- 21.2.9 Participants must reconcile the net Settlement position through a report with their own records on a daily basis and follow up with ZEHL where there are exceptions.
- 21.2.10 Settlement of amounts due between participants shall take place at the settlement date and time as defined in schedule 1 of these rules.

21.3 Cutover

- 21.3.1 Participants are expected to adhere to the cut-over times as agreed by the industry. See Schedule 1- Cut-over and Settlement.



21.4 Business Day

- 21.4.1 The Business Day for ATM and POS transactions for reconciliation and Settlement purposes shall be determined by ZEHL.
- 21.4.2 Participants may define their own business day timings for their internal accounting processes and procedures. This does not affect the NFS Business Day.

22 GENERAL OPERATING STANDARDS AND PROCEDURES

- 22.1 Each participant must comply with the Operating Standards and Procedures prescribed and amended by ZEHL from time to time.
- 22.2 The Operating Standards and Procedures shall be published in a separate document by ZEHL and shall be read in conjunction with these rules.

23 DATA PROTECTION

- 23.1 Participants and ZEHL shall ensure that they comply with current legislation and regulation regarding Data Protection including PCI-DSS.

24 FEES AND CHARGES

24.1 Fees Management

- 24.1.1 ZEHL, may introduce, amend and administer existing/new fees and charges applicable to NFS.
- 24.1.2 Each participant is liable to pay or entitled to receive the fees specified by ZEHL as stated in the NFS Manual of Fees and Charges and as amended from time to time.
- 24.1.3 Participants must adhere to the listed Fees and Charges and any published amendments henceforth.

24.2 Breach of Service Level Agreement

- 24.2.1 In the event that service levels specified in Service Level Agreements are not achieved by the participant, ZEHL may impose charges.

24.3 Breach of Service Standards

- 24.3.1 In the event that a participant is found not complying with service standards (including but not limited to NFS LOGO, POS Standards, the NFS LOGO compliance and reports therein), ZEHL may impose charges.

24.4 Fines

- 24.4.1 ZEHL shall fine a Participant if it:
 - 24.4.2 Fails to comply with these rules and other regulatory requirements.
 - 24.4.3 Fails to meet its obligations due to ZEHL or other Participants.
 - 24.4.4 The amount of any fine imposed on a Participants will arise from the consideration of:
 - 24.4.5 The Participant's history of compliance with the Operating Rules and Procedures.
 - 24.4.6 The cause of the non-compliance.
 - 24.4.7 The damage caused to NFS's reputation and/or any other Participants by the non –compliance.
 - 24.4.8 The impact of the non-compliance on the reputation, integrity, security, reliability and/or stability of Transaction, Transaction message exchange, and/or the Settlement resulting from them.
 - 24.4.9 The participant's conduct after it became aware that the non-compliance had occurred, including but not limited to the steps and time taken to remedy such an occurrence.



- 24.4.10 Preventative measures adopted to ensure that non-compliance does not re-occur, and disclosure of the event to ZECHL.
- 24.4.11 The number of Transactions, Terminals and Cards affected (if any).
- 24.4.12 Any reason given by the Participant as to why it should not be fined.
- 24.4.13 The duration of the non-compliance period.
- 24.4.14 Other factors relevant to the assessment of the amount of the fine.

