ZAMBIA ELECTRONIC CLEARING HOUSE LIMITED

DISCLOSURE REPORT FOR ZAMBIA ELECTRONIC CLEARING HOUSE LIMITED'S SELF-ASSESSMENT AGAINST THE PRINCIPLES FOR FINANCIAL MARKET INFRASTRUCTURE

August 2023

FMI Disclosure Information

Responding institution	Zambia Electronic Clearing House Limited
Jurisdiction(s) in which the FMI operates	Zambia
Designation	Provision of interbank clearing and switching services to all financial institutions and payment service providers in Zambia
Authority regulating, supervising or overseeing the FMI	Bank of Zambia
Version	1
Date of disclosure	24th August 2023
This disclosure can also be found at	www.zechl.co.zm
For further information, please contact	Email: info@zechl.co.zm or Telephone: +260-211-429800

Summary of major changes since the previous update of the disclosure

None: This is the first publication of the self-assessment against PFMIs by ZECHL.

Release Date	Version	Comments
24th August 2023	1.0	First self-assessment for ZECHL against the Principles for Financial Market Infrastructure

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Abbreviations

ATM	Automated Teller Machine
BAZ	Banker's Association of Zambia
BoZ	Bank of Zambia
EFT	Electronic Funds Transfer
CCP	Central counterparty
CIC	Cheque Image Clearing
CPSS	Committee on Payment and Settlement Systems
CSD	Central securities depository
DDACC	Direct Debit and Credit Clearing
DNS	Deferred net settlement
DvD	Delivery versus delivery
DvP	Delivery versus payment
FCC	Foreign Currency Clearing
FMI	Financial Market Infrastructure
FSAP	Financial Sector Assessment Program
ICT	Information and Communications Technology
IFI	International financial institution
IMF	International Monetary Fund
IOSCO	International Organization of Securities Commissions
IT	Information technology
LVPS	large-value payment system
MMO	Mobile Money Operator
MNO	Mobile Network Operator
PFMI	Principles for Financial Market Infrastructures
POS	Point of Sale
PS	Payment system
PSP	Payment Service Providers
PvP	Payment versus payment
Repo	Repurchase agreement
RAC	Risk Audit Committee
RMC	Risk Management Committee
RTGS	Real-time gross settlement
Settlement agent	In this report the settlement agent means the Bank of Zambia
SSS	Securities settlement system

SWIFT	Society for Worldwide Interbank Financial Telecommunications
TR	Trade repository
WB	World Bank
ZECH	Zambia Electronic Clearing House
ZECHL	Zambia Electronic Clearing House Limited

1 EXECUTIVE SUMMARY

1.1 Overview of Financial Market Infrastructure (FMI)

The Zambia Electronic Clearing House Limited (ZECHL) is a private company limited by shares registered under Chapter 388 of the Companies Act 1994 and was set up in 1999 by the Bank of Zambia and a consortium of commercial banks that existed at that time. ZECHL is registered as a private company, which operates as a not-for-profit company.

ZECHL is licensed and regulated by the Bank of Zambia under the National Payment Systems Act (NPSA) No. 1 of 2007. ZECHL is designated as a Payment System in line with Section 7 of the NPSA. The NPSA mandates the Bank of Zambia to regulate and oversee the operations of ZECHL.

ZECHL was strategically set up as an institution that would provide Interbank Clearing and Settlement services to the commercial banks in an efficient, reliable, secure and cost-effective manner. In September 2018, ZECHL's strategy changed to start providing its services to the financial services industry in Zambia. Following the implementation of the National Financial Switch (NFS), ZECHL started admitting non-bank financial institutions. The first phase of the NFS implementation included the processing of Automated Teller Machine (ATM) and Point of Sale (POS). The second phase of the NFS was implemented in April 2020. It includes the processing of Electronic Money (E-Money). This phase saw the inclusion of non-bank financial institutions on the ZECHL platforms.

ZECHL has continued to develop advanced technologies in the financial services industry. For example, the implementation of the NFS has facilitated interoperability among participants (commercial banks and non-bank financial institutions) and has enhanced the convenience among the participants and their customers.

Disclosure materials were produced based on the self-assessment assessment against PFMIs conducted by the Zambia Electronic Clearing House Limited (ZECHL) on its operations covering Cheque Image Clearing (CIC), Electronic Funds Transfer (EFT), Foreign Currency Clearing (FCC) and the National Financial Switch (NFS).

1.2 Services

The product offerings which include:

1. ATM
2. POS
3. E-Money
4. CIC

5. DDACC
6. FCC

1.3 Participants

Institutions participating in the FMIs operated by ZECHL include Eighteen (18) banks, Four (4) Non-bank financial Institutions, and Eight (8) Payment Service Providers (PSPs).

Participating Institutions

Category	*Institution*
Banks (18)	Bank of Zambia, Zambia National Commercial Bank, ABSA Bank, Citibank, Stanbic Bank, Standard Chartered Bank, Indo-Zambia Bank, Zambia Industrial Commercial Bank, Investrust Bank, Bank of China, Atlas Mara Bank, AB Bank, First National Bank, First Capital Bank, First Alliance Bank, Access Bank, Ecobank, United Bank for Africa.
Non-Bank Financial Institutions (4)	National Savings and Credit Bank, Zambia National Building Society, Bayport Financial Services, Madison Finance Company Limited
Payment Service Providers (8)	Zoona, Kazang, 543 Konse Konse, Financial Transactional Zambia Limited, Zamtel Mobile Money Limited, Airtel Mobile Commerce Limited, MTN Mobile Money

1.4 Laws and Regulations

ZECHL is regulated by the Bank of Zambia under the National Payment Systems Act (NPSA) No. 1 of 2007. CIC is legally based on the Bills of Exchange and Promissory Notes Act and Cheque Act. The DDACC is legally based on Directive on processing of DDACC and Funds Transfers on ZIPPS (2018-08-31). The NFS is legally based on the Directive on the National Financial Switch implementation (2015-02-13), the Directives on Electronic Money Issuance (2023-07-14) and the Directive on Automated Teller Machine, Point of Sale, Internet Transactions and Mobile Payments (2020-02-07).

1.5 Key Risks

The self-assessment report issued by ZECHL on its operations was reviewed by the Bank of Zambia. Three areas of improvements were recommended, namely; Comprehensive Management of Risk, Governance and Disclosure of Rules, and Key Procedures and Market Data.

1.6 Risk Management System and Practices

The FMI has implemented the Operations and Risk Committee (Governance) which is chaired by a Board of Directors, to review and recommend the Risk Management Framework, monitoring corporate performance against the FMIs approved objectives and strategic plans and to ensure adherence to risk management policies and procedures.

For proactive risk prevention, the FMI's Internal Risk, Audit and Compliance Department oversees the implementation and adherence to risk management processes, identifies and evaluates risks and conducts departmental risk reviews. For responsive practices, the FMI conducts the Business Continuity Management quarterly at its Disaster Recovery Site. The FMI has implemented the relevant ISO standard as part of the Business Impact Assessment which is a critical component of the entire Business Continuity Management System (BCMS).

The FMI has an Information Communication Technology (ICT), Technical, Infrastructure and Projects Committee whose objective is to monitor ICT policies and practices on an ongoing basis to ensure that they continue to remain relevant and complete, and to review the operations, ICT, security, and technical infrastructure of ZECHL and making recommendations to the Board.

To ensure that operational risk is mitigated adequately, ZECHL implemented the ISO standard on 17 March 2023.

2 GENERAL BACKGROUND ON ZECHL

2.1 General Description of ZECHL and the Markets it Serves.

The FMI is mandated under the National Payment Systems Act (NPSA) No. 1 of 2007 to provide Interbank Clearing and Switching services to the financial services industry in Zambia. Over the years, the FMI has gone through transformative changes that have occurred, mainly underpinned by the switching of ATM, POS and mobile transactions and changes in the regulatory environment. The FMI plays a very critical role in the retail payments space and is classified as a systemically important payment system (SIPS). SIPS are payment systems which have the characteristic that a failure of any one of them could potentially have a significant impact on the financial system and the economy as a whole.

Disclosure materials were produced based on the 2022 and 2023 self-assessments conducted by the Zambia Electronic Clearing House Limited (ZECHL) which operates the following systems:

2.1.1 Cheque Image Clearing

CIC is a payment system that uses scanned images to clear local cheque-based payments up to ZMW25,000. Cheques deposited by customers are given value the next day (T+1) if deposited before 12hrs or two days later (T+2) if a cheque is deposited after 12:00hrs. This has standardized the cheque payments periods through-out Zambia thus giving confidence to the customer. ZECHL is promoting customer convenience and continually improving existing services and developing new services.

2.1.2 Direct Debit and Credit Clearing (DDACC)

The FMI operates the Electronic Funds Transfers (EFT) which is commonly known as the DDACC where money is transferred from one bank account directly to another bank account without physical paper changing hands. The transaction limit for the Direct Credit stream is ZMW500,000 while the Direct Debit Stream permits a transaction limit of ZMW75,000. As a paperless stream, it is faster, safer and efficient.

2.1.3 National Financial Switch (NFS)

The FMI provides a platform where various payment participants can provide payment services in an interoperable manner using different payment channels or devices. The NFS switches transactions between all participating institutions providing banking and money transfer services across networks. This includes:

1. ATM Services which allow customers of different financial institution to draw funds at their preferred ATM.
2. POS Services allow customers of different financial institution to pay for goods and services.
3. E-money Services allows customers to transact anytime, anywhere and through any participant service provider using the mobile phone.

2.1.4 Foreign Currency Clearing

The FMI system allows participants to clear eligible cheques denominated in foreign currency. The foreign currency instruments for clearance through the ZECHL are those drawn in United States Dollars, United Kingdom Pound Sterling, South African Rand and the Euro.

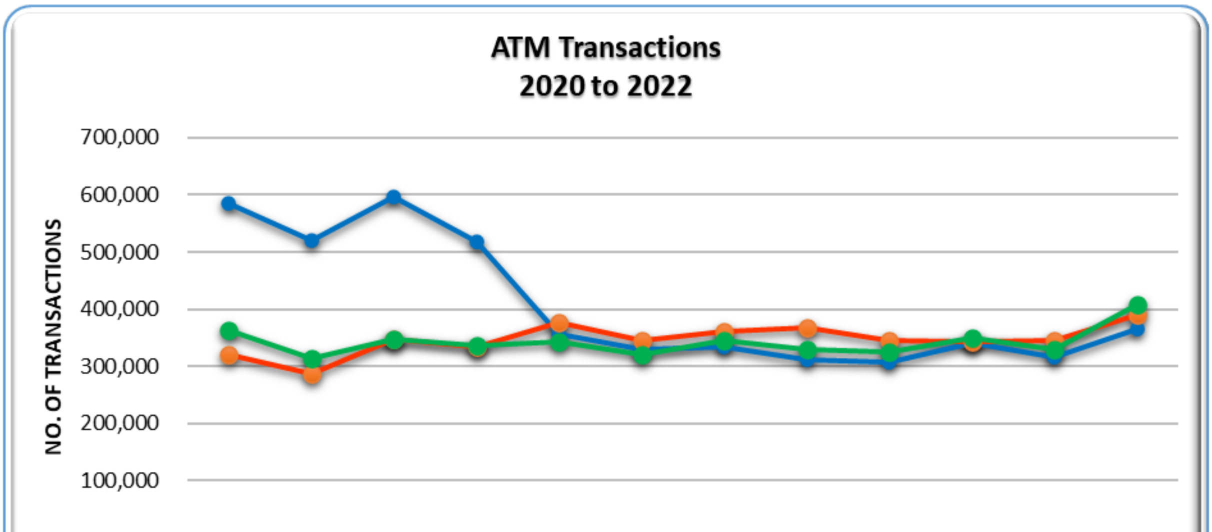
2.2 Settlement

The FMI processes the settlement for its participants through the RTGS for final settlement at the Bank of Zambia. Participants who do not have a settlement account on the RTGS system settle their obligations through sponsor banks that have settlement accounts.

2.3 Relevant Statistics

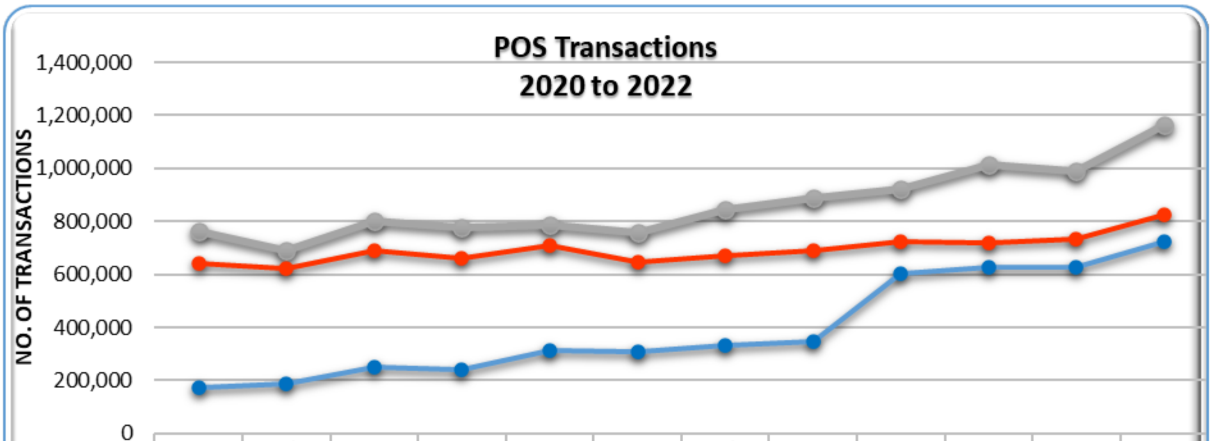
The following figures depict basic data and performance statistics on its services and operations:

ATM transactions processed from January 2020 to December 2022



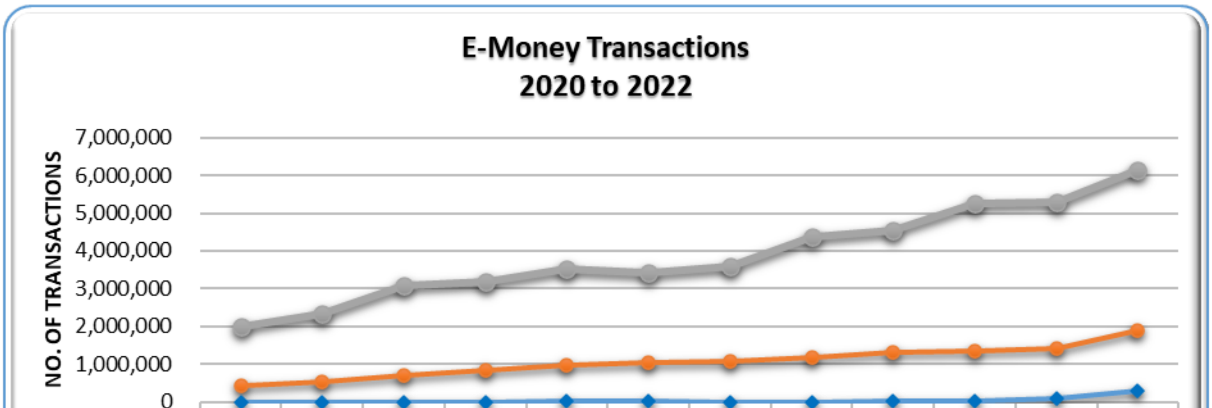
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	583,995	519,718	597,314	518,829	357,170	329,301	333,453	311,148	307,271	339,994	316,715	364,361
2021	320,145	287,727	348,147	333,663	376,513	345,004	360,610	367,581	345,721	343,268	345,539	389,267
2022	362,908	312,882	347,940	336,506	342,106	321,648	344,558	328,766	325,722	350,338	330,100	408,251

POS transactions processed from January 2020 to December 2022



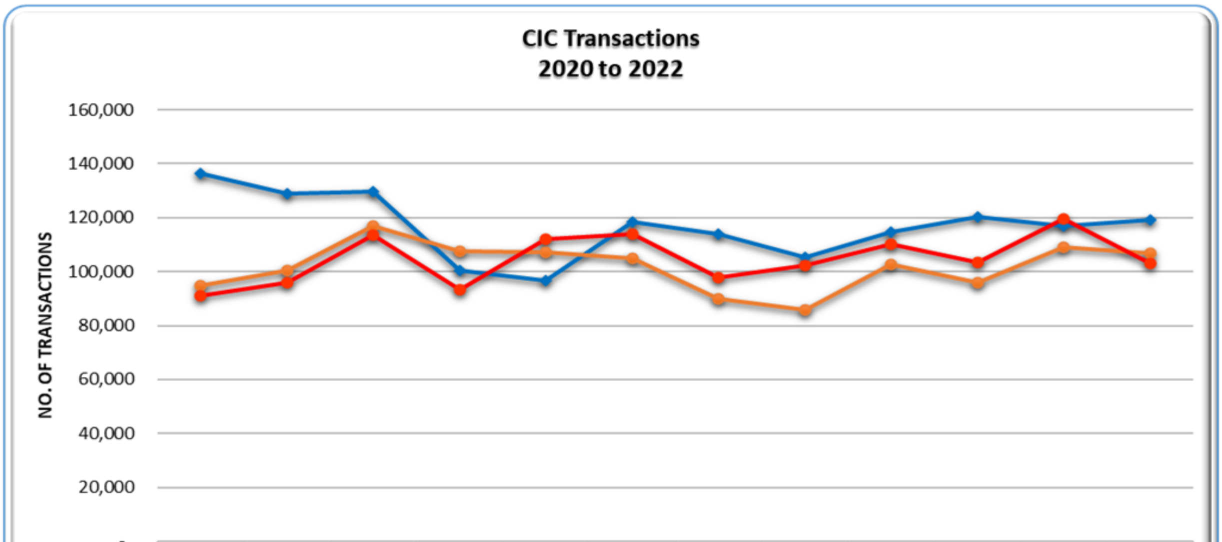
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	174,094	187,022	252,601	239,061	311,525	306,880	331,371	346,407	600,812	626,864	627,819	725,679
2021	641,233	620,933	687,628	660,646	707,947	648,595	672,039	690,781	724,453	717,237	734,866	826,544
2022	761,300	692,316	799,907	774,621	786,654	756,165	844,839	889,261	920,643	1012081	987472	1161386

E-Money transactions processed from January 2020 to December 2022



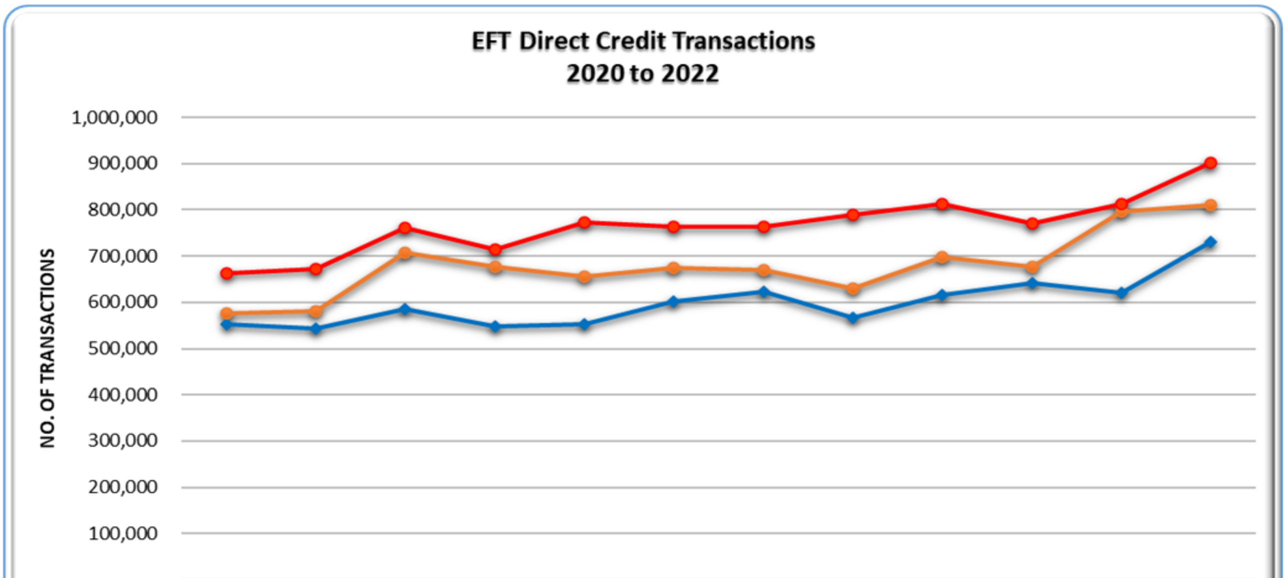
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	0	0	0	101	1,208	992	353	488	1,705	5,579	79,749	294,226
2021	419,391	511,198	703,799	847,770	968,376	1,049,37	1,084,84	1,184,7	1,316,41	1,345,10	1,424,17	1,899,44
2022	1,995,45	2,316,3	3,085,5	3,185,7	3,532,8	3,432,4	3,604,1	4,367,5	4,528,6	5,245,2	5,301,6	6,149,6

