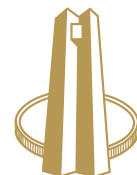


# SIRESS self-assessment of FMI principles



Responding institution	South African Reserve Bank
Jurisdiction(s) in which the FMI operates	South Africa for SADC
Authority(ies) regulating, supervising or overseeing the FMI	South African Reserve Bank and SADC Payment System Oversight Committee
Version	1
Date of this disclosure	30 July 2014
This disclosure can also be found at	
For further information, please contact	E-mail: <a href="mailto:SIRESS-CSC@resbank.co.za">SIRESS-CSC@resbank.co.za</a> or telephone no. +27 12 313 4622



**South African Reserve Bank**

## Document control

Date released	Version	Remarks
2014-07-30	1.0	Version submitted to Oversight Division in the National Payment System Department



## Abbreviations and acronyms

Bankserv	BankservAfrica (Pty) Limited
BCM	Business Continuity Management
BCP	Business Continuity Plan
BIS	Bank for International Settlements
BRC	Board Risk Committee
BREC	Board Risk and Ethics Committee
BSTD	Business Systems and Technology Department [of the SARB]
CDBG	Committee of Central Bank Governors
CCP	Central Counterparty
CLS	Continuous Linked Settlement
COBIT	Control Objectives for Information and Related Technology
COBOL	Common Business Oriented Language
COMFI	Committee of Ministers for Finance and Investment
COSO	Committee of Sponsoring Organizations of the Treadway Commission
CPL	Continuous Processing Line
CPSS	Committee on Payment and Settlement Systems
CRA	Credit Reserve Account
CSC	Customer Support Centre
CSD	Central Securities Depository
DNS	Deferred Net Settlement
DR	Disaster Recovery
FIP	Protocol on Finance and Investment
FMD	Financial Markets Department [of the SARB]
FMI	financial market infrastructure
FSC	Financial Stability Committee
FSCF	Financial Sector Contingency Forum
FSD	Financial Services Department [of the SARB]
GEC	Governors' Executive Committee
HRD	Human Resources Department [of the SARB]
IAD	Internal Audit Department [of the SARB]
ICT	information and communications technology
IOSCO	International Organization of Securities Commissions
ITIL	Information Technology Infrastructure Library
LQR	liquidity coverage ratio
LVPS	low value payment systems
NIA	National Intelligence Agency of the Republic of South Africa
NKP	National Key Point
NPS	national payment system
NPSD	National Payment System Department [of the SARB]
NPSSB	National Payment System Strategy Body
NSFR	net stable funding ratio
ORM	operational risk management
ORS	Operational Risk Subcommittee
PASA	Payment Association of South Africa
PCH	Payment Clearing House
PCH PG	payment clearing house participant group
PFMI	Principles for financial market infrastructures
PSMB	Payment Scheme Management Body
PSO	PCH System Operator
PSOC	Payment System Oversight Committee
PvP	Payment versus Payment



RCS	Regional Clearing and Settlement
RCSO	Regional Clearing and Settlement System Operator
RMC	Risk Management Committee
RMCD	Risk Management and Compliance Department [of the SARB]
RPO	Recovery Point Objective
RPS	Regional Payment Scheme
RSA	Republic of South Africa
RTGS	real-time gross settlement
RTL	real-time line
RTO	Recovery Time Objective
SA	South Africa
SADC	South African Development Community
SADC BA	SADC Banking Association
SAMEX	SAMOS External Front-end System (before October 2013)
SAMEXWeb	SAMOS External Front-end System (since October 2013)
SAMMAN	SAMOS Management Application (internal reporting)
SAMOS	South African Multiple Option Settlement (system)
SAPS	South African Police Service
SARB	South African Reserve Bank
SASBO	South African Society of Bank Officials
SCD	settlement cycle day
SI	settlement instruction
SIRESS	SADC Integrated Electronic Settlement System
SLA	Service Level Agreement
SO	System Operator
SSPG	Settlement System Participant Group
SSS	Security Settlement System
SUG	SIRESS User Group
SWIFT	Society for Worldwide Interbank Financial Telecommunication
TR	Trade Repository
ZAR	South African rand