25 RISK MANAGEMENT AND SECURITY

25.1 Participant's Obligations

- 25.1.1 Participants shall set up risk management and fraud prevention mechanisms.
- 25.1.2 Participants should comply with BOZ Anti Money laundering Directives.
- 25.1.3 ZECHL will implement fraud monitoring at Switch level through the IST Fraud Navigator. Participants are expected to implement some fraud monitoring. Fraud monitoring will be carried out through the fraud monitoring tool provided by the NFS in addition to any other tool that participants may elect to use.
- 25.1.4 Participants will be expected to set up fraud monitoring parameters on the tool to allow for effective monitoring.
- 25.1.5 Participants are required to report all security incidents, fraudulent transactions or other criminal risk activity to ZECHL and BOZ and other relevant authorities without delay in the format prescribed by BOZ. The report must include details of the incident including the time and date, involved parties, amounts involved (if available), and what action has been taken by the Participant.
- 25.1.6 Participants are liable for the mandated requirements for data security standards including card and amount data. To protect all parties to the NFS system, participants with access to personal account information or transaction information are responsible for following rigorous industry agreed data protection (PCI DSS) standards.
- 25.1.7 By virtue of their participation in NFS, participants agree to take appropriate measures to prevent the system from being used for or associated with illegal activities. Participants are mandated to abide by local and international laws governing anti-money laundering, counter terrorism financing and any other law applicable to the use of electronic payment systems.
- 25.1.8 A participant is expected to have a security and fraud control function within the organisation. Security and fraud control staff of a participant must continue to report fraudulent and suspicious transactions to relevant authorities.
- 25.1.9 Participants should ensure that the Business Continuity Plan is in place: backup measures, and Disaster Recovery site.
- 25.1.10 Participants should ensure that it adheres to its Business Continuity Plan.
- 25.1.11 An acquirer is obliged to:
 - 25.1.11.1 Undertake a daily investigation into any merchant appearing on its exception reports or identified by its risk management system.
 - 25.1.11.2 Employ sufficient risk management staff resources and security controls to undertake the required risk and fraud detection activities.
 - 25.1.11.3 Cooperate fully with ZECHL, BOZ or any other authorities in any investigation and release relevant information related to the Merchant upon request.
 - 25.1.11.4 Terminate the merchant agreement if it is determined that the merchant is a threat to the integrity of NFS, or the relationship introduces a disproportionate level of fraud into NFS.
 - 25.1.11.5 Take legal action to minimize losses, where appropriate.
 - 25.1.11.6 Cooperate with issuers and concerned authorities.
 - 25.1.11.7 Hold funds that are yet to be settled while the merchant is fully investigated.
- 25.1.12 An acquirer is obliged to immediately report to ZECHL/BOZ and other relevant authorities, formally without delay in the event of a suspected or confirmed loss, theft or compromise, including loss, theft, or compromise by one of its merchants, of any material or records that contain account or transaction information.
- 25.1.13 A participant is obliged to:



- 25.1.13.1 Comply with the validation and reporting requirements.
- 25.1.13.2 Maintain all materials or records in any form that contains account or transaction information in a safe and secure manner with access limited to authorised personnel, as specified in the PCI-DSS.
- 25.1.13.3 Ensure that agreements and contracts with merchants clearly establish their responsibilities to meet industry agreed standards, the liabilities for failure to meet the standards and the requirement to allow for inspections by ZEHL/BOZ or independent third parties as required.
- 25.1.13.4 Ensure that all merchants with access to account or transaction information comply with the PCI-DSS requirements.
- 25.1.13.5 Comply with PIN security standards as prescribed by the industry at all times.

25.2 ZEHL Obligations

- 25.2.1 ZEHL shall carry out Fraud Monitoring and advise participants of any negative behaviour as and when such occur.
- 25.2.2 ZEHL shall be responsible for configuring global rules on the fraud monitoring tool. ZEHL shall ensure that it adheres to its Business Continuity Plan.
- 25.2.3 ZEHL shall maintain a level of System availability as stipulated in the Service Level Agreement

25.3 Data Retention

- 25.3.1 Participants are obliged to retain transactional data for the minimum periods defined by any applicable law.

25.4 Fraud Prevention

- 25.4.1 Participants must:
 - 25.4.1.1 Co-operate with ZEHL and other participants to prevent fraudulent transactions from occurring;
 - 25.4.1.2 Investigate any fraudulent transactions that have occurred.
- 25.4.2 Participants shall continue to report all confirmed fraudulent transactions originating from a card immediately to ZEHL.
- 25.4.3 Participants shall apply sufficient fraud monitoring resources in the form of competent staff and systems to protect all stakeholders from actual or potential fraud. ZEHL and BOZ reserve the right to inspect any participant's fraud monitoring infrastructure at regular intervals or as may be required. ZEHL, as operator of the NFS, reserves the right to impose proportionate fines if it deems that the fraud prevention measures employed by a participant fail to meet standards.
- 25.4.4 Participants are required to educate their customers on safeguards against fraud. ZEHL and BOZ, may, from time to time, request proof of such awareness programmes.

26 CHANGE MANAGEMENT

- 26.1 The change management process will be administered by ZEHL. Proposed changes can be initiated for consideration by ZEHL. Changes may be major or minor in nature.
- 26.2 A major change is a change that affects or proposes to alter the substance of the Operating Rules. Examples of such changes include proposals for new services to be offered, changes affecting compliance, membership criteria, the role of stakeholders, and operating procedures. Changes that are classified as Major Changes are subject to formal BOZ approval.
- 26.3 A Minor Change is a change that will usually affect or modify an existing procedure.
- 26.4 Clarifications of existing rules shall not be deemed to affect the substance of these Rules or NFS and will therefore be a minor change. Examples of such changes include minor adjustments to technical standards to take account of upgrades.
- 26.5 ZEHL in consultation with the banks will determine whether a proposed change is major or minor.