CIC transactions processed from January 2020 to December 2022



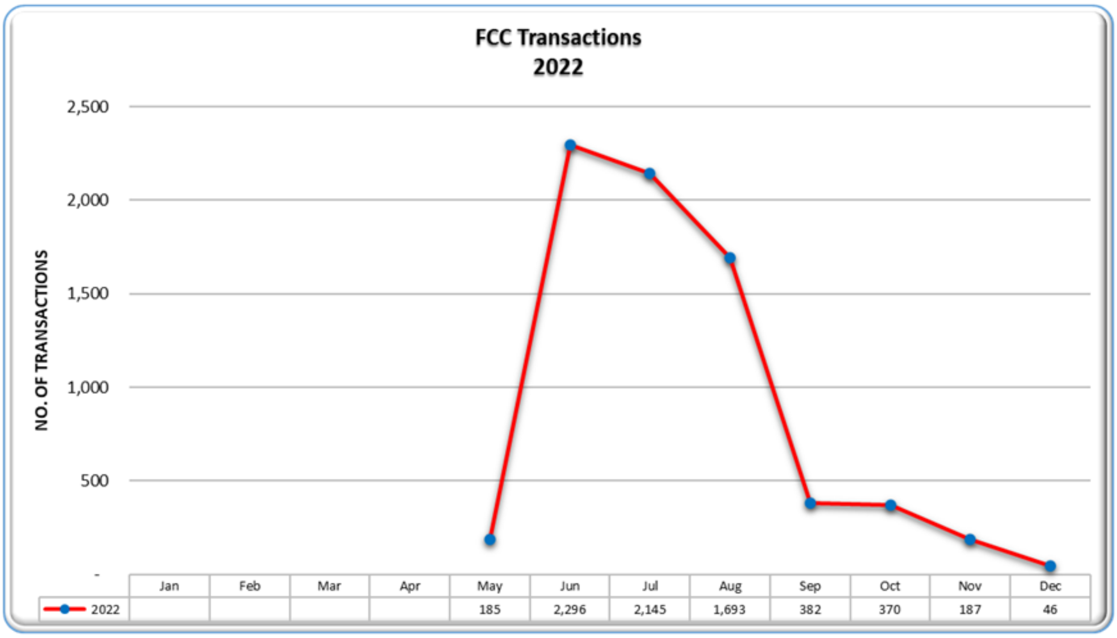
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	136,437	128,891	129,675	100,471	96,866	118,442	113,971	105,206	114,702	120,451	117,009	119,032
2021	94,973	100,496	116,886	107,742	107,266	104,762	89,965	85,694	102,850	96,103	108,969	106,902
2022	90,902	95,792	113,451	93,378	111,970	113,825	97,640	102,403	110,366	103,450	119,493	103,064

EFT transactions processed from January 2020 to December 2022



	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2020	551,869	544,041	584,636	549,190	552,000	602,987	622,783	567,728	616,642	641,531	621,474	730,603
2021	575,870	581,668	706,842	675,824	654,847	673,667	670,331	630,845	697,018	678,072	797,288	811,591
2022	661,761	671,956	761,172	714,540	772,742	764,639	764,565	788,489	812,051	770,929	813,254	902,209

FCCH transactions processed from January 2022 to December 2022



2.4 Operational Reliability

In its bid to continue providing an efficient and secure environment, the FMI has adopted an active-active and active-passive approach for infrastructure at its live environment ensuring that the failure of one component allows the other to pick up or the standby to kick in thus reducing the downtime that would be encountered if this was not undertaken.

Further measures such as adoption of the necessary international standards have ensured the systems are hardened and monitored to ensure the operating landscape always has the correct versions of software, controls, and the correct monitoring.

The Disaster Recovery (DR) site having backups constantly replicated offers quicker continuity in the event of failure.

The FMI will also be implementing the COBIT framework as its IT governance standard to ensure strictness in the management of its ICT infrastructure.

3 GENERAL ORGANIZATION OF THE FMI

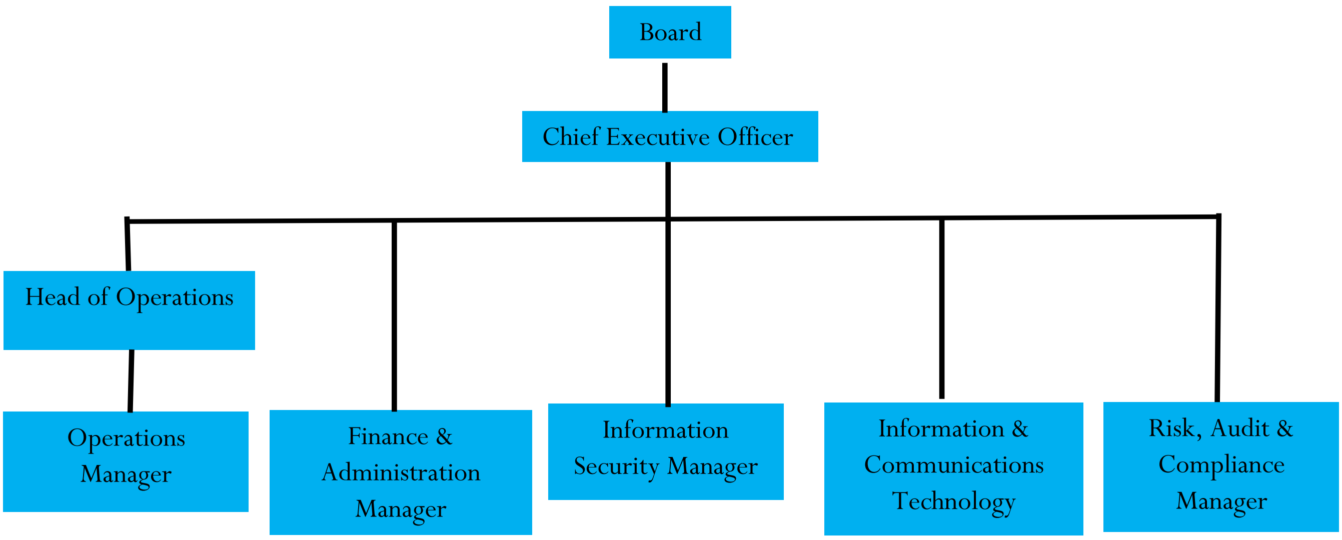
3.1 Governance

The decision-making body of the FMI is comprised of the Board of Directors and Committees of various levels. The top decision-making body of the FMI is the Board of Directors which is comprised of the representatives of the Shareholders. The Ten (10) Member Board of Directors, which decides on major business plans, consists of the Chairperson who is always the Deputy Governor-Operations of the Bank of Zambia (BoZ), the Deputy Chairperson who is always the President of the Bankers' Association of Zambia (BAZ), and Seven (07) Non-executive Directors who are drawn from across the banking sector with the BoZ contributing three Directors. The FMI CEO is the tenth Director on the Board. The Board has three committees namely i. Finance, Audit, & HR Committee, ii. Operations & Risk Committee, and iii. ICT Committee. Each of the three committees draws membership from among the commercial banks in addition to the FMI representatives on the respective committees.

ZECHL Decision-Making Body

3.2 Management Structure

ZECHL is comprised of 5 departments as shown in the organizational structure below. There are two (2) offices; one at head office and the second office serves as a Disaster Recovery Site.



3.3 Legal and regulatory framework

Zambia Electronic Clearing House Limited (ZECHL), is a non-profit making corporate entity registered under the Companies Act 1994, Chapter 388 of the Laws of Zambia, a private company limited by shares. The FMI is designated by the Bank of Zambia in line with Section 7 of the National Payment Systems Act (NPSA) No. 1 of 2007. With regards to supervision and monitoring of Switching, Clearing and Settlement Systems ZECHL conforms to the Bank of Zambia Act on overseeing payment, clearing and settlement systems and their participants.

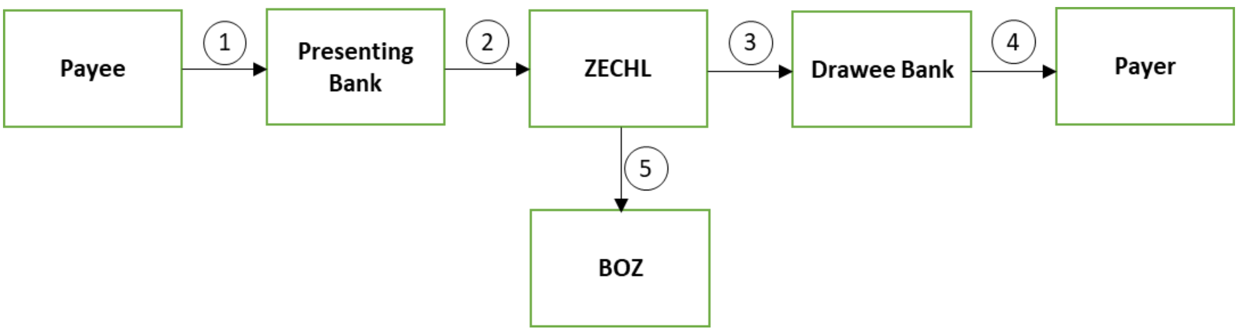
FMIs of ZECHL are operated according to the ZECHL Rules and procedures including the Cheque Act, Bills of Exchange Act of 1888, Directive on the National Financial Switch implementation (2015-02-13), Directive on Electronic Money Issuance (2023) and Directives on Automated Teller Machine, Point of Sale, Internet Transactions and Mobile Payments (2020-02-07).

The FMI is owned by members of the Bankers Association of Zambia (BAZ) and the Bank of Zambia (BoZ).

3.4 System Design and Operation

3.4.1 Cheque Image Clearing System (CIC)

All cheques deposited across the country by 12:00 hours will be given value at 12:00 hours the following business day at T+l. Cheques deposited after 12:00 hours will be processed (cleared) the following business day and value given at 12:00 hours on the third day T+2. Saturday is not a Cheque Clearing Day and is therefore not counted in value dating of cheques.

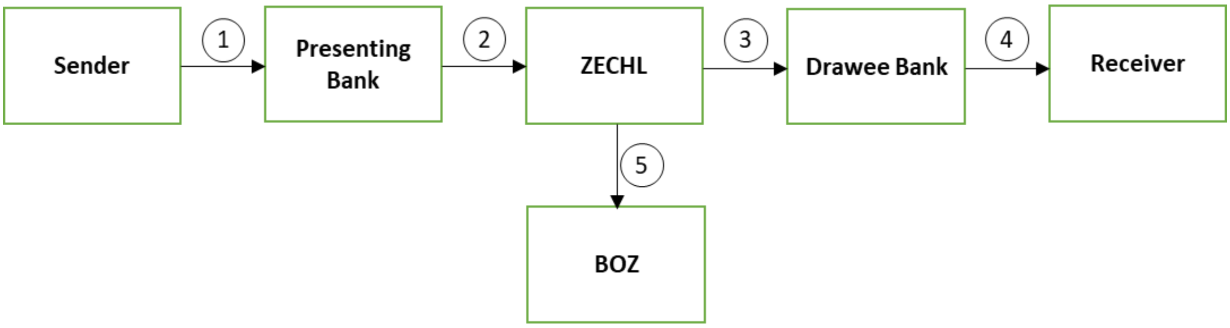


The working principle of the payment system is as follows:

1. The payee deposits a cheque in their bank account.
2. The bank captures the cheque image together with its data and sends to ZECHL.
3. The ZECH system processes and distributes the cheque image/data to the drawee bank.
4. The drawee bank verifies the cheque image/data, pays the cheque and debits the payer's account.

5. The ZECH system generates the settlement figures and sends them to the RTGS system for settlement.

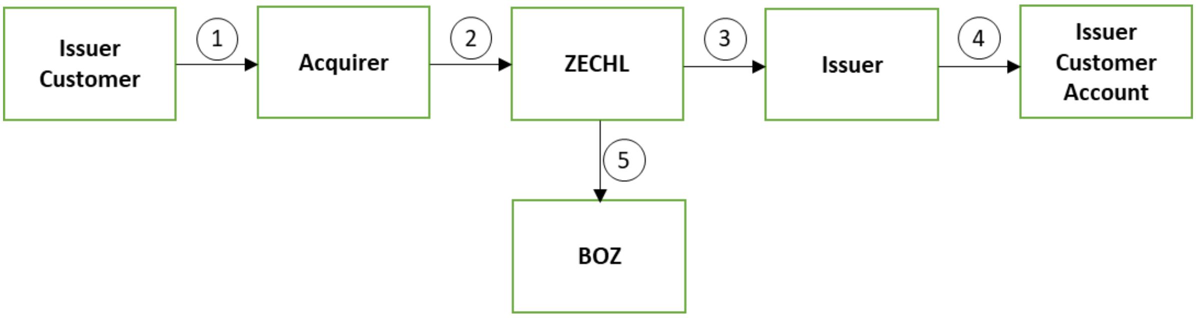
3.4.2 Electronic Funds Transfer (EFT)



The working principle of the payment system is as follows:

1. Customer gives a payment instruction to his/her bank to send the funds to another bank.
2. The customer's bank processes the payment and sends it to ZECHL.
3. The ZECH system processes and sends the transaction to the receiving bank.
4. The receiving bank processes the transaction and credits the receiving customer's account.
5. The ZECH system generates the settlement figures and sends them to the RTGS system for settlement.

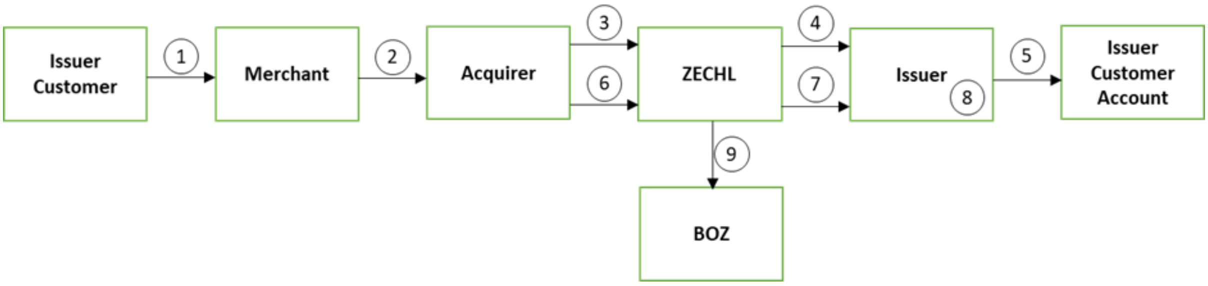
3.4.3 Automated Teller Machine (ATM)



The working principle of the payment system

1. Issuer customer goes to the acquirer ATM and initiates a request to withdraw the funds.
2. The acquirer processes the transaction and sends it to ZECHL.
3. ZECHL processes and sends the transaction to the issuer.
4. The issuer processes the transaction and debits the issuer customer's account.
5. ZECHL generates the settlement figures and sends them to the RTGS system at for settlement.

3.4.4 Point of Sale (POS)

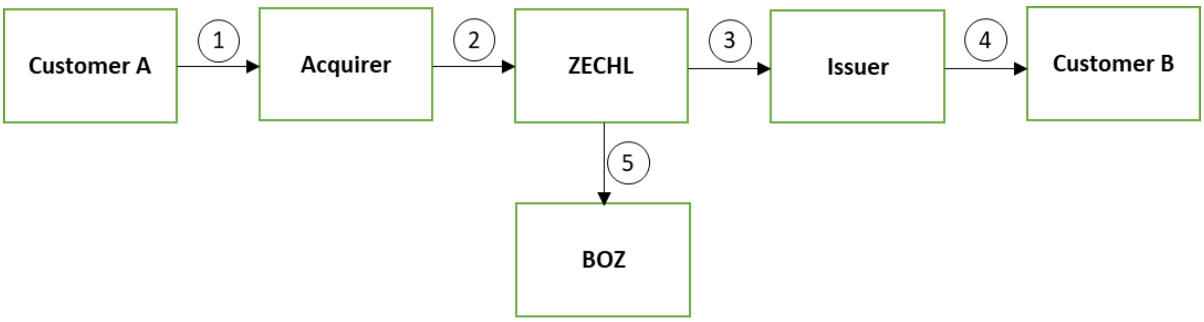


The working principle of the payment system

1. Issuer customer goes to the merchant and transacts.
2. The merchant initiates a request to pay and sends the authorisation to acquirer.
3. The acquirer processes the transaction and sends it to ZECHL.
4. ZECHL processes and sends the transaction to the issuer.
5. The issuer processes the transaction, debits the issuer customer's account, and credits a suspense account.
6. The acquirer generates the financial transaction (Bass II file) and sends it to ZECHL.
7. ZECHL processes the financial transaction and sends the financial transaction to the issuer.
8. The issuer processes the financial transaction and debits the suspense account.
9. ZECHL generates the settlement figures and sends them to the RTGS system for settlement.

3.4.5 Electronic Mobile Money

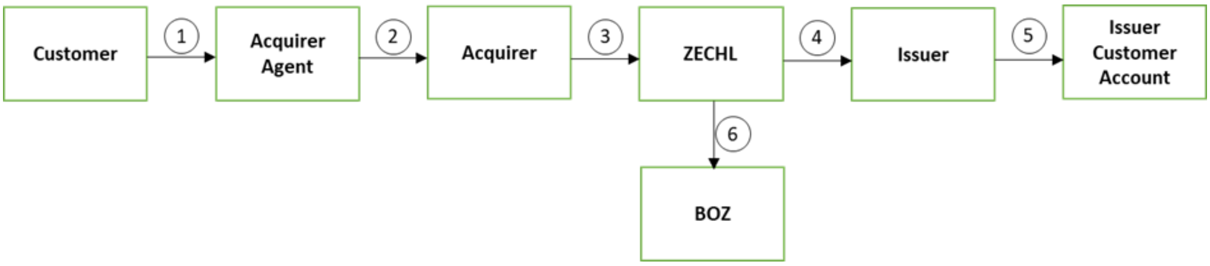
Transfer:



The working principle of the payment system

1. Issuer customer initiates a transfer for the acquirer to send funds to the issuer.
2. The acquirer processes the transaction and sends it to ZECHL.
3. ZECHL processes and sends the transaction to the issuer.
4. The issuer processes the transaction and credits the issuer customer's account.
5. ZECHL generates the settlement figures and sends them to the RTGS system at for settlement.