## Definitions

Term	Definition
Beneficiary participant	Participant receiving a settlement notification from the SARB and thereby incurring an obligation to credit the account of the beneficiary identified in the payment instruction to which the settlement notification relates.
Clearing and settlement system	Interbank clearing and settlement environment in the Republic of South Africa, but does not mean specifically any settlement system such as SAMOS implemented by the SARB, although such settlement system may, depending on the context in which it is used, be included in the term.
Regional clearing and settlement system operator	A person appointed by SIRESS participants and subsequently approved and authorised by the SADC PSMB to provide clearing to SIRESS participants in at least two SADC countries.
Collateral	Participant's liquid assets recognised by the SARB as eligible assets for the purposes of the provision of loans.
Financial Markets Infrastructure	A multilateral system among participating institutions, including the operator of the system, that is used for the purposes of clearing, settling or recording payments, securities, derivatives or other financial transactions.
Financial Sector Contingency Forum	A national coordination body that exists to identify potential threats of a systemic nature that may adversely impact the stability of the South African financial sector to develop and coordinate appropriate plans, mechanisms and structures to mitigate these threats and to manage systemic crises.
Haircut	The valuation percentage applicable to each type of collateral, largely based on liquidity and price volatility of the underlying security.
Immediate settlement agreement	The arrangement governing the clearing of cash for immediate settlement between parties which is constituted by this bilateral contractual relationship (not being a partnership) between the parties and includes all such arrangements between each party and each other participant governing the clearing of credit payment instructions for immediate settlement in accordance with the terms thereof.
Payment clearing house	Payment clearing house arrangement constituted in terms of a PCH agreement.
PCH Agreement	A payment clearing house agreement governing the clearing of payment instructions between participants in a payment clearing house.
Payment clearing house system operator	Person approved and authorised by PASA to provide clearing services to system participants.
PASA	Payments Association of South Africa recognised by the SARB as a payment system management body.
PASA Executive	Chief Executive Officer (CEO) appointed by PASA's Council and any person appointed by the CEO to the PASA Executive.
Payment obligation	Indebtedness that is owed by one party to another as a result of the clearing of one or more payment instructions.
Payer participant	Paying participant having a settlement obligation whose settlement account will be debited by the SARB in fulfilment of one or more settlement instructions received.
SAMOS	South African Multiple Option Settlement system operated by the SARB, or any other settlement system adopted by the SARB in replacement of SAMOS.
SARB	The South African Reserve Bank as defined in sections 1 and 2 of the South African Reserve Bank Act 90 of 1989, as amended (SARB Act).
Settlement	The final and irrevocable discharge of a settlement obligation, owed by one party to another pursuant to a settlement instruction, which has been effected in money or by means of entries passed in the settlement accounts of the relevant parties through the settlement system.
Settlement account	An account maintained by a party with the SARB for settlement purposes.
Settlement agreement	Multilateral contractual relationship entered into between the parties upon the terms and conditions.
Settlement bank	SIRESS settlement system participant.
Settlement instruction	An instruction given to the SARB by a participant, or by a Regional Settlement and Clearing Operator (RSCO) system operator on its behalf and under its authority, to effect settlement of one or more payment obligations or to discharge any other obligation of one participant to another participant.
Settlement rules	The settlement rules and procedures (if any) contained in the settlement agreement and those to be recommended and drafted by the SADC PSMB and approved by the SADC PSOC, and such further or other settlement rules as may be prescribed by the SADC PSOC.
NPS starter pack	Starter pack document for participation within the NPS, published on 6 November 2008 and accessible on the SARB website.



## Definitions

Term	Definition
System Operator	System operators are defined in the National Payment System Act 78 of 1998 (NPS Act) as “any person who provides payment services to two or more persons in respect of payment instructions”. Payment instructions are typically from large retailers and banks.
SARB	The SARB means the South African Reserve Bank established by section 9 of the Currency and Banking Act 31 of 1920.
Transaction	The exchange of value (i.e. the delivery and clearing of cash in exchange for payment and the generation of a settlement instruction by the recipient of the cash).
SIRESS	The SADC Integrated Regional Electronic Settlement System which is an automated, real-time gross, cross-border settlement system for SADC, which is provided to SIRESS participants by the SIRESS operator, including all the technical infrastructure and business components thereof.
SIRESS participant	SADC central banks or any financial institution (i.e. banks and non-banks in SADC) that is approved and authorised by the central bank in the country of its origin to participate in both its domestic real-time gross settlement system and in SIRESS.
SADC Payment Scheme Management Body	The SADC Payment Scheme Management Body, established by the Committee of Central Bank Governors in SADC, with the objective of organising, managing and regulating the participation of SIRESS participants in various regional payment schemes of the clearing and settlement system.
Regional payment scheme	A clearing arrangement developed for a particular payment instrument used in SADC and which binds SIRESS participants to transact in terms of the Regional Rule Book of such a scheme.
SADC PSOC	The SADC Payment System Oversight Committee established by the Committee of Central Bank Governors in SADC to regulate, oversee and supervise the clearing and settlement system.



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## Preface

The South African Reserve Bank (SARB), in its role as the operator of the Southern African Development Community (SADC) Integrated Regional Electronic Settlement System (SIRESS), the real-time gross settlement (RTGS) system that facilitates settlement of cross-border transactions in the SADC region, publishes this first self-assessment report that was conducted in 2014. The self-assessment was conducted against the Principles for financial market infrastructures (PFMI) issued in April 2012 by the Bank for International Settlements' Committee on Payments and Market Infrastructures (CPMI) and the Technical Committee of the International Organization of Securities Commissions (IOSCO).

The self-assessment, and therefore this report, outlines the observance of the principles based on the status of operations of SIRESS as at April 2014. Since this was the first self-assessment conducted by the SIRESS operator, it had to for the first time follow internal review and governance processes in finalising and publishing this report, which included interaction with the oversight authority that culminated in receiving feedback on the self-assessment from the overseer in August 2016. All actions that will be undertaken by the SIRESS operator to ensure continued or full observance of the principles subsequent to this report will therefore be disclosed in future self-assessment reports to be published in the coming years.

This report has been compiled in line with the disclosure framework outlined in Principle 23 of the PFMI. As the process relating to compliance with the PFMI and adherence to the disclosure framework matures, the SARB expects to achieve transparency in discharging its obligations for the benefit of all the stakeholders.