26.6 Change Management Cycle

Type of Change	Publication Frequency	Effective Date
Major	Annual	180 days from publication date
Minor	Bi Annual	60 days from publication date

26.7 Exceptional Circumstances

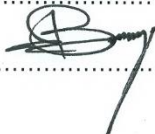
- 26.7.1 ZEHL may expedite the change request approval, publication and implementation process in exceptional circumstances where the failure to implement a change proposal may adversely affect participants or any of its stakeholders. For the benefit of the NFS, ZEHL may deem more frequent change cycles if required.



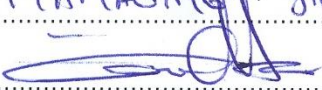
SIGN-OFF FOR THE AUTOMATED TELLER MACHINE (ATM) AND POINT OF SALE (POS) NATIONAL FINANCIAL SWITCH RULES

By signing in the space below the representatives of the institutions accept and approve the Automated Teller Machine (ATM) and Point of Sale (POS) National Financial Switch Rules:


1. For Bank of Zambia

Name..... Kamanga Lazarus
Position..... Director - Banking, Currency and Payment Systems
Signature..... 

2. For AB Bank Zambia Limited

Name..... COSMIN OLTEANU
Position..... MANAGING DIRECTOR
Signature..... 


3. For Access Bank Zambia Limited

Name..... JOANA BANNERMAN
Position..... MANAGING DIRECTOR
Signature..... 

4. For Bank of China (Zambia) Limited

Name..... QI WANG
Position..... Managing Director
Signature..... 

5. For Barclays Bank Zambia Plc

Name..... MIZINGA MELU
Position..... MANAGING DIRECTOR
Signature..... 



6. For Cavmont Bank Limited

Name..... PEET VAN DER WAL

Position..... MD

Signature.....  07/02/2020

7. For Citibank Zambia Limited

Name..... Lowan Clitellman

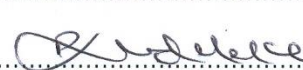
Position..... Acting CEO

Signature..... 

8. For Ecobank Zambia Limited

Name..... KOLA ADELEKE


Position..... MANAGING DIRECTOR

Signature..... 

9. For First Alliance Bank Zambia Limited

Name.....INDER MANI MALIK

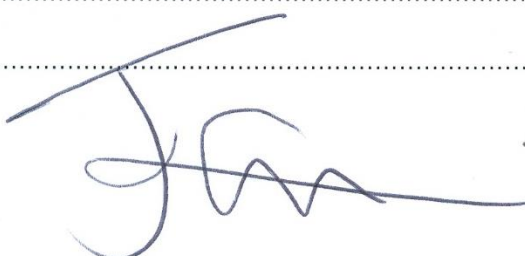
Position..... Managing Director

Signature.....  8/2/2020

10. For Atlas Mara

Name..... JAMES KANI

Position..... CEO

Signature..... 



11. For First National Bank Zambia Limited

Name... LEONARD JACK HAYNES

Position... CEO

Signature...  12/12/2019

12. For Indo-Zambia Bank Limited

Name... BANGAL MAHESHKUMAR MITHOOLAL

Position... MANAGING DIRECTOR

Signature...  04/02/2020

13. For First Capital Zambia Limited

Name... JITHO KURIAN

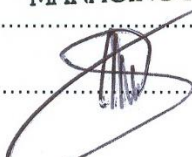
Position... CEO

Signature...  man

14. For Investrust Bank Plc

Name... Simangolwa Shakalima

Position... MANAGING DIRECTOR

Signature...  20/01/2020

15. For Stanbic Bank Zambia Limited

Name... SHANEGETA WISDOM

Position... CHIEF TECHNOLOGY & OPERATIONS OFFICER

Signature...  for CEO



16. For **Standard Chartered Bank Zambia Plc**

Name... MUSONOA CHISHIMBA MUSAKANYA

Position... CEO

Signature... [Signature] PP FOR CEO.

17. For **United Bank for Africa (Zambia) Limited**

Name... FELIX C. UGBEBOR

Position... COO

Signature... [Signature]

18. For **Zambia National Commercial Bank Plc**

Name... DIANA KASQWA

Position... COO

Signature... [Signature]

19. For **Zambia Industrial Commercial Bank**

Name... IGNATIUS MWANZA

Position... CEO

Signature... [Signature]