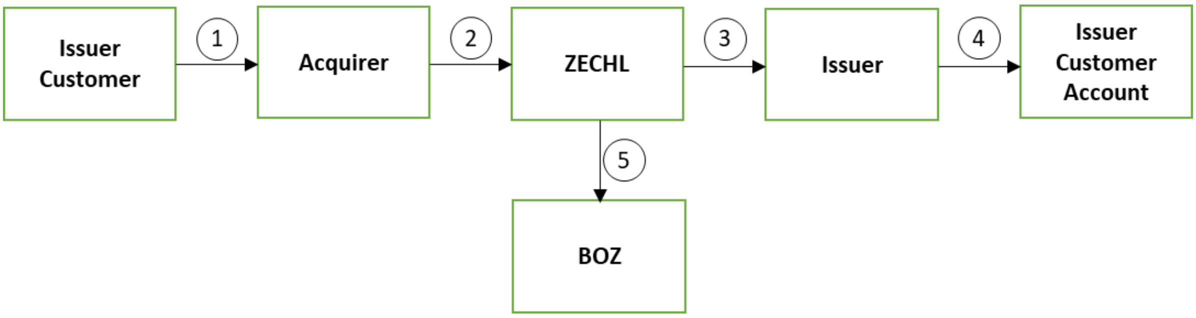
Cash-In:



The working principle of the payment system

1. A customer goes to an acquirer's agent to send cash to the issuer customer.
2. The acquirer's agent initiates the transaction and sends it to the acquirer.
3. The acquirer processes the transaction and sends it to ZECHL.
4. ZECHL processes and sends the transaction to the issuer.
5. The issuer processes the transaction and credits the issuer customer's account.
6. ZECHL generates the settlement figures and sends them to the RTGS system at for settlement.

Cash-Out:



The working principle of the payment system

1. Issuer customer goes to the acquirer ATM or agent and initiates a request to withdraw the funds.
2. The acquirer processes the transaction and sends it to ZECHL.
3. ZECHL processes and sends the transaction to the issuer.
4. The issuer processes the transaction and credits the issuer customer's account.
5. ZECHL generates the settlement figures and sends them to the RTGS system for settlement.

4 SUMMARY OF PRINCIPLES ASSESSMENT

There are 14 out of 24 principles that were found to be applicable to the ZECHL operated FMIs. The other 10 were found not to be applicable to the ZECHL operated FMIs as tabulated in Table 1 below.

Table 1: Summary of Principles Assessment

Principle	Description	Applicable	Observed	Broadly Observed	Partly Observed
Principle 1: Legal basis	An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.	Applicable	Observed		
Principle 2: Governance	An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.	Applicable		Broadly Observed	
Principle 3: Framework for the comprehensive management of risks	An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.	Applicable	Observed		
Principle 4: Credit risk	An FMI should effectively measure, monitor, and manage its credit exposure to participants and those arising from its payment, clearing, and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios	Applicable		Broadly Observed	

Principle	Description	Applicable	Observed	Broadly Observed	Partly Observed
	that should include, but not be limited to, the default of the two largest participants and their affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions. All other CCPs should maintain, at a minimum, total financial resources sufficient to cover the default of the one participant and its affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions.				
Principle 6: Margin	A CCP should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.	Not Applicable			
Principle 7: Liquidity risk	An FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.	Applicable		Broadly Observed	
Principle 8: Settlement finality	An FMI should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or	Not Applicable			

Principle	Description	Applicable	Observed	Broadly Observed	Partly Observed
	preferable, an FMI should provide final settlement intraday or in real time.				
Principle 9: Money settlements	An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimise and strictly control the credit and liquidity risk arising from the use of commercial bank money.	Not Applicable			
Principle 10: Physical deliveries	An FMI should clearly state its obligations with respect to the delivery of physical instruments or commodities and should identify, monitor, and manage the risks associated with such physical deliveries.	Not Applicable			
Principle 11: Central securities depositories	A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimise and manage the risks associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilised or dematerialised form for their transfer by book entry.	Not Applicable			
Principle 12: Exchange-of-value settlement systems	If an FMI settles transactions that involve the settlement of two linked obligations (for example, securities or foreign exchange transactions), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.	Not Applicable			
Principle 13: Participant-default rules and procedures	An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures	Applicable	Observed		

Principle	Description	Applicable	Observed	Broadly Observed	Partly Observed
	should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.				
Principle 14: Segregation and portability	A CCP should have rules and procedures that enable the segregation and portability of positions of a participant's customers and the collateral provided to the CCP with respect to those positions.	Not Applicable			
Principle 15: General business risk	An FMI should identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialise. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind-down of critical operations and services.	Applicable		Broadly observed	
Principle 16: Custody and investment risks	An FMI should safeguard its own and its participants' assets and minimise the risk of loss on and delay in access to these assets. An FMI's investments should be in instruments with minimal credit, market, and liquidity risks.	Not Applicable			
Principle 17: Operational risk	An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity.	Applicable	Observed		

Principle	Description	Applicable	Observed	Broadly Observed	Partly Observed
	Business continuity management should aim for timely recovery of operations and fulfilment of the FMI's obligations, including in the event of a wide-scale or major disruption.				
Principle 18: Access and participation requirements	An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.	Applicable	Observed		
Principle 19: Tiered participation arrangements	An FMI should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements.	Applicable		Broadly Observed	
Principle 20: FMI links	An FMI that establishes a link with one or more FMIs should identify, monitor, and manage link-related risks.	Not Applicable			
Principle 21: Efficiency and effectiveness	An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.	Applicable	Observed		
Principle 22: Communication procedures and standards	An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.	Applicable	Observed		
Principle 23: Disclosure of rules, key procedures, and market data	An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.	Applicable		Broadly Observed	
Principle 24: Disclosure of	A TR should provide timely and accurate data to relevant authorities	Not Applicable			

Principle	Description	Applicable	Observed	Broadly Observed	Partly Observed
market data by trade repositories	and the public in line with their respective needs.				

III. PRINCIPLE-BY-PRINCIPAL SUMMARY NARRATIVE DISCLOSURE

Principle 1: Legal basis

An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.

As a robust legal basis for an FMI's activities in all relevant jurisdictions is critical to an FMI's overall soundness, this principle should be reviewed holistically with the other principles.

Summary Narrative
The FMI observes Principle 1.
All key considerations are observed.

ZECHL operates the CIC, DDACC and FCC which are SIPS. ZECHL also operates the NFS. ZECHL is required to have a robust and sound legal basis for its activities that are clear, transparent, and enforceable, and guarantee switching, clearing and settlement finality for each material aspect of its activities within relevant jurisdictions.

The switching, clearing and settlement finality of the FMI is guaranteed based on the National Payment Systems Act No. 1 of 2007. Operational rules and enforcement regulations for each activity are written in transparent, clear, and understandable manner such as the ZECHL General Rules, CIC Rules, DDACC Rules, NFS Electronic-Money Payment Rules, NFS Operating Rules- ATM and POS. The Rules are written and designed according to the National Payment Systems ACT No. 1 of 2007, Cheque Act, Bills of Exchange Act of 1888, Directive on the National Financial Switch implementation (2015-02-13), Directive on Electronic Money Issuance (2023-07-14) and Directives on Automated Teller Machine, Point of Sale, Internet Transactions and Mobile Payments (2020-02-07).

Answers to individual questions (optional)

Key consideration 1:

The legal basis should provide a high degree of certainty for each material aspect of an FMI's activities in all relevant jurisdictions.

Q.1.1.1: What are the material aspects of the FMI's activities that require a high degree of legal certainty (for example, rights and interests in financial instruments; settlement finality; netting; interoperability; immobilization and dematerialization of securities; arrangements for DvP, PvP or DvD; collateral arrangements (including margin arrangements); and default procedures)?

The FMIs provide Switching Services, interbank clearing (Part IV of the National Payment Systems (NPS) Act 2007), and Settlement (Part V of NPS Act 2007) of retail payment transactions for its participants. The transactions are processed according to the applicable relevant laws, with respect to important aspects of the activities such as switching transactions, CIC and DDACC processing, and confirmation of settlement finality through the RTGS.

Q.1.1.2: What are the relevant jurisdictions for each material aspect of the FMI's activities?

The FMIs operated by ZECHL have rules that govern the operations of switching services, interbank clearing and settlement of payment instruments consistent with the National Payments Systems Act No. 1 of 2007. These rules are supported by Section 17 (a) of the NPS Act 2007.

The FMI has the following Rules, namely, the ZECHL General Rules, CIC Rules, DDACC Rules, NFS Electronic-Money Payment Rules, NFS Operating Rules- ATM and POS. In addition, the FMI has Operating Standards and Procedures in place that are clearly understandable by participants.

Q.1.1.3: How does the FMI ensure that its legal basis (that is, the legal framework and the FMI's rules, procedures and contracts) provides a high degree of legal certainty for each material aspect of the FMI's activities in all relevant jurisdictions?

The applicable Rules used by the FMI are available on its website (www.zechl.co.zm)

ZECHL ensures that the legal basis for the FMIs it operates are early understood by participants, relevant authorities, and the general public.

Key consideration 2:

An FMI should have rules, procedures, and contracts that are clear, understandable, and consistent with relevant laws and regulations.

Q.1.2.1: How has the FMI demonstrated that its rules, procedures, and contracts are clear and understandable?

The FMIs rules and procedures are formulated and reviewed by participants and subsequently approved and implemented by ZECHL.

The contracts between the FMI and the participants are clearly understood by the participants at admission.

Q.1.2.2: How does the FMI ensure that its rules, procedures, and contracts are consistent with relevant laws and regulations (for example, through legal opinions or analyses)? Have any inconsistencies been identified and remedied? Are the FMI's rules, procedures and contracts reviewed or assessed by external authorities or entities?

The FMIs Rules and procedures are consistent with the National Payments Systems Act No. 1 of 2007. Further the Rules are reviewed every two years by the participants and are approved thereafter.

Any inconsistencies identified are added to the FMI Rules as an addendum.

Q.1.2.3: Do the FMI's rules, procedures and contracts have to be approved before coming into effect? If so, by whom and how?

The FMIs Rules are signed off by all participants and approved thereafter, before they are declared official. The procedures and contracts are reviewed and approved by the FMI's management committee members.

Key consideration 3:

An FMI should be able to articulate the legal basis for its activities to relevant authorities, participants, and, where relevant, participants' customers, in a clear and understandable way.

Q.1.3.1: How does the FMI articulate the legal basis for its activities to relevant authorities, participants and, where relevant, participants' customers?

The applicable Rules used by the FMI are available on its website (www.zechl.co.zm).

ZECHL ensures that the legal basis for the FMIs it operates are early understood by participants, relevant Authorities, and the general public.

Key consideration 4:

An FMI should have rules, procedures, and contracts that are enforceable in all relevant jurisdictions. There should be a high degree of certainty that actions taken by the FMI under such rules and procedures will not be voided, reversed, or subject to stays.

Q.1.4.1: How does the FMI achieve a high level of confidence that the rules, procedures, and contracts related to its operations are enforceable in all relevant jurisdictions identified in key consideration 1 (for

example, through legal opinions and analyses)?

The FMIs Rules are backed by Section 17 (a) of the NPS Act 2007.

In addition, all the FMI Rules, SLA and contracts are review by both parties' representatives before they are signed to ensure they are enforceable.

Q.1.4.2: How does the FMI achieve a high degree of certainty that its rules, procedures and contracts will not be voided, reversed or subject to stays? Are there any circumstances in which an FMI's actions under its rules, procedures or contracts could be voided, reversed or subject to stays? If so, what are those circumstances?

The FMI's rules, procedures and contracts are signed by all the participants when they join the FMI. In addition, the FMI has clearly defined Clauses in the Rules that are used to penalize non-compliant participants. The FMIs Rules are backed by Section 17 (a) of the NPS Act 2007.

Q.1.4.3: Has a court in any relevant jurisdiction ever held any of the FMI's relevant activities or arrangements under its rules and procedures to be unenforceable?

The court has not held any of the FMI's relevant activities or arrangements under its rules and procedures to be unenforceable.

Key consideration 5:

An FMI conducting business in multiple jurisdictions should identify and mitigate the risks arising from any potential conflict of laws across jurisdictions.

Q.1.5.1: If the FMI is conducting business in multiple jurisdictions, how does the FMI identify and analyse any potential conflict-of-laws issues? When uncertainty exists regarding the enforceability of an FMI's choice of law in relevant jurisdictions, has the FMI obtained an independent legal analysis of potential conflict-of-laws issues? What potential conflict-of-laws issues has the FMI identified and analysed? How has the FMI addressed any potential conflict-of-laws issues?

Not currently applicable. The FMI is only valid in the jurisdiction of Zambia.

Principle 2: Governance

An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.

In reviewing this principle, it should be noted that if an FMI is wholly owned or controlled by another entity, the governance arrangements of that entity should also be reviewed to ensure that they do not have adverse effects on the FMI's observance of this principle. As governance provides the processes through which an organisation sets its objectives, determines the means for achieving those objectives and monitors performance against those objectives, this principle should be reviewed holistically with the other principles.

Summary Narrative

The FMI broadly observes Principle 2.
All key considerations are broadly observed.

The FMI is subject to governance arrangements as per ZECHL Articles of association and other regulatory documents which stipulates the goal of the establishment, composition of the Board of Directors and the general meeting. All major decisions are made by the Board of Directors. The FMI has three Board Committees in place which are part of the decision-making mechanism and oversight responsibilities. All the three Board Committees are chaired by a Board of Director who will not form part of the 4 minimum number of members required.

Further, it is the Board's policy that the Board, and any Committee of the Board, is entitled to seek independent professional advice at the company's expense, subject to the reasonableness of the costs and Board consent, in the conduct of its duties for the company and for the purposes of proper performance of their duties as stipulated in the FMI Board Charter Clause 7.

Key consideration 1:

An FMI should have objectives that place a high priority on the safety and efficiency of the FMI and explicitly support financial stability and other relevant public interest considerations.

Q.2.1.1: What are the FMI's objectives, and are they clearly identified? How does the FMI assess its performance in meeting its objectives?

ZECHL supports the mission of providing an efficient, reliable, secure, and cost-effective inter-bank clearing service to the Zambian financial industry. The FMIs roles and function strive towards three distinct functions which are clearly identified, namely.

1. Inter-bank Clearing
2. Switching Services
3. Generation and transmission of Net Settlement positions to the RTGS for final settlement.

Further, the FMI's objectives place a high priority on safety and efficiency and explicitly support financial stability and other relevant public interest considerations as stipulated in Clause 11 of the ZECHL Articles of Association.

ZECHL as the SIP has taken risk management into account as one of the primary objectives.

Q.2.1.2: How do the FMI's objectives place a high priority on safety and efficiency? How do the FMI's objectives explicitly support financial stability and other relevant public interest considerations?

The FMI's view risk management process as an integral part of all organizational processes and an essential element of good corporate governance, and therefore the FMI has formulated risk management policy to manage risks in a systematic and comprehensive manner as stated in the policy statement in the ZECHL Risk Management Policy.

Therefore, the FMIs Management implements the risk management strategy and ensures that an effective risk management framework is in place and operational.

Key consideration 2:

An FMI should have documented governance arrangements that provide clear and direct lines of responsibility and accountability. These arrangements should be disclosed to owners, relevant authorities, participants, and, at a more general level, the public.

Governance arrangements

Q.2.2.1: What are the governance arrangements under which the FMI's Board of Directors (or equivalent) and management operate? What are the lines of responsibility and accountability within the FMI? How and where are these arrangements documented?

The FMIs Board is responsible for setting the strategic direction for the institution, formulating policies, establishing goals for management, and monitoring the achievement of these goals. The Board is accordingly responsible for oversight through supervising the management of the business and affairs of the company in a way which ensures that the interests of shareholders and stakeholders are promoted and protected.

The top decision-making body of the FMI is the Board of Director which is comprised of the representatives of the Shareholders. The Ten (10) member Board of Directors consists of the Chairperson who is always the Deputy Governor-Operations of the Bank of Zambia (BoZ), Deputy Chairperson of the Bankers' Association of Zambia (BAZ), the immediate Past Chairperson- Bankers Association of Zambia, three (3) Directors from Bank of Zambia, the ZECHL Chief Executive Officer, and three other Managing Directors of Commercial Banks recommended by BAZ and appointed by the Shareholders.

The ZECHL Board hold regular Board meetings approximately four times per year, being once every quarter. The quorum must include a minimum number of Two from the Bank of Zambia and a minimum number of Two from Bankers Association of Zambia.

The Board has Three Committees namely i. Finance, Audit, & HR Committee, ii. Operations & Risk Committee, and iii. ICT Committee. Each of the Three Committees draws Four of its membership from within the Banks in addition to the ZECHL representatives on respective Committees.

The Decision-Making Board

The ZECHL Board Charter outlines the roles and responsibilities of the board members.

Q.2.2.2: For central bank-operated systems, how do governance arrangements address any possible or perceived conflicts of interest? To what extent do governance arrangements allow for a separation of the operator and oversight functions?

Not applicable to the FMI.

Q.2.2.3: How does the FMI provide accountability to owners, participants and other relevant stakeholders?

The operations of the FMI system are governed by the ZECH Rules and SLAs which are signed off by all participants.

Disclosure of governance arrangements

Q.2.2.4: How are the governance arrangements disclosed to owners, relevant authorities, participants and, at a more general level, the public?

The FMI discloses the governance arrangements through the Annual Reports. In addition, the FMI hold monthly meetings such as the BAZ Main and the BAZ Tech.

Key consideration 3:

The roles and responsibilities of an FMI's Board of Directors (or equivalent) should be clearly specified, and there should be documented procedures for its functioning, including procedures to identify, address, and manage member conflicts of interest. The Board should review both its overall performance and the performance of its individual Board members regularly.

Roles and responsibilities of the Board

Q.2.3.1: What are the roles and responsibilities of the FMI's Board of Directors (or equivalent), and are they clearly specified?

The roles and responsibilities of the FMI's Board of Directors are clearly specified in Clause 3 of the ZECHL Board Charter.

Q.2.3.2: What are the Board's procedures for its functioning, including procedures to identify, address and manage member conflicts of interest? How are these procedures documented, and to whom are they disclosed? How frequently are they reviewed?

Q.2.3.3: Describe the Board committees that have been established to facilitate the functioning of the Board. What are the roles, responsibilities and composition of such committees?

The FMI Board has stablished committees as per Clause 6.0 of the ZECHL Board Charter 2006, chaired by a Board Director who will not form part of the 4 minimum number of members required. The FMI Main Board sets out the responsibilities and reporting obligations of each Board Committee and evaluating the performance of each Committee in fulfilling its oversight responsibilities.

The following are the FMI Board Committees in place, whose roles and responsibilities includes;

1. **Finance, Audit, HR and Administration Committee**

   Roles and Responsibilities
   1. Reviewing the company's financial statements and other financial information provided by the company to its shareholders and others.
   2. Compliance with legal, regulatory and public disclosure requirements.
   3. Evaluating the external auditors, including their qualifications and independence.
   4. Reviewing external audit reports and ensuring that management is taking appropriate corrective actions in a timely manner to address control weaknesses, noncompliance with laws and policies identified by auditors.
   5. Monitor the quality and integrity of the ZECHL's annual and quarterly financial statements, including its financial accounting principles and policies and its internal controls over financial reporting.

2. **Operations and Risk Committee (Governance)**

Roles and Responsibilities

1. Supporting the CEO in undertaking regular risk assessments, and reviewing major risks the FMI is likely to be exposed to.
2. Review and recommend the Risk Management Policies and Risk Management Framework.
3. Monitoring corporate performance against approved objectives and strategic plans.
4. Ensure compliance with legal and regulatory requirements; and developing, reviewing, approving and changing risk management policies, systems, procedures and strategies.
5. Monitoring adherence to stated risk management policies and procedures, including political risk management, capital risk management, internal control procedures and management information systems so as to provide reasonable assurance as to the reliability of the company's financial information and the safeguarding of its assets.

3. **Information Communication Technology (ICT), Technical, Infrastructure and Projects Committee**

Roles and Responsibilities

1. Come-up with ICT strategic and operational plans aligned with ZECHL's vision and objectives.
2. Determining and monitoring ICT policies and practices on an ongoing basis to ensure that they continue to remain relevant and complete.
3. Considering/reviewing resources required to implement the agreed strategic objectives for projects consistent with ZECHL's strategy, including consideration of value for money, and make recommendations to the Board.
4. Reviewing and approving ICT policies and procedures.
5. Providing counselling and mentoring, if and when required to management.
6. Bi-annual reviews of the operations, ICT, security and technical infrastructure of ZECHL and making recommendations to the Board.

Review of performance

Q.2.3.4: What are the procedures established to review the performance of the Board as a whole and the performance of the individual Board Members?

Self-assessments to review performance of the Board as a whole and individual board members are conducted by Directors on an annual basis as stipulated in the Clause 8 of the ZECHL Board Charter.