The next self-assessment will be undertaken in 2017, whereafter a revised report will be published to disclose the updated status of compliance to the PFMI.

South African Reserve Bank

January 2017

## Executive summary

In April 2012 the Bank for International Settlements' (BIS) Committee on Payment and Settlement Systems (CPSS) and the Technical Committee of the International Organization of Securities Commissions (IOSCO) published the 'Principles for financial market infrastructures' (collectively, the 'PFMI and each principle a 'Principle'). As defined by the BIS and IOSCO, a 'financial market infrastructure' (FMI) is "a multilateral system among participating institutions, including the operator of the system, that is used for the purposes of clearing, settling or recording payments, securities, derivatives or other financial transactions".

The PFMI are designed to ensure that the infrastructure supporting global financial markets is robust and able to withstand financial shocks. The PFMI apply to all systemically important payment systems. Since 10 September 2013, the South African Reserve Bank (SARB) has embraced<sup>1</sup> the PFMI as the risk management standard for systemically important FMIs in South Africa.

This document assesses the SARB's operations of the Southern African regional cross-border real-time gross settlement (RTGS) system, named the Southern African Development Community (SADC) Integrated Regional Electronic Settlement System (SIRESS), against the applicable Principles. SIRESS was implemented on 22 July 2013 and is based on the South African domestic RTGS system. The system is operated by the SARB as appointed by the participating SADC central banks. Participants in SIRESS include central banks and financial institutions (i.e. banks and non-banks in SADC that are authorised by the central bank in the country of their origin to participate in their domestic settlement system). The FMI derives its mandate to provide the services in terms of stakeholders agreements as executed by the SARB and the participating SADC central banks. The types of risks that arise or are borne by the FMI include operational risk, settlement risk, legal risk, liquidity risk and reputational risk. Risk management is conducted in line with the comprehensive risk management framework of the SARB.

The self-assessment includes a description of the SIRESS operations, and describes how the SARB complies with each Principle applicable to it. The self-assessment was produced by a division in the SARB's National Payment System Department (NPSD), namely the Operations Division, as the operator of the FMI.

The following table provides a high-level summary of the self-assessment against the PFMIs:

Principle	Description	Applicable	Observed	Broadly Observed	Partly observed	Reviewed
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.	Yes	√			
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.	Yes		√		
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.	Yes	√			

1. Position Paper: NPS 01/2013 published on 10 September 2013. File ref. no.: 18/5/1 - 2013.



Principle	Description	Appli- cable	Observed	Broadly Observed	Partly observed	Reviewed
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.	No				
Principle 5: Collateral	An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.	No				
Principle 6: Margin	A central counterparty (CCP) should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.	No				
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.	Yes	√			
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 preferable, an FMI should provide final settlement intraday or in real time.	Yes	√			
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.	Yes	√			
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.	No				
Principle 11: Central Securities Depositories	A central securities depository (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.	No				
Principle 12: Exchange of value settlement systems	If an FMI settles transactions that involve the settlement of two linked obligations (e.g. 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.	No				
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 meet its obligations.	Yes				



Principle	Description	Applicable	Observed	Broadly Observed	Partly observed	Reviewed
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.	No				
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.	Yes	√			
Principle 16: Custody and investment risks	An FMI should safeguard its own and its participants' assets and minimise the risk of a loss on, and delay in, access to these assets. An FMI's investments should be in instruments with minimal credit, market and liquidity risks.	No				
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 the timely recovery of operations and the fulfilment of the FMI's obligations, including in the event of a wide-scale or major disruption.	Yes		√		
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.	Yes	√			
Principle 19: Tiered participation arrangements	An FMI should identify, monitor and manage the material risks to the FMI arising from tiered participation arrangements.	No				
Principle 20: FMI links	An FMI that establishes a link with one or more FMI should identify, monitor and manage link-related risks.	No				
Principle 21: Efficiency and effectiveness	An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.	Yes			√	
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.	Yes	√			
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.	Yes		√		
Principle 24: Disclosure of market data by trade repositories	A trade repository (TR) should provide timely and accurate data to relevant authorities and the public in line with their respective needs.	No				



## 1. Summary of major changes since the last update of the disclosure

SIRESS was never assessed against the CPSS Core Principles for Systemically Important Payment Systems (Core Principles). This is the first assessment based on the CPSS-IOSCO PFMI.

### 1.1. SIRESS notable events

The following table depicts the major events since implementation

SIRESS phases and versions	Date	Description
Phase I and Version 1	22 July 2013	<ul style="list-style-type: none"><li>• Lesotho, Swaziland, Namibia and South Africa went live.</li><li>• Settlement of high-value credit transfer</li></ul>
Phase II	14 April 2014	<ul style="list-style-type: none"><li>• Participant banks in Malawi and Zimbabwe joined the system</li></ul>
	14 July 2014	<ul style="list-style-type: none"><li>• Participant banks in Tanzania joined the system</li></ul>
Phase III and Version 2	Expected 15 Sep 2014	<ul style="list-style-type: none"><li>• Settlement of low-value credit transfer</li><li>• Participant banks in the Democratic Republic of Congo, Mauritius and Zambia expected to join the system</li></ul>