Key consideration 4:

The Board should contain suitable members with the appropriate skills and incentives to fulfil its multiple roles. This typically requires the inclusion of non-executive board member(s).

Q.2.4.1: To what extent does the FMI's Board have the appropriate skills and incentives to fulfil its multiple roles? How does the FMI ensure that this is the case?

The FMI Board is constituted of members with different skills and diversity. The FMI Board Chair is the Deputy Governor-Operations, and the Vice is the BAZ Chair who is a Chief Executive Officer of a Bank. Other Members are three representations from BoZ who are Director - Payment Systems, Director - ICT and Director Finance.

Q.2.4.2: What incentives does the FMI provide to Board members so that it can attract and retain members of the Board with appropriate skills? How do these incentives reflect the long-term achievement of the FMI's objectives?

The Directors' tenure of office is two years, and they are eligible for reappointment upon recommendation of the appropriate institution as prescribed in the FMI Board Charter 2016. The Chairman of the Board is the Deputy Governor-Operations, and the Vice-Chairperson is the Chairperson- Bankers Association of Zambia, except for Directors that are appointed by virtue of office.

The FMI's Board Charter provides for compensation of Executive Directors for their services in accordance with the conditions of engagement as approved by the Board. The FMI, however, has not yet implemented incentives for Executive Directors for their services provided to the Board in line with the ZECH Board Charter.

Q.2.4.3: Does the Board include non-executive or independent Board members? If so, how many?

The FMI Board does not include non-executive or independent board members However, Clause 7.0 of the ZECHL Board Charter allows the Board to seek independent professional advice.

Q.2.4.4: If the Board includes independent Board members, how does the FMI define an independent Board member? Does the FMI disclose which Board member(s) it regards as independent?

The FMI Board does not include independent Board members.

Key consideration 5:

The roles and responsibilities of management should be clearly specified. An FMI's management should have the appropriate experience, a mix of skills, and the integrity necessary to discharge their responsibilities for the operation and risk management of the FMI.

Roles and responsibilities of management

Q.2.5.1: What are the roles and responsibilities of management, and are they clearly specified?

The FMIs Management Committee derives its authority from the Board Charter and the roles are clearly stipulated in the FMIs Board Charter. The roles and responsibilities of management is to implement the strategic direction of the FMI and to be accountable to be the Board. To ensure daily operations of the FMI and implementation of policies that will contribute to a sound and efficient payment system that meets the requirement of the FMI System.

Q.2.5.2: How are the roles and objectives of management set and evaluated?

The roles and objectives of management are evaluated using the Key Performance Indicators (KPIs).

Experience, skills and integrity

Q.2.5.3: To what extent does the FMI's management have the appropriate experience, mix of skills and the integrity necessary for the operation and risk management of the FMI? How does the FMI ensure that this is the case?

The ZECH Management Committee Terms of Reference clearly specify the roles, responsibilities and skills required for all management staff.

Q.2.5.4: What is the process to remove management if necessary?

The FMI has a performance management system in place which is used to assess the performance of management staff biannually. Also, a disciplinary process is in place to manage any misconduct by management or any other employees of the FMI.

Key consideration 6:

The Board should establish a clear, documented risk-management framework that includes the FMI's risk-tolerance policy, assigns responsibilities and accountability for risk decisions, and addresses decision making in crises and emergencies. Governance arrangements should ensure that the risk-management and internal control functions have sufficient authority, independence, resources, and access to the Board.

Risk management framework

Q.2.6.1: What is the risk management framework that has been established by the Board? How is it documented?

The risk management framework established by the Board is principle-based, systematic, structured, dynamic, transparent and inclusive. It is clear and assigns roles and responsibilities. The risk management framework is documented in the ZECHL Risk Management Framework which is approved by the Board.

Q.2.6.2: How does this framework address the FMI's risk tolerance policy, assign responsibilities and accountability for risk decisions (such as limits on risk exposures), and address decision-making in crises and emergencies?

The framework works with the policy which states the FMI shall only accept low level risks. The framework assigns responsibilities and accountability for risk decisions through the governance structure, from the Board's Risk Management and Audit Committees through the FMI's CEO, Risk Function and down to employees.

Q.2.6.3: What is the process for determining, endorsing and reviewing the risk management framework?

The FMI's risk management framework is reviewed every three years or as and when there is a significant change in the risk landscape.

Authority and independence of risk management and audit functions

Q.2.6.4: What are the roles, responsibilities, authority, reporting lines and resources of the risk management and audit functions?

The FMI's Risk, Audit and Compliance (RAC) department is headed by the RAC Manager who administratively provides oversight on the risk and compliance function and the internal audit function. The Risk and Compliance function is responsible for enterprise risk management and compliance risk. The internal audit function provides audit assurance. It retains its independence and reports to the Board's Risk Management and Audit Committees.

Q.2.6.5: How does the Board ensure that there is adequate governance surrounding the adoption and use of risk management models? How are these models and the related methodologies validated?

The Board has overall responsibility of the FMI's risk management. It reviews and approves the FMI's risk management framework and policy.

Key consideration 7:

The Board should ensure that the FMI's design, rules, overall strategy, and major decisions reflect appropriately the legitimate interests of its direct and indirect participants and other relevant stakeholders. Major decisions should be clearly disclosed to relevant stakeholders and, where there is a broad market impact, the public.

Identification and consideration of stakeholder interests

Q.2.7.1: How does the FMI identify and take account of the interests of the FMI's participants and other relevant stakeholders in its decision-making in relation to its design, rules, overall strategy and major decisions?

Clause 6.0 of the FMI Board Charter requires the Board to put in place sub-committees, such as the Management Committee, to design rules, strategies and policies. These sub-committees ensure that participants from the relevant institutions participate in the development of and report back to the board who then provide guidance. The FMI Board subcommittee include.

1. Finance, HR & Audit;
2. Operations & Risk;
3. ICT & Infosec and
4. Any other Committee that may be deemed necessary because of the activities of the company.

The FMIs Rules are formulated and reviewed with the participants such as banks, Payment Service Providers (PSP) and Non-Bank Financial Institutions.

Q.2.7.2: How does the Board consider the views of direct and indirect participants and other relevant stakeholders on these decisions; for example, are participants included on the risk management committee, on user committees such as a default management group

or through a public consultation? How are conflicts of interest between stakeholders and the FMI identified, and how are they addressed?

The FMI engages stakeholders through various fora such as BAZTECH and conferences where rules are formulated and reviewed to incorporate the interests of the participants. The ZECHL Board comprises of representatives of the Central Bank and Commercial banks and through this the interest of the shareholders and participants are considered. The Board Charter does not provide for direct representation of the public and all participants however their interests are covered through the regulator who sits on the board on ZECHL.

Disclosure

Q.2.7.3: To what extent does the FMI disclose major decisions made by the board to relevant stakeholders and, where appropriate, the public?

The FMI disseminates major decisions made by the Board through BAZ and other communication channels to engage the public and other participants not represented on the ZECHL board.

Principle 3: Framework for the comprehensive management of risks

An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.

In reviewing this principle, an assessor should consider how the various risks, both borne by and posed by the FMI, relate to and interact with each other. As such, this principle should be reviewed holistically with the other principles.;

Summary Narrative
The FMI observes Principle 3.

The FMI views risk management as an integral part of all organizational processes as outlined in Clause 2.2 of the ZECHL Risk Management Framework. The FMI system is designed in a way that provides value to its shareholders as well minimizing risks to its participants and the industry. The ZECH Rules, the NFS Operating Standards and Procedures, the SLA and other regulatory documents outline the roles and responsibilities of the FMI and each participant. The FMI's Risk Management Policy provides information and guidance on Risk Management which forms part of the FMI's internal control and corporate governance arrangements. Additionally, the FMI's Risk Management Framework provides a guide for the establishment and implementation of RM processes involving establishing the context, identification, analysis, evaluation, treatment, communication, and consulting, monitoring and review of risks affecting ZECHL, activities and initiatives. All the FMI's risks are recorded in the risk register, measured monthly and are monitored using the risk register by the FMI internal Risk, Audit and Compliance Manager. The FMI's Risk and Operations Committee oversees the risk department and report their fundings to the board. The FMI's policies are reviewed after 3 years and when there is a significant change in the risk. However, there are plans to reduce the period to every after two (2) years as part of compliance with best practice for FMIs.

Key consideration 1:

An FMI should have risk-management policies, procedures, and systems that enable it to identify, measure, monitor, and manage the range of risks that arise in or are borne by the FMI. Risk-management frameworks should be subject to periodic review.

Risks that arise in or are borne by the FMI

Q.3.1.1: What types of risks arise in or are borne by the FMI?

The type of risks that arise in or borne by the FMI include operational risk, settlement risk, systemic risk, legal risk, reputational risk, credit risk and liquidity risk.

Risk management policies, procedures and systems

Q.3.1.2: What are the FMI's policies, procedures and controls to help identify, measure, monitor and manage the risks that arise in or are borne by the FMI?

The FMI has a Risk Department in place which manages risk for the FMI. In addition, there is a Risk and Operations Committee who oversee the Risk Department and report their fundings to the Board.

Q.3.1.3: What risk management systems are used by the FMI to help identify, measure, monitor and manage its range of risks?

To identify, measure, monitor and manage a range of risks, The FMI uses the risk framework document which is reviewed annually. A risk register stores all the information about the FMI's risk and its likelihood, consequences of a risk occurring and the risk owners.

Q.3.1.4: How do these systems provide the capacity to aggregate exposures across the FMI and, where appropriate, other relevant parties, such as the FMI's participants and their customers?

The FMI setup does not allow to aggregate exposures across the FMI.

Review of risk management policies, procedures and systems

Q.3.1.5: What is the process for developing, approving and maintaining risk management policies, procedures and systems?

The developing and maintaining risk management policies, procedures, and systems are developed by individual departments who then submit to the FMI management for review before they are submitted to the Risk and Operations Committee for further review and thereafter to the FMI Board for approval.

Q.3.1.6: How does the FMI assess the effectiveness of risk management policies, procedures and systems?

The FMI assesses the effectiveness of risk management policies, procedures, and systems through the external and internal audit reports as well as from the FMIs monthly Management Committee report.

Q.3.1.7: How frequently are the risk management policies, procedures and systems reviewed and updated by the FMI? How do these reviews take into account fluctuation in risk intensity, changing environments and market practices?

The policies are reviewed after 3 years and when there is a significant change in the risk.

Key consideration 2:
An FMI should provide incentives to participants and, where relevant, their customers to manage and contain the risks they pose to the FMI.

Q.3.2.1: What information does the FMI provide to its participants and, where relevant, their customers to enable them to manage and contain the risks they pose to the FMI?

The FMI provides settlement information in advance before settlement, which gives participants enough time to source for funds in advance. Further, the system provides for interim session distribution of transactions to the receiving participant on CIC and EFT streams which allows them to decide whether to pay or unpay the transaction. The NFS system works in real time.

Q.3.2.2: What incentives does the FMI provide for participants and, where relevant, their customers to monitor and manage the risks they pose to the FMI?

The FMI imposes various penalties on participants who fail to adhere to the ZECHL operating standard and procedures. The various penalties are provided in the ZECHL General rules under Schedule V – ZECHL Maximum Charges and ZECHL NFS Manual of Fees and Charges (2020 December).

The rules can be accessed at our website: https://www.zechl.co.zm/useful-documents

Q.3.2.3: How does the FMI design its policies and systems so that they are effective in allowing their participants and, where relevant, their customers to manage and contain their risks?

The FMI may take steps to suspend a participant who is in continuous breach of the FMI Rules as per Clause 23 of the General Rules.

The rules can be accessed at the FMI's website: https://www.zechl.co.zm/useful-documents

Key consideration 3:
An FMI should regularly review the material risks it bears from and poses to other entities (such as other FMIs, settlement banks, liquidity providers, and service providers) as a result of interdependencies and develop appropriate risk-management tools to address these risks.

Material risks

Q.3.3.1: How does the FMI identify the material risks that it bears from and poses to other entities as a result of interdependencies? What material risks has the FMI identified?

The material risks are system failure, hardware failure and failure by a participant to meet their settlement obligations.

System failure from either the FMI or the RTGS side may have a negative impact on the FMI, such as failure to process the Net Settlement through the RTGS. whereas a participant failure to settlement will create systemic risk across participants.

Q.3.3.2: How are these risks measured and monitored? How frequently does the FMI review these risks?

The risks are measured monthly and are monitored using the risk register. In addition, the risks are reviewed monthly.

Risk management tools

Q.3.3.3: What risk management tools are used by the FMI to address the risks arising from interdependencies with other entities?

The FMI uses the Risk Management Framework as the tool to address the risks arising from interdependencies with other entities.

Q.3.3.4: How does the FMI assess the effectiveness of these risk management tools? How does the FMI review the risk management tools it uses to address these risks? How frequently is this review conducted?

ZECHL assess the effectiveness of risk management tools by the number of risks closed in the risk register in a month.

Key consideration 4:

An FMI should identify scenarios that may potentially prevent it from being able to provide its critical operations and services as a going concern and assess the effectiveness of a full range of options for recovery or orderly wind-down. An FMI should prepare appropriate plans for its recovery or orderly wind-down based on the results of that assessment. Where applicable, an FMI should also provide relevant authorities with the information needed for purposes of resolution planning.

Scenarios that may prevent an FMI from providing critical operations and services.

Q.3.4.1: How does the FMI identify scenarios that may potentially prevent the FMI from providing its critical operations and services? What scenarios have been identified as a result of these processes?

The FMI's uses risk management framework to identify scenarios that may potentially prevent it from providing critical operations and services. The scenarios identified include external (hackers, natural disasters, civil disorder and failure to collect enough CTS and Switching fees) and internal (system failure, power failure, network failure, support staff).

Q.3.4.2: How do these scenarios take into account both independent and related risks to which the FMI is exposed?

The FMI has adopted a risk management framework that covers the enterprise from end to end. The defined risks management process ensures that all risks including independent and related risks are identified.

The FMI has various service level agreements with services providers. In addition, the FMI has also put in place Uninterrupted Power Supply (UPS) in case of loss of power.

Recovery or orderly wind-down plans

Q.3.4.3: What plans does the FMI have for its recovery or orderly wind-down?

The FMI has a Business Continuity Management plan in place for recovery, and the FMI's Articles of Association Clause 22 provides for an orderly wind-down.

Q.3.4.4: How do the FMI's key recovery or orderly wind-down strategies enable the FMI to continue to provide critical operations and services?

The FMI's key recovery strategies to enable it to continue to provide critical operations and services are outlined in the FMI's Business Continuity Management documentation, and for an orderly wind-down strategy, this is contained in Clause 22 of the FMI's Articles of Association.

Q.3.4.5: How are the plans for the FMI's recovery and orderly wind-down reviewed and updated? How frequently are the plans reviewed and updated?

The FMI's BCM plan is reviewed annually and when need arises.

Principle 4: Credit risk

An FMI should effectively measure, monitor, and manage its credit exposure to participants and those arising from its payment, clearing, and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two largest participants and their affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions. All other CCPs should maintain, at a minimum, total financial resources sufficient to cover the default of the one participant and its affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions.

Because of the extensive interactions between the financial risk management and financial resources principles, this principle should be reviewed in the context of Principle 5 on collateral, Principle 6 on margin and Principle 7 on liquidity risk, as appropriate. This principle should also be reviewed in the context of Principle 13 on participant default rules and procedures, Principle 23 on disclosure of rules, key procedures and market data, and other principles, as appropriate.

Summary Narrative

Broadly observed.

FMI Broadly observes Principle 4

The FMI Broadly observes Principle 4 because most of the key considerations are not directly applicable to the FMI.

Key consideration 1:

An FMI should establish a robust framework to manage its credit exposures to its participants and the credit risks arising from its payment, clearing, and settlement processes. Credit exposure may arise from current exposures, potential future exposures, or both.

Q.4.1.1: What is the FMI's framework for managing credit exposures, including current and potential future exposures, to its participants and arising from its payment, clearing and settlement processes?

The FMI has a framework in place that requires participants that participate on the FMI's

Interbank Clearing, Switching and Settlement Systems to transfer to the settlement agent sufficient eligible securities as collateral to manage risk exposures that may arise from its participation for failure to settle obligations. The securities include cash and treasury bills or as may be determined from time to time.

Based on the framework, the settlement agent carries out monthly review of the collateral level for each participant to determine the necessary value of securities or cash to be set aside by each participant as collateral for a period of one month. A participant that fails to comply with the collateral requirements is sanctioned in line with the National Payment Systems Act and the ZECH General Rules.

Further, the FMI has put in place a mechanism to enable the collection of all funds due from all the participants.

Q.4.1.2: How frequently is the framework reviewed to reflect the changing environment, market practices and new products?

The framework is reviewed whenever there is a material change in the operations or when there are new products.

Key consideration 2:

An FMI should identify sources of credit risk, routinely measure and monitor credit exposures, and use appropriate risk-management tools to control these risks.

Q.4.2.1: How does the FMI identify sources of credit risk? What are the sources of credit risk that the FMI has identified?

The FMI identifies sources of credit risk through monitoring that participants are able to meet their settlement obligations on a daily basis.

The source of the risk that has been identified is the settlement risk, where a participant's failure to settle its settlement obligations exposes the FMI and the other participants to potential losses.

Q.4.2.2: How does the FMI measure and monitor credit exposures? How frequently does and how frequently can the FMI recalculate these exposures? How timely is the information?

The collateral is reviewed by the settlement agent to depict the market value on a weekly basis and determined monthly.

Q.4.2.3: What tools does the FMI use to control identified sources of credit risk (for example, offering an RTGS or DvP settlement mechanism, limiting net debits or intraday credit, establishing concentration limits, or marking positions to market on a daily or intraday basis)? How does the FMI measure the effectiveness of these tools?

The settlement agent uses tools such as the settlements figures to identify sources of failure to settle obligations.

Key consideration 3:

A payment system or SSS should cover its current and, where they exist, potential future exposures to each participant fully with a high degree of confidence using collateral and other equivalent financial resources (see Principle 5 on collateral). In the case of a DNS payment system or DNS SSS in which there is no settlement guarantee but where its participants face credit exposures arising from its payment, clearing, and settlement processes, such an FMI should maintain, at a minimum, sufficient resources to cover the exposures of the two participants and their affiliates that would create the largest aggregate credit exposure in the system.

Coverage of exposures to each participant

Q.4.3.1: How does the payment system or SSS cover its current and, where they exist, potential future exposures to each participant? What is the composition of the FMI's financial resources used to cover these exposures? How accessible are these financial resources?

As indicated in Principle Q4.1.1, The FMI has a framework in place that requires participants that participate on the FMI's Interbank Clearing, Switching and Settlement Systems to transfer to the settlement agent sufficient eligible securities as collateral to manage risk exposures that may arise from its participation for failure to settle obligations. The securities include cash and treasury bills or as may be determined from time to time.

Q.4.3.2: To what extent do these financial resources cover the payment system's or SSS's current and potential future exposures fully with a high degree of confidence? How frequently does the payment system or SSS evaluate the sufficiency of these financial resources?

As indicated in Principle Q4.1.1, The FMI has a framework in place that requires participants that participate on the FMI's Interbank Clearing, Switching and Settlement Systems to transfer to the settlement agent sufficient eligible securities as collateral to manage risk exposures that may arise from its participation for failure to settle obligations. The securities include cash and treasury bills or as may be determined from time to time.

Based on the framework, the settlement agent carries out monthly reviews of the collateral levels for each participant to determine the necessary value of securities or cash to be set aside by each participant as collateral for a period of one month. A participant that fails to comply with the collateral requirements is sanctioned in line with the National Payment Systems Act and the ZECH General Rules

For DNS payment systems and DNS SSSs in which there is no settlement guarantee

Q.4.3.3: If the payment system or SSS is a DNS system in which there is no settlement guarantee, do its participants face credit exposures arising from the payment, clearing and settlement processes? If there are credit exposures in the system, how does the system monitor and measure these exposures?

The FMI uses the RTGS to send the settlement figures to the settlement agent and therefore not applicable to the DNS system.

Q.4.3.4: If the payment system or SSS is a DNS system in which there is no settlement guarantee and has credit exposures among its participants, to what extent does the payment system's or SSS's financial resources cover, at a minimum, the default of the two participants and their affiliates that would create the largest aggregate credit exposure in the system?

The FMI uses the RTGS to send the settlement figures to the settlement agent and therefore not applicable to the DNS system.

Key consideration 4:

A CCP should cover its current and potential future exposures to each participant fully with a high degree of confidence using margin and other prefunded financial resources (see Principle 5 on collateral and Principle 6 on margin). In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. All other CCPs should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market

conditions. In all cases, a CCP should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount of total financial resources it maintains.

Coverage of current and potential future exposures to each participant

Q.4.4.1: How does the CCP cover its current and potential future exposures to each participant fully with a high degree of confidence? What is the composition of the CCP's financial resources used to cover its current and potential future exposures? How accessible are these financial resources?

Not Applicable to the FMI.

Q.4.4.2: To what extent do these financial resources cover the CCP's current and potential future exposures fully with a high degree of confidence? How frequently does the CCP evaluate the sufficiency of these financial resources?

Not Applicable to the FMI.

Risk profile and systemic importance in multiple jurisdictions

Q.4.4.3: Do any of the CCP's activities have a more-complex risk profile (such as clearing financial instruments that are characterized by discrete jump-to-default price changes or that are highly correlated with potential participant defaults)? Is the CCP systemically important in multiple jurisdictions?

Not Applicable to the FMI.

Additional financial resources

Q.4.4.4: What additional financial resources does the CCP maintain to cover a wide range of potential stress scenarios that include, but are not limited to, the default of the participant and its affiliates that would potentially cause the largest aggregate credit exposure in extreme but plausible market conditions?

Not Applicable to the FMI.

Q.4.4.5: If the CCP is involved in activities with a more-complex risk profile or is systemically important in multiple jurisdictions, to what extent

do the additional financial resources cover, at a minimum, the default of the two participants and their affiliates that would create the largest credit exposure in the CCP in extreme but plausible market conditions?

Not Applicable to the FMI.

Q.4.4.6: How frequently does the CCP evaluate the sufficiency of its additional resources?

Not Applicable to the FMI.

Supporting rationale and governance arrangements

Q.4.4.7: How does the CCP document the supporting rationale regarding its holdings of total financial resources?

Not Applicable to the FMI.

Q.4.4.8: What governance arrangements are in place relating to the amount of total financial resources at the CCP?

Not Applicable to the FMI.

Key consideration 5:

A CCP should determine the amount and regularly test the sufficiency of its total financial resources available in the event of a default or multiple defaults in extreme but plausible market conditions through rigorous stress testing. A CCP should have clear procedures to report the results of its stress tests to appropriate decision makers at the CCP and to use these results to evaluate the adequacy of and adjust its total financial resources. Stress tests should be performed daily using standard and predetermined parameters and assumptions. On at least a monthly basis, a CCP should perform a comprehensive and thorough analysis of stress testing scenarios, models, and underlying parameters and assumptions used to ensure they are appropriate for determining the CCP's required level of default protection in light of current and evolving market conditions. A CCP should perform this analysis of stress testing more frequently when the products cleared or markets served display high volatility, become less liquid, or when the size or concentration of positions held by a CCP's participants increases significantly. A full validation of a CCP's risk-management model should be performed at least annually.

Stress testing

Q.4.5.1: How does the CCP determine and stress-test the sufficiency of its total financial resources available in the event of a default or multiple defaults in extreme but plausible market conditions? How frequently does the CCP stress-test its financial resources?

Not Applicable to the FMI.

Q.4.5.2: How are stress test results communicated to appropriate decision-makers at the CCP? How are these results used to evaluate the adequacy of and adjust the CCP's total financial resources?

Review and validation.

Q.4.5.3: How frequently does the CCP assess the effectiveness and appropriateness of stress test assumptions and parameters? How does the CCP's stress test programme take into account various conditions, such as a sudden and significant increase in position and price volatility, position concentration, change in market liquidity, and model risk including shift of parameters?

Not Applicable to the FMI.

Q.4.5.4: How does the CCP validate its risk management model? How frequently does it perform this validation? Who carries this out?

Not Applicable to the FMI.

Key consideration 6:

In conducting stress testing, a CCP should consider the effect of a wide range of relevant stress scenarios in terms of both defaulters' positions and possible price changes in liquidation periods. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions.

Q.4.6.1: In conducting stress testing, what scenarios does the CCP consider? What analysis supports the use of these particular scenarios? Do the scenarios include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves,

multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions?

Not Applicable to the FMI.

Key consideration 7:

An FMI should establish explicit rules and procedures that address fully any credit losses it may face as a result of any individual or combined default among its participants with respect to any of their obligations to the FMI. These rules and procedures should address how potentially uncovered credit losses would be allocated, including the repayment of any funds an FMI may borrow from liquidity providers. These rules and procedures should also indicate the FMI's process to replenish any financial resources that the FMI may employ during a stress event, so that the FMI can continue to operate in a safe and sound manner.

Allocation of credit losses.

Q.4.7.1: How do the FMI's rules and procedures explicitly address any credit losses it may face as a result of any individual or combined default among its participants with respect to any of their obligations to the FMI? How do the FMI's rules and procedures address the allocation of uncovered credit losses and in what order, including the repayment of any funds an FMI may borrow from liquidity providers?

The FMI will not incur any loses as a result of any individual or combined default among its participants with respect to any of their obligations to the FMI.

However, the FMI will invoke Clause 22 of the ZECH General Rules where a participant fails to meet its settlement obligations.

Replenishment of financial resources

Q.4.7.2: What are the FMI's rules and procedures on the replenishment of the financial resources that are exhausted during a stress event?

The FMI's rules and procedures on the replenishment of financial resources that are exhausted during a stress event are outlined in Clause 22 of the ZECH General Rules. However, the settlement agent reviewes the collateral to depict the market value on a weekly basis and also determined monthly.

Principle 7: Liquidity risk

An FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.

Because of the extensive interactions between the financial risk management and financial resources principles, this principle should be reviewed in the context of Principle 4 on credit risk, Principle 5 on collateral and Principle 6 on margin, as appropriate. This principle should also be reviewed in the context of Principle 8 on settlement finality, Principle 13 on participant default rules and procedures, Principle 23 on disclosure of rules, key procedures and market data, and other principles, as appropriate.

Summary Narrative

FMI Broadly observes Principle 7.

The FMI broadly observes Principle 7 because of the key considerations are not applicable to the FMI.

The FMI has rules in place to manage liquidity risks arising from its participants and settlement arrangements. Further, participants are mandated to put measures to mitigate for failure to settle as per ZECH General Rules Clause 21 and ensure that all obligations arising from processing transactions are settled within the agreed timelines as per Clause 6.1 .15 of the service level agreement (SLA).

Key consideration 1:

An FMI should have a robust framework to manage its liquidity risks from its participants, settlement banks, nostro agents, custodian banks, liquidity providers, and other entities.

Q.7.1.1: What is the FMI's framework for managing its liquidity risks, in all relevant currencies, from its participants, settlement banks, nostro agents, custodian banks, liquidity providers and other entities?

The FMI has a framework in place for managing the participants liquidity risks that may arise from transactions that are processed by the FMI both in Zambian currency and foreign currency which are outlined in Clauses 21 and 22 of the ZECH General Rules.

Q.7.1.2: What are the nature and size of the FMI's liquidity needs, and the associated sources of liquidity risks, that arise in the FMI in all relevant currencies?

The FMI does not have liquidity needs though participants are required to put measures to mitigate for failure to settle as per ZECH General Rules Clause 21.

Q.7.1.3: How does the FMI take into account the potential aggregate liquidity risk presented by an individual entity and its affiliates that may play multiples roles with respect to the FMI?

As mentioned above in Q 7.1.2, each participating bank is required to place sufficient collateral in its current account which is used for settlement of obligations with the settlement agent. While financial institutions are required to place enough collateral with their sponsor who settles on their behalf at the settlement agent.

Key consideration 2:

An FMI should have effective operational and analytical tools to identify, measure, and monitor its settlement and funding flows on an ongoing and timely basis, including its use of intraday liquidity.

Q.7.2.1: What operational and analytical tools does the FMI have to identify, measure and monitor settlement and funding flows?

The ZECH system receives insufficient funds alerts from the RTGS when there is a participant with insufficient funds.

Q.7.2.2: How does the FMI use those tools to identify, measure and monitor its settlement and funding flows on an ongoing and timely basis, including its use of intraday liquidity?

Not Applicable to the FMI.

Key consideration 3:

A payment system or SSS, including one employing a DNS mechanism, should maintain sufficient liquid resources in all relevant currencies to effect same-day settlement, and where appropriate intraday or multiday settlement, of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation in extreme but plausible market conditions.

Q.7.3.1: How does the payment system or SSS determine the amount of liquid resources in all relevant currencies to effect same day settlement and, where appropriate, intraday or multiday settlement of payment obligations? What potential stress scenarios (including, but not limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation in extreme but plausible market conditions) does the payment system or SSS use to make this determination?

As mentioned above Q 4.2.2, the collateral is reviewed by the settlement agent to depict the market value on a weekly basis and determined monthly. The settlement figures are used to make this determination.

Q.7.3.2: What is the estimated size of the liquidity shortfall in each currency that the payment system or SSS would need to cover?

Not Applicable to the FMI due to its design.

Key consideration 4:

A CCP should maintain sufficient liquid resources in all relevant currencies to settle securities-related payments, make required variation margin payments, and meet other payment obligations on time with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should consider maintaining additional liquidity resources sufficient to cover a wider range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions.

Sufficient liquid resources

Q.7.4.1: How does the CCP determine the amount of liquid resources in all relevant currencies to settle securities-related payments, make required variation margin payments and meet other payment obligations on time? What potential stress scenarios (including, but not limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation in extreme but plausible market conditions) does the CCP use to make this determination?

Not Applicable to the FMI.

Q.7.4.2: What is the estimated size of the liquidity shortfall in each currency that would need to be covered, following the default of the participant and its affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions? How frequently does the CCP estimate this?

Not Applicable to the FMI.

Risk profile and systemic importance in multiple jurisdictions

Q.7.4.3: Do any of the CCP's activities have a more complex risk profile (such as clearing financial instruments that are characterized by discrete jump-to-default price changes or that are highly correlated with potential participant defaults)? Is the CCP systemically important in multiple jurisdictions?

Not Applicable to the FMI.

Q.7.4.4: If the CCP is involved in activities with a more complex risk profile or is systemically important in multiple jurisdictions, has the CCP considered maintaining additional resources sufficient to cover a wider range of stress scenarios that would include the default of the two participants and their affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions?

Not Applicable to the FMI.

Key consideration 5:

For the purpose of meeting its minimum liquid resource requirement, an FMI's qualifying liquid resources in each currency include cash at the central bank of issue and at creditworthy commercial banks, committed lines of credit, committed foreign exchange swaps, and committed repos, as well as highly marketable collateral held in custody and investments that are readily available and convertible into cash with prearranged and highly reliable funding arrangements, even in extreme but plausible market conditions. If an FMI has access to routine credit at the central bank of issue, the FMI may count such access as part of the minimum requirement to the extent it has collateral that is eligible for pledging to (or for conducting other appropriate

forms of transactions with) the relevant central bank. All such resources should be available when needed.

Size and composition of qualifying liquid resources

Q.7.5.1: What is the size and composition of the FMI's qualifying liquid resources in each currency that is held by the FMI? In what manner and within what time frame can these liquid resources be made available to the FMI?

ZECHL does not have liquidity needs or hold liquidity in its own name. Nevertheless, it is the responsibility of all participants to ensure that they have sufficient liquidity for settlement obligations with the settlement agent or sponsor bank.

Availability and coverage of qualifying liquid resources

Q.7.5.2: What prearranged funding arrangements has the FMI established to convert its readily available collateral and investments into cash? How has the FMI established that these arrangements would be highly reliable in extreme but plausible market conditions? Has the FMI identified any potential barriers to accessing its liquid resources?

The FMI does not have any liquidity needs and so no potential barriers have been identified to accessing its liquid resources.

Q.7.5.3: If the FMI has access to routine credit at the central bank of issue, what is the FMI's relevant borrowing capacity for meeting its minimum liquid resource requirement in that currency?

The FMI does not have any liquidity needs.

Q.7.5.4: To what extent does the size and the availability of the FMI's qualifying liquid resources cover its identified minimum liquidity resource requirement in each currency to effect settlement of payment obligations on time?

Not Applicable to the FMI.

Key consideration 6:

An FMI may supplement its qualifying liquid resources with other forms of liquid resources. If the FMI does so, then these liquid resources should be in the form of assets that are likely to be saleable or acceptable as collateral for lines of credit, swaps, or repos on an ad hoc basis following a default, even if

this cannot be reliably prearranged or guaranteed in extreme market conditions. Even if an FMI does not have access to routine central bank credit, it should still take account of what collateral is typically accepted by the relevant central bank, as such assets may be more likely to be liquid in stressed circumstances. An FMI should not assume the availability of emergency central bank credit as a part of its liquidity plan.

Size and composition of supplemental liquid resources

Q.7.6.1: What is the size and composition of any supplemental liquid resources available to the FMI?

Not Applicable to the FMI.

Availability of supplemental liquid resources

Q.7.6.2: How and on what basis has the FMI determined that these assets are likely to be saleable or acceptable as collateral to obtain the relevant currency, even if this cannot be reliably prearranged or guaranteed in extreme market conditions?

Not Applicable to the FMI.

Q.7.6.3: What proportion of these supplemental assets qualifies as potential collateral at the relevant central bank?

Not Applicable to the FMI.

Q.7.6.4: In what circumstances would the FMI use its supplemental liquid resources in advance of, or in addition to, using its qualifying liquid resources?

Not Applicable to the FMI.

Q.7.6.5: To what extent does the size and availability of the FMI's supplemental liquid resources, in conjunction with its qualifying liquid resources, cover the relevant liquidity needs identified through the FMI's stress test programme for determining the adequacy of its liquidity resources (see key consideration 9)?

Not Applicable to the FMI.

Key consideration 7:
An FMI should obtain a high degree of confidence, through rigorous due diligence, that each provider of its minimum required qualifying liquid resources, whether a participant of the FMI or an external party, has sufficient information to understand and to manage its associated liquidity risks, and that it has the capacity to perform as required under its commitment. Where relevant to assessing a liquidity provider's performance reliability with respect to a particular currency, a liquidity provider's potential access to credit from the central bank of issue may be taken into account. An FMI should regularly test its procedures for accessing its liquid resources at a liquidity provider.

Use of liquidity providers

Q.7.7.1: Does the FMI use a liquidity provider to meet its minimum required qualifying liquidity resources? Who are the FMI's liquidity providers? How and on what basis has the FMI determined that each of these liquidity providers has sufficient information to understand and to manage their associated liquidity risk in each relevant currency on an ongoing basis, including in stressed conditions?

Not Applicable to the FMI.

Reliability of liquidity providers

Q.7.7.2: How has the FMI determined that each of its liquidity providers has the capacity to perform on its commitment in each relevant currency on an ongoing basis?

Not Applicable to the FMI.

Q.7.7.3: How does the FMI take into account a liquidity provider's potential access to credit at the central bank of issue?

Not Applicable to the FMI.

Q.7.7.4: How does the FMI regularly test the timeliness and reliability of its procedures for accessing its liquid resources at a liquidity provider?

Not Applicable to the FMI.

Key consideration 8:

An FMI with access to central bank accounts, payment services, or securities services should use these services, where practical, to enhance its management of liquidity risk.

Q.7.8.1: To what extent does the FMI currently have, or is the FMI eligible to obtain, access to accounts, payment services and securities services at each relevant central bank that could be used to conduct its payments and settlements and to manage liquidity risks in each relevant currency?

Not Applicable to the FMI.

Q.7.8.2: To what extent does the FMI use each of these services at each relevant central bank to conduct its payments and settlements and to manage liquidity risks in each relevant currency?

Not Applicable to the FMI.

Q.7.8.3: If the FMI employs services other than those provided by the relevant central banks, to what extent has the FMI analysed the potential to enhance the management of liquidity risk by expanding its use of central bank services?

Not Applicable to the FMI.

Q.7.8.4: What, if any, practical or other considerations to expanding its use of relevant central bank services have been identified by the FMI?

Not Applicable to the FMI.

Key consideration 9:

An FMI should determine the amount and regularly test the sufficiency of its liquid resources through rigorous stress testing. An FMI should have clear procedures to report the results of its stress tests to appropriate decision makers at the FMI and to use these results to evaluate the adequacy of and adjust its liquidity risk-management framework. In conducting stress testing, an FMI should consider a wide range of relevant scenarios. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions. Scenarios should also take into account the

design and operation of the FMI, include all entities that might pose material liquidity risks to the FMI (such as settlement banks, nostro agents, custodian banks, liquidity providers, and linked FMIs), and where appropriate, cover a multiday period. In all cases, an FMI should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount and form of total liquid resources it maintains.

Stress test programme

Q.7.9.1: How does the FMI use stress testing to determine the amount and test the sufficiency of its liquid resources in each currency? How frequently does the FMI stress-test its liquid resources?

Not Applicable to the FMI.

Q.7.9.2: What is the process for reporting on an ongoing basis the results of the FMI's liquidity stress tests to appropriate decision-makers at the FMI, for the purpose of supporting their timely evaluation and adjustment of the size and composition of the FMI's liquidity resources and liquidity risk management framework?

Stress test scenarios

Q.7.9.3: What scenarios are used in the stress tests, and to what extent do they take into account a combination of peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions?

Not Applicable to the FMI.

Q.7.9.4: To what extent do the scenarios and stress tests take into account the FMI's particular payment and settlement structure (for example, real-time gross or deferred net; with or without a settlement guarantee; DVP model 1, 2 or 3 for SSSs), and the liquidity risk that is borne directly by the FMI, by its participants, or both?

Not Applicable to the FMI.

Q.7.9.5: To what extent do the scenarios and stress tests take into account the nature and size of the liquidity needs, and the associated sources of

liquidity risks, that arise in the FMI to settle its payment obligations on time, including the potential that individual entities and their affiliates may play multiples roles with respect to the FMI?

Not Applicable to the FMI.

Review and validation

Q.7.9.6: How frequently does the FMI assess the effectiveness and appropriateness of stress test assumptions and parameters? How does the FMI's stress test programme take into account various conditions, such as a sudden and significant increase in position and price volatility, position concentration, change in market liquidity, and model risk including shift of parameters?

Not Applicable to the FMI.

Q.7.9.7: How does the FMI validate its risk management model? How frequently does it perform this validation?

Not Applicable to the FMI.

Q.7.9.8: Where and to what extent does the FMI document its supporting rationale for, and its governance arrangements relating to, the amount and form of its total liquid resources?

Not Applicable to the FMI.

Key consideration 10:
An FMI should establish explicit rules and procedures that enable the FMI to effect same-day and, where appropriate, intraday, and multiday settlement of payment obligations on time following any individual or combined default among its participants. These rules and procedures should address unforeseen and potentially uncovered liquidity shortfalls and should aim to avoid unwinding, revoking, or delaying the same-day settlement of payment obligations. These rules and procedures should also indicate the FMI's process to replenish any liquidity resources it may employ during a stress event, so that it can continue to operate in a safe and sound manner.

Same day settlement

Q.7.10.1: How do the FMI's rules and procedures enable it to settle payment obligations on time following any individual or combined default among its participants?

The ZECH General Rules Clauses 21.2 and 22 provides guidelines for settlement of payment obligations on time following any individual or combined default among its participants.

Q.7.10.2: How do the FMI's rules and procedures address unforeseen and potentially uncovered liquidity shortfalls and avoid unwinding, revoking or delaying the same day settlement of payment obligations?

The ZECH General Rules Clauses 21.2 and 22 provides for guidelines to address unforeseen and potentially uncovered liquidity shortfalls and avoid unwinding, revoking or delaying the same day settlement of payment obligations.