## 2. General background on the FMI

### 2.1. General description of the FMI and the markets it serves

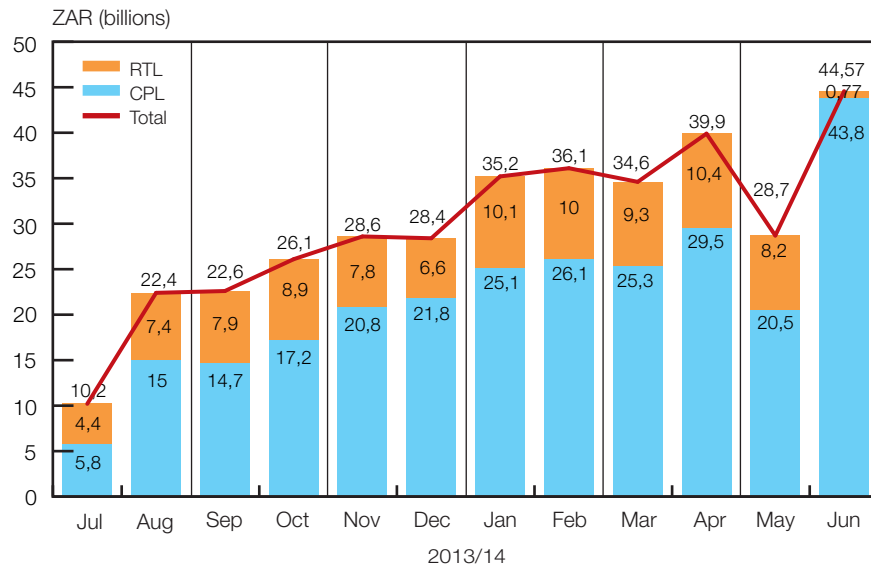
The regional cross-border RTGS system in the SADC region is called the SADC Integrated Regional Electronic Settlement System (SIRESS). SIRESS is an automated interbank settlement system operated by the SARB as appointed by the participating SADC central banks for banks in the region to settle their obligations and payments on an immediate real-time basis. SIRESS settles on a pre-funded basis and is a single-currency settlement system that settles in South African rand (ZAR).

SIRESS settles single settlement instructions between banks. Batched payment instructions are expected to be settled from 15 September 2014. The system provides two settlement options to banks, namely the real-time line (RTL) and the continuous processing line (CPL) settlements. A description of each option appears below.

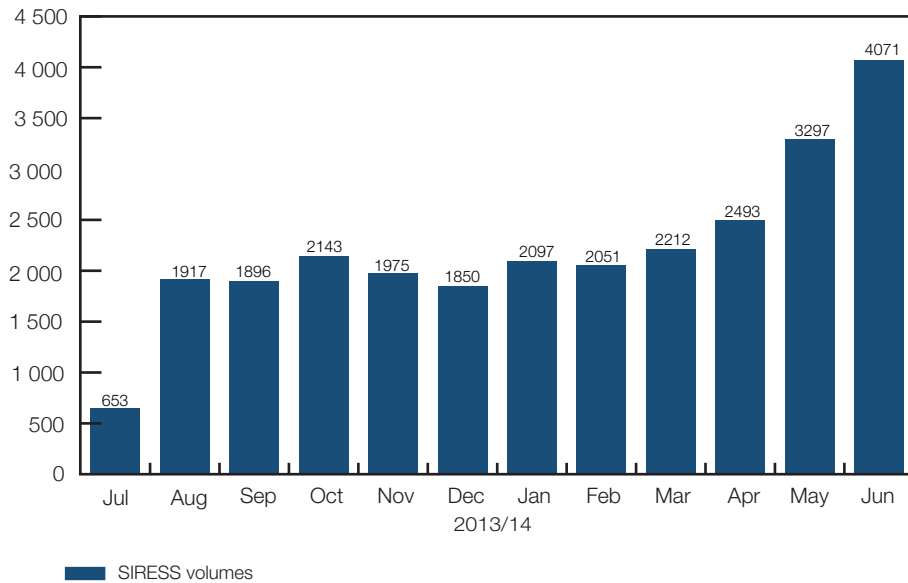
- a. The RTL is a facility for settling single or batched settlement instructions immediately on a gross basis.
- b. The CPL is a settlement facility developed to settle single or batched settlement instructions on a gross basis, utilising net liquidity, and if no liquidity is available then the settlement instructions will be queued. The CPL account is funded from the settlement account. The continuous batch processing line (CBPL) settlement service will be provided from 15 September 2014.

The following graphs depict basic data and performance statistics on its services and operations.