Replenishment of liquidity resources

Q.7.10.3: How do the FMI's rules and procedures allow for the replenishment of any liquidity resources employed during a stress event?

The ZECH General Rules Clauses 15 and 16 provides guidelines for replenishment of any liquidity where a participant has insufficient collateral to meet settlement obligations.

Principle 13: Participant-default rules and procedures

An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meetits obligations.

Because of the extensive interactions between the default management principles as they apply to CCPs, this principle needs to be reviewed in the context of Principle 14 on segregation and portability. This principle should also be reviewed in the context of Principle 4 on credit risk, Principle 7 on liquidity risk, Principle 23 on disclosure of rules, key procedures and market data, and other principles, as appropriate.

Summary Narrative

The FMI observes Principle 13.

The FMI has rules and standard operating procedures in place that outline the requirements for participation on the ZECH system, the criteria for participation in the settlement system and for sponsored settlement. The ZECH General rules Clause 21 outlines measures to mitigate participating banks' failure to settle, while Clause 22 states the management steps when a bank has insufficient balance to meet its settlement obligations at the RTGS. Under extreme circumstance, Clause 23.1.2 provides for suspension of a participant who fails to arrange for settlement.

Participant on the ZECHL system who do not have a settlement account at the settlement agent of Zambia are required to enter into settlement agreements with a bank of their choice.

Key Consideration 1:

An FMI should have default rules and procedures that enable the FMI to continue to meet its obligations in the event of a participant default and that address the replenishment of resources following a default.

Participant Default Rules and Procedures

Q13.1.1: Do the FMI's rules and procedures clearly define an event of default (both a financial and an operational default of a participant) and the method for identifying a default? How are these events defined?

The FMI has rules and procedures to manage participants failure to settle arrangement under Clauses 21 and 22 of the ZECH General Rules. Further, the settlement agent monitors the collateral position for all participants on the FMI system.

Q13.1.2: How do the FMI's rules and procedures address the following key aspects of a participant default:

a) the actions that the FMI can take when a default is declared.

The ZECHL system has been designed with the functionality to immediately suspend a participant permanently or temporarily from participating on the ZECH system for breaching of any material aspects as per Clause 23 of the ZECH General Rules. The procedure to suspend are outlined in the Clauses 21.2 and 22 of the ZECH General Rules.

b) the extent to which the actions are automatic or discretionary.

The suspension is discretionary, and the procedure are stipulated in Clauses 21.2 and 22 of the ZECH General Rules.

c) changes to normal settlement practices.

All changes to normal settlement practices are attributed to the following;

1. Failure by a participant to meet the collateral obligations.
2. Loss of connection to the RTGS gateway.
3. Failure by the ZECH system to generate the reports on time.
4. Extension of the RTGS window by the settlement agent.
5. When the RTGS is down at the settlement agent.

d) the management of transactions at different stages of processing;

The FMI provides interbank clearing and switching of transactions between its participants. At the end of each clearing session or switching cycle, the ZECH system will net off all Net Settlement Positions from all sessions, which is then transmitted to the settlement agent for settlement.

e) the expected treatment of proprietary and customer transactions and accounts;

The procedure for expected treatment of proprietary and customer transactions and accounts are laid down in Clause 22 of the ZECH General Rules.

f) the probable sequencing of actions.

The probable sequencing of actions are as per Clause 21.2 of the ZECH General Rules.

g) the roles, obligations, and responsibilities of the various parties, including non-defaulting participants; and

The ZECH General rules outline the roles, obligations, and responsibilities of the various parties, including non-defaulting participants. In addition, when a decision is made to suspend a participant, the FMI issues a circular to the industry to further plan their own respective contingency measures.

h) the existence of other mechanisms that may be activated to contain the impact of a default.

Other mechanisms that may be activated to contain the impact of a default are laid down in the Service Level Agreements (SLA) and the other ZECH Rules which can be accessed on the ZECHL website.

Use of Financial Resources

Q13.1.3: How do the FMI's rules and procedures allow the FMI to promptly use any financial resources that it maintains for covering losses and containing liquidity pressures arising from default, including liquidity facilities?

The rules and procedure to contain liquidity pressures arising from default including liquidity facilities are outlined in Clauses 21 and 22 of the ZECH General Rules.

Q13.1.4: How do the FMI's rules and procedures address the order in which the financial resources can be used?

The rules and procedures to address the order in which the financial resources can be used are outlined in Clause 21.2 of the ZECH General Rules.

Q13.1.5: How do the FMI's rules and procedures address the replenishment of resources following a default?

The rules and procedures to address the replenishment of resources following a default are outlined in Clause 21.2 of the ZECH General Rules.

Key consideration 2:

An FMI should be well prepared to implement its default rules and procedures, including any appropriate discretionary procedures provided for in its rules.

Q13.2.1: Does the FMI's management have internal plans that clearly delineate the roles and responsibilities for addressing a default? What are these plans?

The rules and procedure to contain liquidity pressures arising from default including liquidity facilities are outlined in Clauses 21 and 22 of the ZECH General Rules.

Q13.2.1: What type of communication procedures does the FMI have in order to reach in a timely manner all relevant stakeholders, including regulators, supervisors and overseers?

ZECHL uses the following communication procedures;

a) Emails
b) Circulars
c) Letters
d) Phones
e) Virtual platforms such as Microsoft Teams or Zoom.

Q13.2.1: How frequently are the internal plans to address a default reviewed? What is the governance arrangement around these plans?

The FMI does not internal plans to address a default or governance arrangement. However, Participants pleadge collateral with the settlement agent.

The settlement agent monitors the collateral on a daily basis, reviews weekly and determines the collateral for participants monthly.

Key consideration 3:
An FMI should publicly disclose key aspects of its default rules and procedures.

Q13.3.1: How are the key aspects of the FMI's participant default rules and procedures made publicly available? How do they address:

The default rules and procedures are available to participants and on the ZECHL web site.

a) the circumstances in which action may be taken;

The FMI may take action as per Clause 23 of the ZECH General Rules where a participant is in breach of Clauses 21 and 22 of the ZECH General Rules.

b) who may take those actions.

The ZECHL may take those actions.

c) the scope of the actions which may be taken, including the treatment of both proprietary and customer positions, funds and assets;

The scope of actions which may be taken by the FMI are outlined in Clause 22 of the ZECH General Rules

d) the mechanisms to address an FMI's obligations to non-defaulting participants;

The FMI has various rules and procedure in place to address an FMI's obligations to non-defaulting participants.

e) where direct relationships exist with participants' customers, the mechanisms to help address the defaulting participant's obligations to its customers?

The FMI's rules compel participants to ensure that they are able to meet their payment and settlement obligations on time. These obligations are incorporated in the ZECHL Rules and the Service Level Agreements.

Key consideration 4:

An FMI should involve its participants and other stakeholders in the testing and review of the FMI's default procedures, including any close-out procedures. Such testing and review should be conducted at least annually or following material changes to the rules and procedures to ensure that they are practical and effective.

Q.13.4.1: How does the FMI engage with its participants and other relevant stakeholders in the testing and review of its participant default procedures? How frequently does it conduct such tests and reviews? How are these tests results used? To what extent are the results shared with the Board, Risk Committee and relevant authorities?

The FMI does not engage with its participants and other relevant stakeholders in the testing and review of its participant default procedures. However, as mentioned above Q 4.2.2, The collateral is reviewed by the settlement agent to depict the market value on a weekly basis and determined monthly. The settlement figures are used to make this determination.

Q.13.4.2: What range of potential participant default scenarios and procedures do these tests cover? To what extent does the FMI test the implementation of the resolution regime for its participants?

The FMI does not engage with its participants and other relevant stakeholders in the testing and review of its participant default procedures. However, as mentioned above Q 4.2.2, The collateral is reviewed by the settlement agent to depict the market value on a weekly basis and determined monthly. The settlement figures are used to make this determination.

Principle 15: General business risk

An FMI should identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialise. Further, liquid net assets should be sufficient at all times to ensure a recovery or orderly wind-down of critical operations and services.

This principle should be reviewed in the context of Principle 3 on the framework for the comprehensive management of risks, Principle 21 on efficiency and effectiveness, and other principles, as appropriate.

Summary Narrative
The FMI broadly observes Principle 15.

The FMI is broadly observant on all the key considerations. The FMI has a robust risk framework in place to identify, monitor and manage its general business risks, please refer to principle 17. In addition, the FMI holds sufficient liquid net assets through monthly contributions by participants on the Cheque Truncation System (CTS) and Direct Debit and Credit Transfer (DDACC). While all Participants on the National Financial Switch (NFS) contributes through the switching fees as prescribed in the NFS manual fees and charges.

Key Consideration 1:
An FMI should have robust management and control systems to identify, monitor, and manage general business risks, including losses from poor execution of business strategy, negative cash flows, or unexpected and excessively large operating expenses.

Q.15.1.1: How does the FMI identify its general business risks? What general business risks has the FMI identified?

The FMI has a risk management policy and framework which is based on the ISO standard for enterprise risk management to identify, monitor and manage its general business risks. Refer to principle 3.

The general business risk identified are recorded in the FMI risk register which encompasses all the general business risk. The management of the risks is the responsibility of the departmental units who are the risk owners.

Q.15.1.2: How does the FMI monitor and manage its general business risks on an ongoing basis? Does the FMI's business risk assessment consider the potential effects on its cash flow and (in the case of a privately operated FMI) capital?

To the extent this principle refers to the cost of managing and operating the FMI. Since inception, participants have been contributing towards the cost of operating the FMI's project e.g., the Cheque Truncation System (CTS) and the NFS was shared by the participants.

All Participants on the CTS and DDACC platform contribute to the monthly ZECHL budget based on CIC and DDACC volumes. The contributions are collected directly by debiting the participants Settlement accounts at the settlement agent with the invoiced amounts and credit ZECHL's bank account on the first business day of every month. Contributions for sponsored participants are done through their Settlement Sponsor bank. The electronic invoice is placed in the participants' bank folder using the CHI Client.

The above actions are supports by Clause 26.6.1 where participants have formally authorized the settlement agent to directly debit their settlement account with the monthly contributions, and Clause 26.1.1 which allows the ZECHL to collect monthly operational contributions by directly debiting member bank's RTGS Settlement Accounts.

Further, all participants on the NFS contributes through the switching fees as prescribed in the NFS manual fees and charges. Furthermore, ZECHL takes into account the business risk and the potential effects on its cash flow by providing for potential risk e.g., insurance.

Key Consideration 2:

An FMI should hold liquid net assets funded by equity (such as common stock, disclosed reserves, or other retained earnings) so that it can continue operations and services as a going concern if it incurs general business losses. The amount of liquid net assets funded by equity an FMI should hold should be determined by its general business risk profile and the length of time required to achieve a recovery or orderly wind-down, as appropriate, of its critical operations and services if such action is taken.

Q.15.2.1: Does the FMI hold liquid net assets funded by equity so that it can continue operations and services as a going concern if it incurs general business losses?

The FMI holds sufficient liquid net assets to provide against general business losses within its context as FMI.

Q.15.2.2: How does the FMI calculate the amount of liquid net assets funded by equity to cover its general business risks? How does the FMI determine the length of time and associated operating costs of achieving a recovery or orderly wind-down of critical operations and services?

The FMI considers the potential risks and provides against them based on the value of the risk. The FMI does not make any determination because it is only a designated payment system provider.

Key consideration 3:

An FMI should maintain a viable recovery or orderly wind-down plan and should hold sufficient liquid net assets funded by equity to implement this plan. At a minimum, an FMI should hold liquid net assets funded by equity equal to at least six months of current operating expenses. These assets are in addition to resources held to cover participant defaults or other risks covered under the financial resources principles. However, equity held under international risk-based capital standards can be included where relevant and appropriate to avoid duplicate capital requirements.

Recovery or orderly wind-down plan

Q.15.3.1: Has the FMI developed a plan to achieve a recovery or orderly wind-down, as appropriate? If so, what does this plan take into consideration (for example, the operational, technological and legal

The FMI has not developed a plan to achieve a recovery or orderly wind-down, as appropriate. The FMI has started working on a plan to develop a recovery or orderly wind-down.

Resources

Q.15.3.2: What amount of liquid net assets funded by equity is the FMI holding for purposes of implementing this plan? How does the FMI determine whether this amount is sufficient for such

implementation? Is this amount at a minimum equal to six months of the FMI's current operating expenses?

The FMI has enough assets to meet its current operating expenses to achieve a recovery or orderly wind-down.

Q.15.3.3: How are the resources designated to cover business risks and losses separated from resources designated to cover participant defaults or other risks covered under the financial resources principles?

The FMI has designated resources to cover its business risks. Participants have their own resources to cover for failure to settlement arrangements with the settlement agent. Whilst Financial institutions have made separate arrangements with their sponsor bank.

Q.15.3.4: Does the FMI include equity held under international risk-based capital standards to cover general business risks?

The FMI does not have equity held under international risk-based capital standards to cover general business risks. All the equity are locally based.

Key consideration 4:

Assets held to cover general business risk should be of high quality and sufficiently liquid in order to allow the FMI to meet its current and projected operating expenses under a range of scenarios, including in adverse market conditions.

Q.15.4.1: What is the composition of the FMI's liquid net assets funded by equity? How will the FMI convert these assets as needed into cash at little or no loss of value in adverse market conditions?

All the FMI net assets are invested in money market instruments.

Q.15.4.2: How does the FMI regularly assess the quality and liquidity of its liquid net assets funded by equity to meet its current and projected operating expenses under a range of scenarios, including in adverse market conditions?

The FMI makes expenditure projections based on the annual budget and current forecasts against which funding is made by shareholders on a monthly basis. Funding is made available on the first working day of every month.

Key consideration 5:

An FMI should maintain a viable plan for raising additional equity should its equity fall close to or below the amount needed. This plan should be approved by the Board of Directors and updated regularly.

Q.15.5.1: Has the FMI developed a plan to raise additional equity? What are the main features of the FMI's plan to raise additional equity should its equity fall close to or fall below the amount needed?

The FMI has policies in place that define equity funding requirements. The ZECHL policy compels the shareholders to contribute to any equity funding requirement.

The FMI's regulatory environment and funding model provides for shareholders to contribute towards a financing deficit should it arise.

Q.15.5.2: How frequently is the plan to raise additional equity reviewed and updated?

The plan to review and raise additional equity is done every two years.

Q.15.5.3: What is the role of the FMI's board (or equivalent) in reviewing and approving the FMI's plan to raise additional equity if needed?

The FMI board has the sole mandate to review and approve the plan to raise additional equity if needed.

Principle 16: Custody and investment risks

An FMI should safeguard its own and its participants' assets and minimize the risk of loss on and delay in access to these assets. An FMI's investments should be in instruments with minimal credit, market, and liquidity risks.

Summary Narrative
The Principle is not applicable to the FMI

This principle should be reviewed in the context of Principle 4 on credit risk, Principle 5 on collateral, Principle 7 on liquidity risk, and other principles, as appropriate.

Key Consideration 1:

An FMI should hold its own and its participants' assets at supervised and regulated entities that have robust accounting practices, safekeeping procedures, and internal controls that fully protect these assets.

Q.16.1.1: If the FMI uses custodians, how does the FMI select its custodians? What are the specific selection criteria the FMI uses, including supervision and regulation of these entities? How does the FMI monitor the custodians' adherence to these criteria?

All the assets that participants use for collateral on the RTGS system are held by the settlement agent. Whereas collateral for sponsored financial institutions are held by their sponsored banks. The settlement agent reviews the sponsor agreement between the sponsor bank and the sponsored institution before giving them a go ahead.

Q.16.1.2: How does the FMI verify that these entities have robust accounting practices, safekeeping procedures, and internal controls that fully protect its and its participants' assets?

The Bank provides the service on behalf of the FMI.

Key consideration 2:

An FMI should have prompt access to its assets and the assets provided by participants, when required.

Q.16.2.1: How has the FMI established that it has a sound legal basis to support enforcement of its interest or ownership rights in assets held in custody?

This is provided for in the ZECH General Rules under Clause 21 on measures to mitigate participating banks's failure to settle. The rules are made public on the ZECHL website (www.zechl.co.zm)

Q.16.2.2: How does the FMI ensure that it has prompt access to its assets, including securities that are held with a custodian in another time zone or legal jurisdiction, in the event of participant default?

Not applicable to the FMI.

Key consideration 3:

An FMI should evaluate and understand its exposures to its custodian banks, taking into account the full scope of its relationships with each.

Q.16.3.1: How does the FMI evaluate and understand its exposures to its custodian banks? In managing those exposures, how does it take into account the full scope of its relationship with each custodian bank? For instance, does the FMI use multiple custodians for the safekeeping of its assets to diversify exposure to any single custodian? How does the FMI monitor concentration of risk exposures to its custodian banks?

Not applicable to the FMI as it has no custodian banks.

Key consideration 4:

An FMI's investment strategy should be consistent with its overall risk-management strategy and fully disclosed to its participants, and investments should be secured by, or be claims on, high-quality obligors. These investments should allow for quick liquidation with little, if any, adverse price effect.

Investment strategy

Q.16.4.1: How does the FMI ensure that its investment strategy is consistent with its overall risk management strategy? How and to whom does the FMI disclose its investment strategy?

ZECHL limits its investments to money market instruments and does not invest in more than its prescribed threshold of investable assets in one institution as prescribed in its treasury policy. The investment strategy is disclosed to the board.

Q.16.4.2: How does the FMI ensure on an ongoing basis that its investments are secured by, or are claims on, high-quality obligors?

Not applicable to the FMI.

Risk characteristics of investments

Q.16.4.3: How does the FMI consider its overall exposure to an obligor in choosing investments? What investments are subject to limits to avoid concentration of credit risk exposures?

Not applicable to the FMI.

Q.16.4.4: Does the FMI invest participant assets in the participants' own securities or those of its affiliates?

Not applicable to the FMI.

Q.16.4.5: How does the FMI ensure that its investments allow for quick liquidation with little, if any, adverse price effect?

All ZECHL's assets are invested in money markets.

Principle 17: Operational risk

An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity. Business continuity management should aim for timely recovery of operations and fulfilment of the FMI's obligations, including in the event of a wide-scale or major disruption.

This principle should be reviewed in the context of Principle 20 on FMI links, Principle 21 on efficiency and effectiveness, Principle 22 on communication standards and procedures, and other principles, as appropriate.

Summary Narrative

The FMI observes Principle 17.

The FMI has put in place policies, procedures, and controls to mitigate any operational risks. These arrangements include the following, system availability, recovery time and disaster recovery (DR) site, including the Business Continuity Management arrangements are in place to guarantee that the FMI is robust and resilient.

Key consideration 1:

An FMI should establish a robust operational risk-management framework with appropriate systems, policies, procedures, and controls to identify, monitor, and manage operational risks.

Identification of operational risk.

Q.17.1.1: What are the FMI's policies and processes for identifying the plausible sources of operational risks? How do the FMI's processes identify plausible sources of operational risks, whether these risks arise from internal sources (for example, the arrangements of the system itself, including human resources), from the FMI's participants or from external sources?

The FMI has the Risk Management Policy in place for managing risk and increase overall awareness of risk and those responsible for reporting to identify, assess and control risks within their areas. The FMI Risk Management Policy documents provides a guide for the establishment and implementation of RM processes involving establishing the context, identification, analysis, evaluation, treatment, communication, and consulting, monitoring and review of risks affecting the FMI, activities and initiatives.

The Scope of the Risk Management Framework applies to all employees, visitors and contractors of the FMI. Clause 9.2 of the Risk Management Policy mandates the Risk and

Operations Board Sub-Committee to review the adequacy of the internal control systems and risk management procedures and report to the Board. The FMI Board of Directors approves and reviews the policy document once every two years to keep abreast with beast practice.

This policy is intended to provide guidance for the management of risk and to increase overall awareness of risk within the FMI to enable management and those responsible for risk reporting to identify, assess and control risks within their areas.

The FMI has put in place policies, procedures, and controls to mitigate any operational risks. These arrangements include the following, system availability, recovery time and disaster recovery (DR) site, including the Business Continuity Management arrangements are in place to guarantee that the FMI is robust and resilient.