RTL and CPL settlement values from July 2013 to June 2014

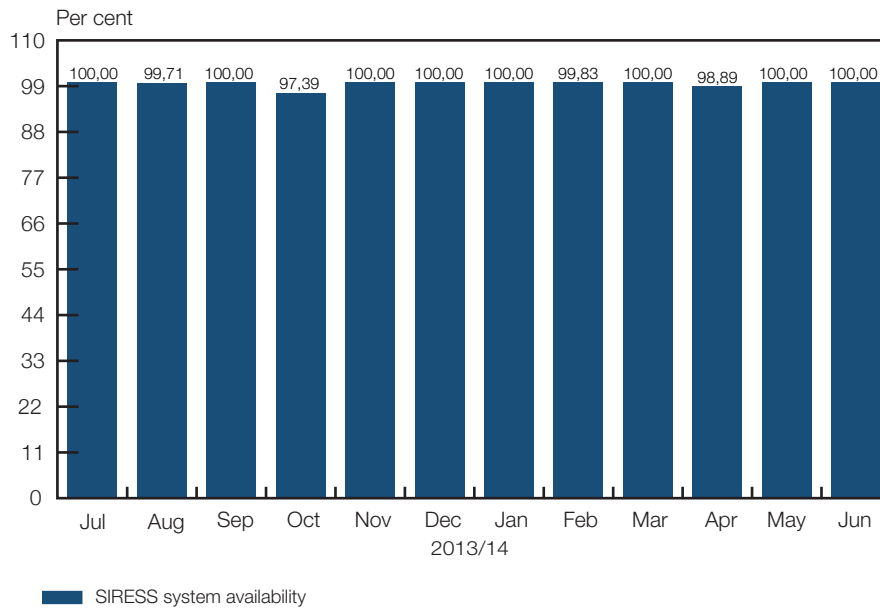


RTL and CPL settlement volumes from July 2013 to June 2014





Availability for SIRESS and its components from April to March 2014



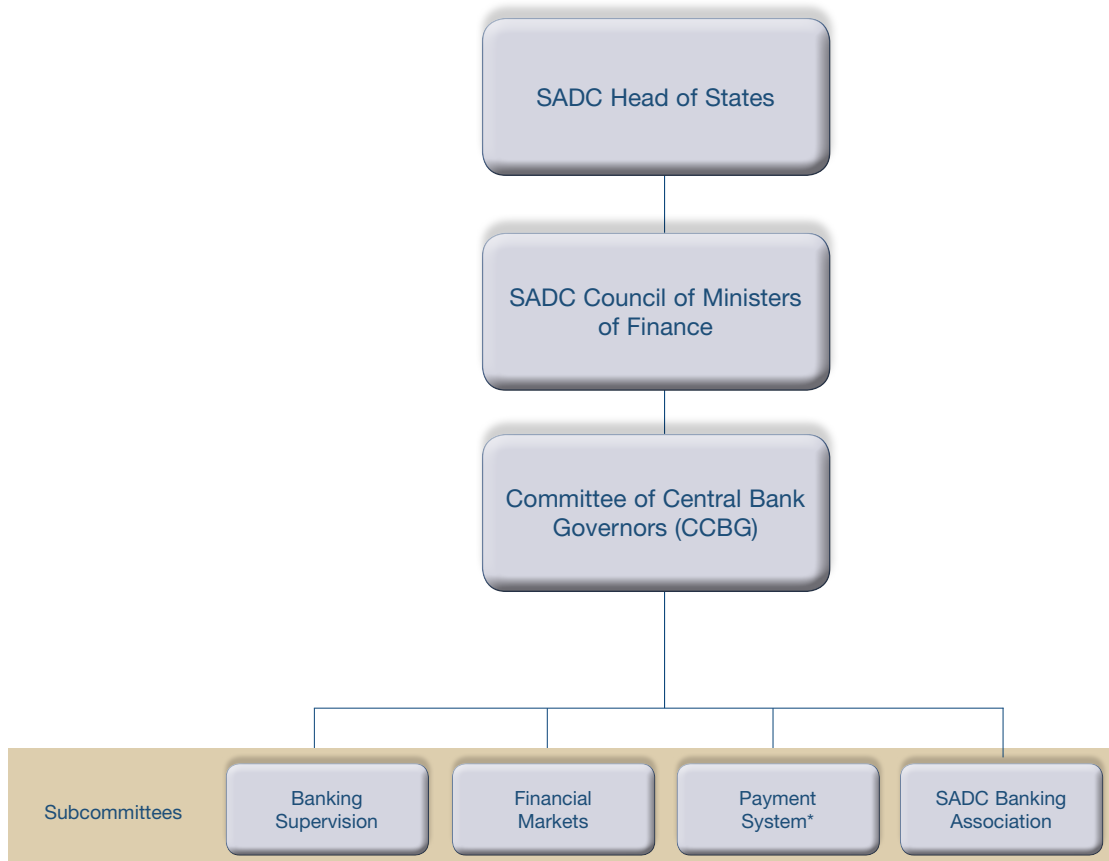
## 2.2 General organisation of the FMI

Article 8 of the SADC Protocol on Finance and Investment (FIP) provides that the state parties shall ensure cooperation among their central banks in relation to the payment, clearing and settlement system. Annexure 6 recognises that central banks must cooperate through policy coordination, capacity building and system development, which in turn will contribute to reform, facilitation of cross-border payments, and support for monetary policy objectives.

Article 3(b) of Annexure 6 of the FIP provides the framework for cooperation and coordination between the central bank in order to define and implement a cross-border payment strategy for the region.

The FMI is owned by SADC through the Committee of Central Bank Governors (CCBG). Notwithstanding the overall ownership, the intellectual property rights in and to the system used in the operation of the FMI, and which system was developed by adapting the SAMOS system, remain vested in the SARB. SIRESS is operated by the SARB. Ownership matters and decision-making processes of SIRESS fall under the governance structures of the CCBG.

## SADC and CCBG governance structure



\* Incorporates the SADC Payment System Oversight Committee

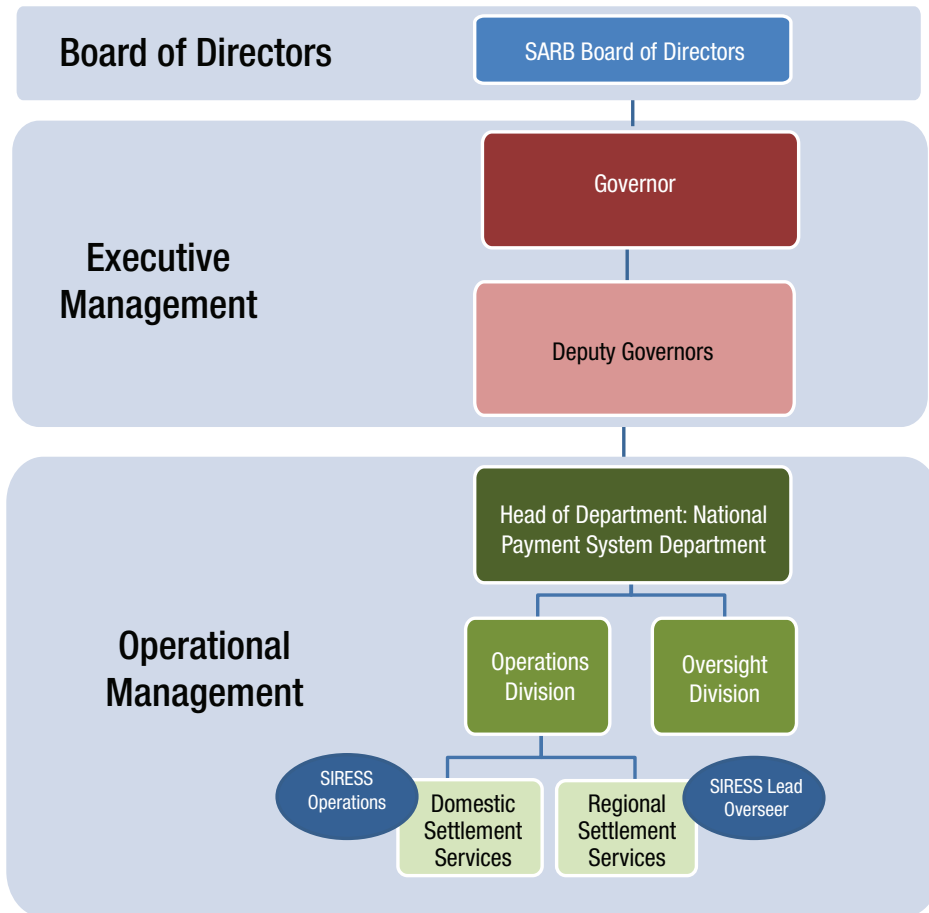
2. Information is available on the South African Reserve Bank's website: [www.resbank.co.za](http://www.resbank.co.za) by following these links: Regulation and Supervision\ NPS Documents\ Overview document.

In South Africa the responsibility for the domestic national payment system (NPS) and its oversight are entrenched in the South African law. The South African Reserve Bank Act 90 of 1989 (SARB Act) was amended in 1996 to clarify the role and responsibility of the SARB in the domestic payment system. Section 10(1)(c)(i) of the SARB Act empowers the SARB to “perform such functions, implement such rules and procedures and, in general, take such steps as may be necessary to establish, conduct, monitor, regulate and supervise the payment, clearing and/or settlement systems”.<sup>2</sup>

The National Payment System Act 78 of 1998 (NPS Act) enables the SARB to perform the functions as provided for in the SARB Act. The authority to perform these functions is vested in the SARB's NPSD.

The structure of the NPSD within the SARB is depicted in the diagram below:

## NPSD Governance Structure



### 2.3. Legal and regulatory framework

The settlement service is supported by a well-established legal framework primarily based on rules, operating procedures, contractual agreements, laws and regulations.

The NPS Act provides the legal framework for the payment system that includes the management, administration, operation, regulation and supervision of the payment, clearing and settlement systems in the Republic of South Africa. The NPS Act also provides for the regulatory and supervisory powers of the SARB to manage and control all payment-related risks.

Section 4A(1) of the NPS Act provides that the SARB may designate a settlement system if such designation is in the interest of the integrity, effectiveness, efficiency or security of the payment system. SIRESS has been designated as such a settlement system.

SIRESS' legal arrangements are based on a contractual basis through a number of multilateral agreements. The agreements are meant to provide legal certainty in the absence of an appropriate SADC-wide legal and regulatory framework for payment, clearing and settlement systems.

The stakeholders agreement is signed by each participating central bank and the SARB as the SIRESS Operator. The SIRESS Service Agreement is executed by the SIRESS operator and the participating banks. The SIRESS Settlement Agreement is executed between the SIRESS participating banks.