Q.17.1.2: What sources of operational risks has the FMI identified? What single points of failure in its operations has the FMI identified?

The FMI has identified System failure, power failure, human error and loss of key human resource. The single point of failure that has been identified is the system failure (failure to generate the settlement reports). The FMI has employed adequate controls to mitigate the risk.

Management of operational risk

Q.17.1.3: How does the FMI monitor and manage the identified operational risks? Where are these systems, policies, procedures and controls documented?

The identified are monitored, managed and maintained in the FMIs risk register. They are documented in the FMIs Risk Management Policy and Risk Management Framework.

Policies, processes and controls

Q.17.1.4: What policies, processes and controls does the FMI employ that are designed to ensure that operational procedures are implemented appropriately? To what extent do the FMI's systems, policies, processes and controls take into consideration relevant international, national and industry-level operational risk management standards?

The FMI has implemented the Risk Management Policy and Risk Management Framework in place which conforms to the International Standard ISO for risk management.

Q.17.1.5: What are the FMI's human resources policies to hire, train and retain qualified personnel, and how do such policies mitigate the effects of high rates of personnel turnover or key-person risk? How do the FMI's human resources and risk management policies address fraud prevention?

The FMI has Human Resource Policies that border on hiring, training, and retention of employees among them the Recruitment & Retention Policy, Training & Development Policy, the Disciplinary Code of Conduct & Grievance Procedures Manual, and the Terms & Conditions of Service.

The policies have clearly laid out incentives on personnel turnover as well as prevention of fraud.

Q.17.1.6: How do the FMI's change management and project management policies and processes mitigate the risks that changes, and major projects inadvertently affect the smooth functioning of the system?

The FMI has change management documents that outlines the procedure to implement any change that have an impact on the FMI. Any change raised are done through the change request that must be authorized by Management. The change will contain information such as the type of change and the resources that may be affected by change (Participants, Internal Department or other), and the change should pass the testing process before being implemented.

Key consideration 2:

An FMI's Board of Directors should clearly define the roles and responsibilities for addressing operational risk and should endorse the FMI's operational risk-management framework. Systems, operational policies, procedures, and controls should be reviewed, audited, and tested periodically and after significant changes.

Roles, responsibilities and framework

Q.17.2.1: How has the Board of Directors defined the key roles and responsibilities for operational risk management?

The FMI has the Operations and Risk Committee (Governance) in place which is chaired by a Board Director. The roles and functions of the Operations and Risk Committee among other are;

1. To develop, review and approve change risk management policies, systems, procedures and strategies.

2. Ensuring that the FMI complies with the risk management process as outlined in the policy.
3. To monitor adherence to stated risk management policies and procedures, including political risk management, capital risk management, internal control procedures and management information systems.
4. To monitor corporate performance against approved objectives and strategic plans
5. Ensuring that operational risk assessments are conducted within the FMI.

Q.17.2.2: Does the FMI's board explicitly review and endorse the FMI's operational risk management framework? How frequently does the board review and endorse the FMI's operational risk management framework?

The FMIs Operations and Risk Committee (Governance) chaired by a Board Director are mandated by the Board to review the risk management framework every after two years. The FMI Board of Directors are responsible for approving the changes to the documents.

Review, audit and testing

Q.17.2.3: How does the FMI review, audit and test its systems, policies, procedures and controls, including its operational risk management arrangements with participants? How frequently does the FMI conduct these reviews, audits and tests with participants?

The FMI operations are audited biannually by the FMI Internal Risk and Compliance Department. The audits cover the service level agreements signed with participants. The business processes are tested quarterly with the participants using the DR tests.

Q.17.2.4: To what extent, where relevant, is the FMI's operational risk management framework subject to external audit?

The FMI is subject to external audit. The aim of the audit is to provide oversight of the FMI's operations.

Key consideration 3:

An FMI should have clearly defined operational reliability objectives and should have policies in place that are designed to achieve those objectives.

Q.17.3.1: What are the FMI's operational reliability objectives, both qualitative and quantitative? Where and how are they documented?

The FMI's operational reliability objectives, both qualitative and quantitative, are system availability, the recovery time objective and recovery point objective. The information is documented in the FMI's Business Continuity Management (BCM) and Business Impact Assessment (BIA).

Q.17.3.2: How do these objectives ensure a high degree of operational reliability?

The FMIs system availability is set at 99.9%.

Q.17.3.3: What are the policies in place that are designed to achieve the FMI's operational reliability objectives to ensure that the FMI takes appropriate action as needed?

The operational reliability objectives are documented in the Business Continuity Management (BCM) and Business Impact Assessment (BIA) which indicates that the FMIs critical business processes should be recovered within 2hrs after an operational disruption has occurred. The SLAs with the FMIs service providers and the SLA with the participants provide for response time for the recovery of the incident in accordance with the severity of the incidence.

All incidences both internal and external are recorded in the FMIs incidence register and are regularly reviewed and reported to the FMI risk and compliance department.

Key consideration 4:
An FMI should ensure that it has scalable capacity adequate to handle increasing stress volumes and to achieve its service-level objectives.

Q.17.4.1: How does the FMI review, audit and test the scalability and adequacy of its capacity to handle, at a minimum, projected stress volumes? How frequently does the FMI conduct these reviews, audits and tests?

The capacity planning of the FMI system is done by the internal ICT. The system generated report provides indicators of the system's storage usage and capacity. Stress testing of the system is done prior to implementation of a new hardware in the live environment which is based on the historical maximum volume as well as projected volumes in consideration with the available space. Where additional capacity is needed, such as storage space, capacity will be added to address the systems requirements.

Q.17.4.2: How are situations where operational capacity is neared or exceeded addressed?

The FMI has a procurement committee in place to addresses situations where operational capacity is neared or exceeded. The committee is guided by the FMIs procurement policy and procedures for emergency procurement of system hardware.

Key consideration 5:

An FMI should have comprehensive physical and information security policies that address all potential vulnerabilities and threats.

Physical security

Q.17.5.1: What are the FMI's policies and processes, including change management and project management policies and processes, for addressing the plausible sources of physical vulnerabilities and threats on an ongoing basis?

The FMI currently has adequate information security policies to cover for the management of physical vulnerabilities.

Q.17.5.2: Do the FMI's policies, processes, controls and testing appropriately take into consideration relevant international, national and industry-level standards for physical security?

The FMI does take into consideration both relevant local and international laws including industry best practices.

Information security

Q.17.5.3: What are the FMI's policies and processes, including change management and project management policies and processes, for addressing the plausible sources of information security vulnerabilities and threats on an ongoing basis?

ZECHL has employed Information Security policies such as the change management, vulnerability management and anti-virus policies which enables it to proactively identify and mitigate vulnerabilities and threats. In addition, ZECHL under its Security Awareness and User Acceptable Policy conducts monthly security awareness training to its staff.

Q.17.5.4: Do the FMI's policies, processes, controls and testing appropriately take into consideration relevant international, national and industry-level standards for information security?

Yes, we do take into consideration both relevant local and international laws including industry best practices.

Key consideration 6:

An FMI should have a business continuity plan that addresses events posing a significant risk of disrupting operations, including events that could cause a wide-scale or major disruption. The plan should incorporate the use of a secondary site and should be designed to ensure that critical information technology (IT) systems can resume operations within two hours following disruptive events. The plan should be designed to enable the FMI to complete settlement by the end of the day of the disruption, even in case of extreme circumstances. The FMI should regularly test these arrangements.

Objectives of business continuity plan

Q.17.6.1: How and to what extent does the FMI's business continuity plan reflect objectives, policies and procedures that allow for the rapid recovery and timely resumption of critical operations following a wide-scale or major disruption?

The FMI has implemented the Business Continuity Management System which ensures that deliberate activities are in place to ensure there is a constant identification of risks and establishment of controls which do not affect the operations of the institution. Implementation of strategies and solutions aligns to the objectives and all incidences and activities including responses are documented as and when they occur, and mitigation is performed following laid down procedures and policies.

Design of business continuity plan

Q.17.6.2: How and to what extent is the FMI's business continuity plan designed to enable critical IT systems to resume operations within two hours following disruptive events, and to enable the FMI to facilitate or complete settlement by the end of the day even in extreme circumstances?

As mentioned above, the FMI has implemented the Business Continuity Management System which ensures that deliberate activities are in place to ensure there is a constant identification of risks and establishment of controls which do not affect the operations of the institution. Implementation of strategies and solutions aligns to the objectives and all incidences and activities including responses are documented as and when they occur, and mitigation is performed following laid down procedures and policies.

Q.17.6.3: How is the contingency plan designed to ensure that the status of all transactions can be identified in a timely manner, at the time of the disruption; and if there is a possibility of data loss, what are the

procedures to deal with such loss (for example, reconciliation with participants or third parties)?

All successful transactions are committed to the database and immediately replicated to the secondary site.

Q.17.6.4: How do the FMI's crisis management procedures address the need for effective communications internally and with key external stakeholders and authorities?

Communication is considered to be complete when the recipient of the communication confirms receipt.

ZECHL has firstly identified the key internal stakeholders including suppliers critical to its operations. There is also a communication plan that provides a detailed call tree advising the contact details of the response team members, key stakeholders and suppliers. The plan shows who should be called, when that person should be called, what they should be called for and by whom. The various channels e.g., emailing, texting, calling, use of controlled social media such as Skype are all part of the plan.

Reviews are performed to ensure the numbers on the call and the effectiveness of the communication plans and procedures meet the recovery objectives of the organization.

Secondary site

Q.17.6.5: How does the FMI's business continuity plan incorporate the use of a secondary site (including ensuring that the secondary site has sufficient resources, capabilities, functionalities and appropriate staffing arrangements)? To what extent is the secondary site located a sufficient geographic distance from the primary site such that it has a distinct risk profile?

The requirements are fully recovered in the FMI BCM plan.

Q.17.6.6: Has the FMI considered alternative arrangements (such as manual, paper-based procedures or other alternatives) to allow the processing of time-critical transactions in extreme circumstances?

In extreme circumstances the FMI can use the following alternatives:

1. CIC- Manual exchange of cheque.
2. EFT- Participants can use RTGS.
3. NFS-ATM and POS- Transactions can be routed through international card

schemes.

Review and testing

Q.17.6.7: How are the FMI's business continuity and contingency arrangements reviewed and tested, including with respect to scenarios related to wide-scale and major disruptions? How frequently are these arrangements reviewed and tested?

ZECHL performs business contingency exercises at least twice annually and observations, recommendations and potential risks and opportunities are captured. They are fed into existing trackers (action plans) and assigned to specific individuals who report on progress to the Business Continuity Manager.

Management performs reviews as part of their monthly meetings. This is however changing as the ISO demands for a structured review process which we have now adopted going forward. Testing is usually performed at the subsequent business continuity exercise where again findings are recorded and reported to management and key stakeholders.

Q.17.6.8: How does the review and testing of the FMI's business continuity and contingency arrangements involve the FMI's participants, critical service providers and linked FMIs as relevant? How frequently are the FMI's participants, critical service providers and linked FMIs involved in the review and testing?

Clause 35 of the ZECH General Rules provides for participants to put in place Business Continuity Plans in place which shall ensure uninterrupted business operations and include all the organizational, technical and staffing measures employed in order to ensure the continuation of all business activities in the immediate aftermath of a crisis, and gradually ensure the continued operation of all business activities in the event of sustained and severe disruption. The contingency arrangements require participants to carry out at a minimum bi-annual testing of their Business Continuity and Disaster Recovery Plans.

Key consideration 7:

An FMI should identify, monitor, and manage the risks that key participants, other FMIs, and service and utility providers might pose to its operations. In addition, an FMI should identify, monitor, and manage the risks its operations might pose to other FMIs.

Risks to the FMI's own operations

Q.17.7.1: What risks has the FMI identified to its operations arising from its key participants, other FMIs, and service and utility providers? How and to what extent does the FMI monitor and manage these risks?

The risks identified by the FMI to its operations arising from its key participants are, Power failure, Network failure, Faulty implementations, payment processing system failures and loss of human resources.

Participants are required to put in place Business Continuity and Disaster Recovery in place as per Clause 35 of the ZECHL General Rules.

Q.17.7.2: If the FMI has outsourced services critical to its operations, how and to what extent does the FMI ensure that the operations of a critical service provider meet the same reliability and contingency requirements they would need to meet if they were provided internally?

The risks arising from outsourced services such as Uninterrupted Power Supply providers, network providers, system support services are managed and monitored through the SLAs which stipulate the obligations of each part. The SLA incorporates penalties for the defaulting party.

Risks posed to other FMIs

Q.17.7.3: How and to what extent does the FMI identify, monitor and mitigate the risks it may pose to another FMI?

The FMI identify, monitor and mitigate the risk it may pose to another FMI though the FMI Support monitoring tools at Network level, Application level, Switch level, and through support function staff that the FMI provides. The identified risks are managed through the SLA entered into with individual participants. Any changes to the FMI's Systems or operating processes are proposed by participants and communicated to all participants thorough circulars. The changes are tested in the FMI's test environment before being implemented in production as part of the change management process.

Q.17.7.4: To what extent does the FMI coordinate its business continuity arrangements with those of other interdependent FMIs?

All participants are required to participate in the quarterly BCM tests conducted by the FMI. Contingency arrangements are advised to all participants in advance before the date of the BCM.

Principle 18: Access and participation requirements

An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.

In reviewing this principle, it should be noted that FMIs are subject to the constraints of local laws and policies of the jurisdiction in which the FMI operates, and those laws may prohibit or require the inclusion of certain categories of financial institutions. This principle should be reviewed in the context of Principle 19 on tiered participation arrangements, Principle 21 on efficiency and effectiveness, and other principles, as appropriate.

Summary Narrative

The FMI observes Principle 18.

The admission requirements are standardized and are provided to all prospective applicants. The information covers know your customer (KYC), operational, settlement, systemic and reputational risks which are used as the basis for entry criteria on the ZECH platform. Prospective participants that meet the requirements are considered for participation on the ZECH Interbank Clearing and Switching Services as outlined in Clauses 16 & 17 contained in the ZECH General Rules. Participants are continually monitored for compliance with the ZECH rules and failure to abide by the rules could result in suspension from the ZECH system as per Clause 23 of the ZECH General Rules.

Key consideration 1:

An FMI should allow for fair and open access to its services, including by direct and, where relevant, indirect participants and other FMIs, based on reasonable risk-related participation requirements.

Participation criteria and requirements

Q.18.1.1: What are the FMI's criteria and requirements for participation (such as operational, financial and legal requirements)?

The management of the ZECH system by the FMI includes the provision of participation access to the Zambian financial industry and ensures that requirements are set and adhered to by all participants. Categories of participants on the ZECHL system include commercial banks, non-bank financial institutions, and Payment Service Providers (PSPs).

To guarantee easy access to information and transparency, the FMI has got a list of requirements which stipulates the requirement for various categories to participate in the interbank clearing and switching services on the ZECHL platform. The participation entry requirements can be found in the ZECHL General Rules and the NFS admission requirements procedure for a new participant. These criteria are formulated to permit fair and open access to enhance safety and efficiency and, more broadly, to limit systemic risk in the financial industry. All participants are required to comply with and abide by the laws, procedures, and practices of banking in Zambia including the National Payment Systems Act of 2007.

In addition, all participants are obliged to comply with the entry and participation criteria as well as the payment of fees, subscriptions, levies, and charges, including annual subscriptions as determined by the FMI from time to time.

The ZECH system only allows direct participants. However, at settlement level, only participating banks are allowed to participate in the settlement system. Settlement by Financial Institutions, and Payment Service Providers are settled through their sponsor bank as per Clause 18 of the ZECH General Rules.

The sponsoring bank assumes full responsibility for the settlement at RTGS and the sponsor bank's exposure is not directly visible at RTGS.

The rules are made public on the ZECHL website (www.zechl.co.zm).

Q.18.1.2: How do these criteria and requirements allow for fair and open access to the FMI's services, including by direct and, where relevant, indirect participants and other FMIs, based on reasonable risk-related participation requirements?

The admission requirements are standardized and are provided to all prospective applicants. The information covers Know Your Customer (KYC), Operational, Settlement, Systemic and reputational risks which are used as the basis for entry criteria on the ZECH platform. Prospective participants that meet the requirements are considered for participation on the ZECH Interbank Clearing and Switching Services as outlined in Clauses 16 & 17 contained in the ZECH General Rules.

The rules are made public on the ZECHL website (www.zechl.co.zm).

Access to trade repositories

Q.18.1.3: For a TR, how do the terms of access for use of its services help ensure that competition and innovation in post-trade processing are not impaired? How are these terms designed to support interconnectivity with other FMIs and service providers, where requested?

Not applicable to ZECHL.

Key consideration 2:

An FMI's participation requirements should be justified in terms of the safety and efficiency of the FMI and the markets it serves, be tailored to and commensurate with the FMI's specific risks and be publicly disclosed. Subject to maintaining acceptable risk control standards, an FMI should endeavor to set requirements that have the least-restrictive impact on access that circumstances permit.

Justification and rationale of participation criteria

Q.18.2.1: How are the participation requirements for the FMI justified in terms of the safety and efficiency of the FMI and its role in the markets it serves, and tailored to and commensurate with the FMI's specific risks?

Only commercial banks, Financial Institutions, and Payment Service Providers that have been designated by the Bank of Zambia are eligible to apply to ZECHL for participation in the ZECH platform.

The participants are provided with the documents below on admission to ensure safety and efficiency of the FMI and its role in the payment market.

1. Non-disclosure Agreement
2. Service Level Agreement
3. Security document
4. ZECH Rules
5. Standards and Procedures
6. ISO standards

Q.18.2.2: Are there participation requirements that are not risk-based but required by law or regulation? If so, what are these requirements?

The criteria and participation requirements are designed to mitigate the risks.

Q.18.2.3: Are all classes of participants subject to the same access criteria? If not, what is the rationale for the different criteria (for example, size or type of activity, additional requirements for participants that act on behalf of third parties, and additional requirements for participants that are non-regulated entities)?

All participants in the ZECH system must be licensed and designated by the relevant regulator and are subject to the same access criteria as per entry requirements under Clauses 16 and 17 of the ZECHL General Rules.

Least restrictive access

Q.18.2.4: How are the access restrictions and requirements reviewed to ensure that they have the least restrictive access that circumstances permit, consistent with maintaining acceptable risk controls? How frequently is this review conducted?

The access restrictions and requirements reviewed every after two years.

Disclosure of criteria

Q.18.2.5: How are participation criteria, including restrictions in participation, publicly disclosed?

The criteria and requirements for participation are found in the ZECH General Rules. The rules are made public on the ZECHL website (www.zechl.co.zm).

Key consideration 3:

An FMI should monitor compliance with its participation requirements on an ongoing basis and have clearly defined and publicly disclosed procedures for facilitating the suspension and orderly exit of a participant that breaches, or no longer meets, the participation requirements.

Monitoring compliance

Q.18.3.1: How does the FMI monitor its participants' ongoing compliance with the access criteria? How are the FMI's policies designed to ensure that the information it uses to monitor compliance with participation criteria is timely and accurate?

The monitoring of compliance is done by the settlement agent through the screen and review of the participants collateral levels for settlement on the RTGS.

Further, the ZECH systems using reports can detect participants that are not operating according to specification standards. Each participant is required to enter into a Service Level Agreement (SLA) with ZECHL which stipulates the obligations for participation in the ZECH system at the point of admission. A Participant who fails to meet the requirements set forth in the SLA may be penalized or suspended as per ZECH General Rules, the NFS Operation Rules for Automated Teller Machine (ATM) and Point of Sale (POS), and the NFS on Electronic Money Payments Rules.

Furthermore, Participants are mandated to have business continuity plans in place which shall ensure uninterrupted business operations and include all the organizational, technical, and staffing measures employed in order to ensure the continuation of all business activities in the immediate aftermath of a crisis and gradually ensure the continued operation of all business activities in the event of sustained and severe disruption. In case of major disruptive events from any participant must be reported to ZECHL within 30 minutes of occurrence of such event. As a precondition to participation in the ZECH, each commercial bank shall deposit and maintain collateral with the settlement agent. Whereas the sponsored participant is required to hold a collateral account with the sponsor bank and ensure adequate funds are always held in that account to meet settlement obligations as agreed between the sponsor bank and the sponsored participant. The rules are made public on the ZECHL website (www.zechl.co.zm).