## 2.4 SIRESS system design and operations

### 2.4.1 SIRESS design

SIRESS was developed by adapting SIRESS with a web-based front-end application known as the SIRESS Reporting Interface (SRI). The SIRESS administrator can view all parameters. However, SIRESS participants may view only their own parameters. In the event of any parameter changes affecting the participants (e.g. a change in the interest rate or charges), participants are notified immediately via an information notification message. Some of the components of SIRESS include the following:

#### a. Settlement schedule

The SIRESS settlement schedule is based on a five days a week, six hours a day settlement system. The settlement schedule is divided into windows. SIRESS is closed on weekends (i.e. Saturday and Sunday) as well as on South African public holidays. The start and/or end times of windows may be changed by the administrator of SIRESS. End-of-day for the current settlement cycle date (SCD) will never be moved earlier, but the end-of-day for a future SCD can be moved earlier. The 'Finalise', 'Position', 'Square-off', 'Maintenance' and 'Start-of-day' windows are as short as possible to cause a minimal disruption to the market. All accounting controls and other system controls, including the generation of control reports, must be executed successfully before the next settlement cycle day continues. Different operating hours are allowed for real-time, delayed and batch settlements.

An example of a business day settlement schedule in a 24-hour cycle is as follows:

### SIRESS operating hours weekday schedule

#### SIRESS settlement cycle day (SCD), Monday–Friday

Window 1	Window 2	Window 3	Fin Win	Position	Start of new SCD
09:00–11:00	11:00–12:00	12:00–13:55	13:55–14:00	14:00–15:00	15:00–09:00
<ul style="list-style-type: none"> <li>• Funding</li> <li>• IATI – SA – CPL</li> <li>• Normal settlement</li> <li>• Return of funds</li> </ul>	<ul style="list-style-type: none"> <li>• Normal settlement</li> <li>• Funding</li> <li>• IATI – SA – CPL</li> <li>• Return of funds</li> </ul>	<ul style="list-style-type: none"> <li>• Normal settlement</li> <li>• Funding</li> <li>• IATI – SA – CPL</li> <li>• Return of funds</li> </ul>	F I N A L I S E W I N D O W	<ul style="list-style-type: none"> <li>• End-of-day (EOD) settlement instructions only</li> <li>• Return of funds</li> <li>• Interbank lending + borrowing</li> </ul>	<ul style="list-style-type: none"> <li>• Flexcube update</li> <li>• SIRESS charges calculated</li> <li>• SIRESS charges and applicable interest posted to participant accounts</li> <li>• Settlement cycle day roll over</li> </ul>
<ul style="list-style-type: none"> <li>• SIRESS charges + interest settled</li> </ul>					

## b. Settlement options

The system provides two settlement options to banks, namely the RTL and the CPL settlements. A description of each option appears below.

- The RTL is a facility for settling single or batched settlement instructions immediately on a gross basis.
- The CPL is a settlement facility developed to settle single or batched settlement instructions on a gross basis, utilising net liquidity, and if no liquidity is available then the settlement instructions will be queued. The CPL account is funded from the settlement account.

Single settlement instructions and intra account transfer instructions (IATIs) can be placed on the scheduled list.

## c. Collateral management

SIRESS does not offer collateral facilities. Participants' accounts must be pre-funded.

## d. Accounting

Each participant bank in SIRESS has one settlement account and a CPL account. The net movement of the banks' accounts is passed to the main accounts in the SARB's general ledger (GL) system at the end of a settlement cycle day. The details of all transactions are kept in the GL system. Certificates of balance are only produced from the GL system. Backdating of accounting entries is not allowed in SIRESS.

## e. Reporting

A comprehensive set of reports is available in SIRESS for the administrator, with a small subset available to participants. Most reports have selection criteria to obtain only the required information. All reports and enquiries are shown from the SARB's accounting perspective, for example, credits and debits, statements, and interest received and paid. Report layouts and content are exactly the same for the SARB and the settlement bank. Enquiries on the current data (i.e. current settlement cycle day's transaction data, and all active (and scheduled future) versions of static data) are available. Transaction data is kept for five years.

## f. Charges

Operational costs of SIRESS are recovered from the participants. Participants' operational costs include processing charges, network charges and Society for Worldwide Interbank Financial Telecommunication (SWIFT) processing charges. Penalties are also levied in the system.

## 2.5 NPSD operations

A customer service is provided by the SIRESS Customer Support Centre (SIRESS CSC).

### 3. Principle-by-principle narrative disclosure

#### 3.1 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.

##### 3.1.1 Assessment of compliance

The SARB, as the SIRESS operator,<sup>3</sup> observes Principle 1.

Article 8 of the SADC FIP provides that the state parties shall ensure cooperation among their central banks in relation to the payment, clearing and settlement system. Annexure 6 recognises that central banks must cooperate through policy coordination, capacity building and system development, which in turn will contribute to reform, the facilitation of cross-border payments, and support for monetary policy objectives.

Article 3(b) of Annexure 6 of the FIP provides the framework for cooperation and coordination between the central bank in order to define and implement a cross-border payment strategy for the region.