Q.18.3.2: What are the FMI's policies for conducting enhanced surveillance of, or imposing additional controls on, a participant whose risk profile deteriorates?

Suspension and orderly exit

The ZECHL is mandated under the National Payment Systems Act (NPSA) No. 1 of 2007 to provide Interbank Clearing and Switching Services to the Financial industry in Zambia in a safe and efficient and, more broadly, to limit systemic risk in the financial industry. Therefore, it is the responsibility of ZECH as a systemically important payment system (SIP) to promote good practice by all participants by ensuring observance of the ZECH operating rules, Standards, procedures as well as adherence to the regulatory framework pertaining to participation in the ZECH system. All participants are expected to comply with all regulations including the failure to settle arrangements as stipulated in Clause 22 of the ZECH General Rules and be responsible to manage the risks identified in the payment system services.

Q.18.3.3: What are the FMI's procedures for managing the suspension and orderly exit of a participant that breaches, or no longer meets, the participation requirements?

ZECHL, as the PFMI does not have the mandate to suspend a participant and orderly exit of a participant that breaches, or no longer meets, the participation requirements. The procedures for managing the suspension and orderly exit of a participant that breaches, or no longer meets, the participation requirements are contained in the ZECHL General Rules. The rules are made public on the ZECHL website (www.zechl.co.zm).

Q.18.3.4: How are the FMI's procedures for managing the suspension and orderly exit of a participant disclosed to the public?

The rules are made public on the ZECHL website (www.zechl.co.zm).

Principle 19: Tiered participation arrangements

An FMI should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements.

This principle should be reviewed in the context of Principle 14 on segregation and portability, Principle 18 on access and participation requirements, and other principles, as appropriate.

Summary Narrative

The FMI Broadly Observes Principle 19.

The FMI's system caters only for direct participants at the Interbank Clearing and Switching level. However, participants that directly clear through the ZECH system and do not have settlement account on the RTGS system settle their obligations through sponsor banks that have settlement accounts. The FMI has no contractual agreement with sponsored participants at settlement level and their exposure is not visible in the RTGS as their sponsor bank assumes full responsibility for the settlement with the settlement agent.

Key consideration 1:

An FMI should ensure that its rules, procedures, and agreements allow it to gather basic information about indirect participation in order to identify, monitor, and manage any material risks to the FMI arising from such tiered participation arrangements.

Tiered participation arrangements

Q.19.1.1: Does the FMI have any tiered participation arrangements? If so, describe these arrangements.

The ZECHL system caters only for direct participants at Interbank Clearing and Switching level. Nonetheless, participants that directly clear through the ZECHL system and do not have settlement accounts in the RTGS system settle their obligations through sponsor banks that have settlement accounts. Clause 16 of the ZECHL General Rules provides for tiered participation at settlement level.

The rules are made public on the ZECHL website (www.zechl.co.zm).

Q.19.1.2: How does the FMI gather basic information about indirect participation? Which information is collected and how frequently is it updated?

The ZECHL system caters only for direct participants at Interbank Clearing and Switching level. However, participants that directly clear through the ZECHL system and do not have settlement account on the RTGS system settle their obligations through sponsor banks that have settlement accounts. ZECHL has no contractual agreement with sponsored participants at settlement level and their exposure is not visible in the RTGS as their sponsor bank assumes full responsibility for the settlement.

Risks to the FMI

Q.19.1.3: How does the FMI evaluate its risks arising from these arrangements?

The FMI does not evaluate the risks arising from tiered arrangements. However, plans are under way to put measures in place with the increased number of tiered arrangements.

Q.19.1.4: What material risks to the FMI arising from tiered participation arrangements has the FMI identified? How has it mitigated these risks?

The following material risks arising from tiered participation arrangements have been identified by ZECHL:

1. Failure to settle payment obligations either the sponsored institution or the sponsor bank.
2. The winding up or assets frozen of the sponsor bank would cause disruption to the services provided by the direct participants.

However as mentioned above, participants are required to have enough securities as collateral. The collateral is reviewed by the settlement agent to depict the market value on a weekly basis and determined monthly. The settlement figures are used to make this determination. Sponsored institutions are also required to have enough collateral with their sponsor bank.

Key consideration 2:

An FMI should identify material dependencies between direct and indirect participants that might affect the FMI.

Q.19.2.1: How does the FMI identify material dependencies between direct and indirect participants that might affect the FMI?

There are no known material dependencies between direct participants and sponsored participants that will affect the ZECH system or failure by a sponsored institution to provide enough funds for settlement in the RTGS as the risk is fully borne by the sponsor bank. Therefore, it is the responsibility of the sponsoring bank to manage risk exposure to the sponsored entity's obligations and to determine dependencies and/or conditions of the sponsoring relationship.

Key consideration 3:

An FMI should identify indirect participants responsible for a significant proportion of transactions processed by the FMI and indirect participants whose transaction volumes or values are large relative to the capacity of the direct participants through which they access the FMI in order to manage the risks arising from these transactions.

Q.19.3.1: Has the FMI identified (a) the proportion of activity that each direct participant conducts on behalf of indirect participants in relation to the direct participants' capacity, (b) direct participants that act on behalf of a material number of indirect participants, (c) indirect participants responsible for a significant proportion of turnover in the system, and (d) indirect participants whose transaction volumes or values are large relative to the capacity of the direct participant through which they access the FMI to manage risks arising from these transactions?

1. ZECHL has identified settlement as the activity that the sponsor banks handle on behalf of indirect participants on the RTGS. The proportion of activity that each direct participant conducts on behalf of indirect participants on the ZECHL system in relation to the direct participants' capacity is handled by the sponsor bank in accordance with their service level agreement.
2. ZECHL has identified direct participants that act on behalf of a material number of indirect participants through the onboarding process.
3. ZECHL has identified indirect participants that act on behalf of a material number of indirect participants through the onboarding process.

Q.19.3.2: What risks to the FMI arise, and how does the FMI manage these risks arising from key indirect participants?

The risk that may arise from key indirect participants is the failure to settle obligations which the sponsoring bank accepts the settlement risk and, subject to the criteria for sponsorship, is required to ensure that the obligations arising from the clearing of sponsored banks are settled. The sponsoring bank is required to monitor any direct or indirect exposures arising from failure to arrange for sufficient collateral.

Key consideration 4:

An FMI should regularly review risks arising from tiered participation arrangements and should take mitigating action when appropriate.

Q.19.4.1: What are the FMI's policies for reviewing its rules and procedures in order to mitigate risks to the FMI arising from tiered participation? How frequently is this review conducted?

ZECHL does not monitor collateral for sponsored participants. The sponsoring bank is required to monitor any direct or indirect exposures arising from failure to arrange for sufficient collateral.

Q.19.4.2: What criteria does the FMI use to determine when mitigating actions are required? How does the FMI monitor and mitigate its risks?

The FMI does not have the criteria to determine when mitigating actions are required. However, with the increased number of financial institutions plans are under way to develop one.

Principle 21: Efficiency and effectiveness

An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.

This principle should be reviewed in the context of Principle 17 on operational risk, Principle 18 on access and participation requirements, Principle 22 on communication procedures and standards, and other principles, as appropriate.

Summary Narrative

The FMI observes Principle 21.

The FMI system efficiently and effectively meets the requirements of its participants and the industry by facilitating the movements of transactions between participants as well as processing of participants Net Settlement through the RTGS with improved efficiency and security. The FMI has put in place operating standards such as participant's approval rating and uptime rate that should be adhered to by all participants on the ZECHL system. The FMI conducts monthly meetings with the industry as a way of providing feedback, for example, BAZ Tech meeting, BAZ Main, direct Weekly meetings with participants and through the ZECHL helpdesk.

Key Consideration 1:

An FMI should be designed to meet the needs of its participants and the markets it serves, in particular, with regard to choose of a clearing and settlement arrangement; operating structure; scope of products cleared, settled, or recorded; and use of technology and procedures.

Q.21.1.1: How does the FMI determine whether its design (including its clearing and settlement arrangement, its operating structure, its delivery systems and technologies, and its individual services and products) is taking into account the needs of its participants and the markets it serves?

ZECHL has automated its clearing and settlement processes meeting participants needs for the following services below;

1. POS clearing
2. ATM clearing
3. E-money clearing
4. CIC clearing
5. EFT clearing and
6. Net Settlement generation and transmission to RTGS.

The technology supports STP with full audit trails for all transactions. The operations of these systems are guided by the ZECH Rules and procedures which are collectively reviewed by the industry and approved thereafter.

Refer to the ZECHL website: www.zechl.co.zm

Q.21.1.2: How does the FMI determine whether it is meeting the requirements and needs of its participants and other users and continues to meet those requirements as they change (for example, through the use of feedback mechanisms)?

The FMI conducts monthly meetings with the industry as a way of providing feedback, for example, BAZ Tech meeting, BAZ Main, direct weekly meetings with participants and through the ZECH helpdesk.

Key Consideration 2:

An FMI should have clearly defined goals and objectives that are measurable and achievable, such as in the areas of minimum service levels, risk-management expectations, and business priorities.

Q.21.2.1: What are the FMI's goals and objectives as far as the effectiveness of its operations is concerned?

The FMI's Objectives and Goals as far as the effectiveness of its operations is concerned is to run an efficient interoperable payment system that facilitates the movements of transactions between participants as well as processing of participants Net Settlement through the RTGS with improved efficiency and security. The FMI ensures that all processed transactions are settled at the end of the day and reports are distributed to the participants.

Q.21.2.2: How does the FMI ensure that it has clearly defined goals and objectives that are measurable and achievable?

The FMI has put in place operating standards such as participant's approval rating and uptime rate that should be adhered to by all participants on the ZECH system.

Q.21.2.1: To what extent have the goals and objectives been achieved? What mechanisms does the FMI have to measure and assess this?

The ZECHL system processes transactions in real time to achieve its goals and objectives. The following mechanisms have been put in place to measure and assess the system's efficiency and effectiveness.

1. Approval rating
2. Participants uptime
3. System availability (ZECHL)
4. Provision of support to participants 24/7

Key consideration 3:

An FMI should have established mechanisms for the regular review of its efficiency and effectiveness.

Q.21.3.1: What processes and metrics does the FMI use to evaluate its efficiency and effectiveness?

ZECHL uses the approval rating and uptime rate to evaluate the efficiency and effectiveness of the system. The reports are shared with participants to monitor and improve their connectivity. The ZECH support personnel monitor the performance of the system 24/7.

Q.21.3.2: How frequently does the FMI evaluate its efficiency and effectiveness?

The ZECH support personnel monitor the performance of the system 24/7.

Principle 22: Communication procedures and standards

An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.

This principle should be reviewed in the context of Principle 17 on operational risk, Principle 21 on efficiency and effectiveness, and other principles, as appropriate.

Summary Narrative

The FMI observes Principle 22.

The FMI system supports the appropriate internationally accepted standards for the communication of financial instructions. The NFS system uses the ISO standard while the CIC/EFT system uses proprietary file formats which when communicating with the RTGS system, converts the messages into the appropriate SWIFT file formats for settlement.
The FMI does not participate in cross border payment activities.

Key consideration 1:

An FMI should use, or at a minimum accommodate, internationally accepted communication procedures and standards.

Communication procedures

Q.22.1.1: Does the FMI use an internationally accepted communications procedure and, if so, which one(s)? If not, how does the FMI accommodate internationally accepted communication procedures?

The FMI system supports the appropriate internationally accepted standards for the communication of financial instructions. The NFS system uses the standard while the CIC/EFT system uses proprietary file formats which when communicating with the RTGS system, converts the messages into SWIFT file formats for settlement.

The FMI has specification documents on all the deployed systems which are shared with participants at on boarding and as when updated or changes.

Q.22.1.2: If the FMI engages in cross-border operations, how do the FMI's operational procedures, processes and systems use or otherwise accommodate internationally accepted communication procedures for cross-border operations?

As of the report date, the FMI does not participate in cross-border payment activities.

Communication standards

Q.22.1.3: Does the FMI use an internationally accepted communications standard and, if so, which one(s)? If not, how does the FMI accommodate internationally accepted communication standards?

The FMI system uses the appropriate internationally accepted standards for the communication of financial instructions. The NFS system uses the ISO standard while the CIC/EFT system uses proprietary file formats which when communicating with the RTGS system, converts the messages into SWIFT messages to facilitate settlement.

Q.22.1.4: If the FMI engages in cross-border operations, how do the FMI's operational procedures, processes and systems use or otherwise accommodate internationally accepted communication standards for cross-border operations?

The FMI does not participate in cross border payment activities.

Q.22.1.5: If no international standard is used, how does the FMI accommodate systems that translate or convert message format and data from international standards into the domestic equivalent and vice versa?

The FMI does not participate in cross border payment activities.

Principle 23: Disclosure of rules, key procedures, and market data

An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.

In reviewing this principle, information should be disclosed to the extent that it would not risk prejudicing the security and integrity of the FMI or divulging commercially sensitive information. This principle should be reviewed in the context of Principle 8 on settlement finality, Principle 13 on participant default rules and procedures, Principle 24 on the disclosure of market data by trade repositories, and other principles, as appropriate.

Summary Narrative

The FMI broadly observes Principle 23.

The FMI rules and procedures that clearly and transparently state the roles and responsibilities of each participant participating on the FMI system. The documents are shared with participants and are available on the ZECH website including the monthly transaction values and volumes.

However, the FMI is broadly observed because key consideration 4, the FMI discloses information on its technology and communication procedures only to key stakeholders on a need-to-know basis. The non-bank participants are not included in the communication. In addition, the FMI has not published publicly its self-assessment on its website.

Therefore, going forward, the FMI will include all participants on disclosure information on its technology and communication procedures, including the publication of the self-assessment document on the website as disclosure requirements.

Key Consideration 1:

An FMI should adopt clear and comprehensive rules and procedures that are fully disclosed to participants. Relevant rules and key procedures should also be publicly disclosed.

Rules and Procedures

Q.23.1.1: What documents comprise the FMI's rules and procedures? How are these documents disclosed to participants?

The following documents comprises of the rules and procedures that are disclosed to participants;

1. ZECH Rules

    a) ZECH General Rules
    b) Cheque Image Clearing Rules
    c) Electronic Funds Transfer Rule
    d) The NFS Electronic Money Payment Rules
    e) The NFS Operating Rules -ATM and POS
    f) The NFS E-money dispute Resolution Guide

2. Standard Operating Procedures

    a) NFS operating Procedure
    b) CIC Operating Procedure
    c) EFT Operating Procedure
    d) Customer Service Procedure
    e) Incident Management Procedure

These documents are disclosed to the relevant participants publicly on the ZECHL website https://www.zechl.co.zm/useful-documents/

Additionally, the documents are also shared with participants via email.

Q.23.1.2: How does the FMI determine that its rules and procedures are clear and comprehensive?

The ZECHL rules are reviewed in conjunction with the participants, and they are approved after signoff from all the participants. The guidelines are provided for under Clause 42 of the ZECHL General Rules.

Disclosure

Q.23.1.3: What information do the FMI's rules and procedures contain on the procedures it will follow in non-routine, though foreseeable, events?

Not Applicable to the FMI.

Q.23.1.4: How and to whom does the FMI disclose the processes it follows for changing its rules and procedures?

The process to review and change the ZECHL Rules are under Clause 42 of the ZECHL General Rules. The disclosure is made to all participants.

Q.23.1.5: How does the FMI disclose relevant rules and key procedures to the public?

The FMI discloses relevant rules and key procedures to the public through the ZECH website: https://www.zechl.co.zm/useful-documents

Key Consideration 2:
An FMI should disclose clear descriptions of the system's design and operations, as well as the FMI's and participants' rights and obligations, so that participants can assess the risks they would incur by participating in the FMI.

Q.23.2.1: What documents comprise information about the system's design and operations? How and to whom does the FMI disclose the system's design and operations?

Clear descriptions of the systems designs are documented in ZECHL System Specification documents. The documents are shared to participants at the point of admission through email and hard copies.

Q.23.2.2: How and to whom does the FMI disclose the degree of discretion it can exercise over key decisions that directly affect the operation of the system?

ZECHL discloses the degree of discretion it can exercise over key decisions that directly affect the operation of the system to all participants.

Q.23.2.3: What information does the FMI provide to its participants about their rights, obligations and risks incurred through participation in the FMI?

The information that the FMI provides to its participants about their rights, obligations and risks incurred through participation on the ZECH platform are outlined in the several ZECHL Rules which can be accessed on the ZECH website.

Key Consideration 3:

An FMI should provide all necessary and appropriate documentation and training to facilitate participants' understanding of the FMI's rules and procedures and the risks they face from participating in the FMI.

Q.23.3.1: How does the FMI facilitate its participants' understanding of the FMI's rules, procedures and the risks associated with participating?

To ensure that participants understand the ZECH rules, procedures and risks associated with participation on the FMI platform, the FMI provides training to all new participants as well as its new employees. Clarification on the operations of the FMI is provided during the training. In addition, each participant is assigned with a ZECHL personnel who attend to their operation needs.

Q.23.3.2: Is there evidence that the means described above enable participants' understanding of the FMI's rules, procedures and the risks they face from participating in the FMI?

Participants are required to sign off as a way of understanding the operations.

Q.23.3.3: In the event that the FMI identifies a participant whose behavior demonstrates a lack of understanding of the FMI's rules, procedures and the risks of participation, what remedial actions are taken by the FMI?

The FMI provides training and guidance if a participant demonstrates a lack of understanding of the ZECH rules, procedures, and the risks of participation. Further, SCHEDULE V and VI of the ZECH General Rules and in the NFS fees and charges for ATM and POS document (2019).

Key Consideration 4:

An FMI should publicly disclose its fees at the level of individual services it offers as well as its policies on any available discounts. The FMI should provide clear descriptions of priced services for comparability purposes.

Q.23.4.1: Does the FMI publicly disclose its fees at the level of its individual services and policies on any available discounts? How is this information disclosed?

The fees and charges for participation on the ZECH platform for each stream are contained in following documents:

1. ZECH General Rules (March 2021) – Schedules V and VI.

2. The NFS E-Payments Money Rules (February 2019).
3. The NFS fees and charges for ATM and POS document (2019).
4. The information is disclosed to participants through email and the ZECH website: https://www.zechl.co.zm/useful-documents

Q.23.4.2: How does the FMI notify participants and the public, on a timely basis, of changes to services and fees?

Any changes to services and fees are circulated to participant through circulars.

Q.23.4.3: Does the FMI provide a description of its priced services? Do these descriptions allow for comparison across similar FMIs?

The FMI provides a description of its priced service. However, these descriptions do not allow for comparison across similar FMIs because of the nature of the institution.

Q.23.4.4: Does the FMI disclose information on its technology and communication procedures, or any other factors that affect the costs of operating the FMI?

The information on technology and communication procedures, or any other factors that affect the costs of operating is disclosed to the stakeholders on a need-to-know basis.

Key consideration 5:

An FMI should complete regularly and disclose publicly responses to the CPSS-IOSCO disclosure framework for financial market infrastructures. An FMI also should, at a minimum, disclose basic data on transaction volumes and values.

Q.23.5.1: When did the FMI last complete the CPSS-IOSCO Disclosure framework for financial market infrastructures? How frequently is it updated? Is it updated following material changes to the FMI and its environment and, at a minimum, every two years?

The FMI last completed the CPSS-IOSCO Disclosure framework for financial market infrastructures in December 2021. The assessment is done bi-annually.

Q.23.5.2: What quantitative information does the FMI disclose to the public? How often is this information updated?

Monthly transaction values and volumes are published on the ZECHL website.

Q.23.5.3: What other information does the FMI disclose to the public?

The other information that the FMI discloses to the public is the ZECH Rules and the services that are provided by the FMI.

Q.23.5.4: How does the FMI disclose this information to the public? In which language(s) are the disclosures provided?

The information can be accessed on the ZECH website (https://www.zechl.co.zm/useful-documents) in English.