The SARB<sup>4</sup> means the South African Reserve Bank established by section 9 of the Currency and Banking Act 31 of 1920. The SARB is governed by the laws of the Republic of South Africa, thus the provision of settlement services is supported by a well-established legal foundation primarily based on statutes, regulations, rules, operating procedures and contractual agreements. Section 10(1)(c) of the SARB Act makes provision for the SARB to perform such functions, implement such rules and procedures and, in general, take such steps as may be necessary to establish, conduct, monitor, regulate and supervise payment, clearing or settlement systems.<sup>5</sup> The NPS Act<sup>6</sup> provides the legal framework for the payment system. Section 4A(1) of the Act provides that the SARB may designate a settlement system if such designation is in the interest of the integrity, effectiveness, efficiency or security of the payment system. SIRESS has been designated as such a settlement system.<sup>7</sup>

SIRESS legal arrangements are based on a contractual basis through a number of multilateral agreements. The agreements are meant to provide legal certainty in the absence of an appropriate SADC-wide legal and regulatory framework for payment, clearing and settlement systems.

It is recommended that the SADC Payment System Oversight Committee (PSOC) identify and review the conflict of laws that might impact the operations, provision of settlement services and management of insolvency laws.<sup>8</sup>

##### 3.1.2. 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.

###### a. Material aspects and relevant jurisdictions

SIRESS activities are conducted across the SADC region but the services are provided in South Africa and are governed under South African law.<sup>9</sup>

South Africa is therefore the relevant jurisdiction for the identified material aspects of the FMI's activities which include:

- appointment of the SARB as the SIRESS Operator;
- authorisation of participants;

3. As appointed by the participating central banks under the stakeholders agreement.

4. Information available in the SARB Act. The primary objective of the SARB shall be to protect the value of the currency of the Republic in the interest of balanced and sustainable economic growth in the Republic.

5. See [www.resbank.co.za/RegulationAndSupervision/NPSdocuments/Overview](http://www.resbank.co.za/RegulationAndSupervision/NPSdocuments/Overview).

6. Nation Payment System Act 78 of 1998.

7. See [http://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem\(NPS\)/LegalPages/Designation.aspx](http://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem(NPS)/LegalPages/Designation.aspx).

8. Refer to the study done by FINMark consultants on the assessment of a legal and regulatory framework with regard to provisions of insolvency in the SADC region. See section 5.8 of the document.

9. Clause 22 of the settlement agreement and clause 27 of the service agreement.



- settlement finality;
- participant failure; and
- settlement failure.

#### b. Legal basis for each material aspect

The legal basis for each material aspect is: the appointment of the SARB as the SIRESS Operator.

The SARB is appointed as the operator of SIRESS by the participating SADC central banks in terms of the provisions of the stakeholders agreements.

The SARB was established by section 9 of the Currency and Banking Act 31 of 1920 and is governed by the South African Reserve Bank Act 90 of 1989, as amended. The SARB Act mandates the SARB to oversee the regulation of the NPS and to ensure its safety, soundness and efficiency.

In support of this mandate, the NPS Act was promulgated. The purpose of the NPS Act can be summarised as “to provide for the management, administration, operation, regulation and supervision of the payment, clearing and settlement systems in the Republic of South Africa; and to provide for connected matters.” The NPS Act furthermore provides for the regulatory and supervisory powers of the SARB to manage and control payment system risks.

Under provisions of section 4A(5)(b) of the NPS Act, the SARB is designated as the operator of SIRESS. The rights and obligations of the SIRESS Operator are evidenced in the SIRESS stakeholders, and SIRESS service and settlement agreements.

#### i Provisions for the authorisation of participants

The participants in SIRESS are SADC central banks or any financial institutions that are authorised by the central bank in the country of their origin to participate in SIRESS and are participants in their domestic RTGS system or in their domestic settlement arrangements.<sup>10</sup> Where participants are not central banks, they must seek permission from the juristic domestic central bank in order to participate in SIRESS and comply with the conditions for access to SIRESS in terms of the SIRESS service agreement. The CCBG Payment System Subcommittee agreed on the minimum criteria to be used by central banks for approval to participate in SIRESS. However, the central bank may use additional criteria that it deems necessary when assessing the request to participate in SIRESS.

10. See section 4 of the SIRESS Service Agreement

#### ii Provisions for settlement finality

SIRESS provides the settlement of services to participants in ZAR. The applicable law, being South African law, provides for a well-founded legal basis that supports the finality and irrevocability of settlement.<sup>11</sup> Section 5 of the NPS Act provides for settlement in a designated settlement system,<sup>12</sup> and finality and irrevocability of settlement.<sup>13</sup>

11. See section 5 of the NPS Act.

12. See section 5(1) of the NPS Act.

13. See sections 5(2) and 5(3) of the NPS Act.

14. see SARB Notice 749 of 2013 – SIRESS designation.

However, settlement finality and irrevocability depend on the designation granted on the system by the juristic central bank. The SARB has designated SIRESS as a ‘designated settlement system’, under section 4A(4) of the NPS Act.<sup>14</sup>

#### iii Provisions for participant failure

Participant failure is provided under section 5.4 of the settlement agreement. The agreement provides that a participant that undergoes business rescue or insolvency may continue to participate in SIRESS until its participation is withdrawn by the SIRESS Operator, upon receipt of a written notification from the central bank of the country from which the SIRESS participant originates, that the SIRESS participant can no longer participate in SIRESS. In terms of the SADC PSOC arrangements, the participant’s central bank is obliged to



inform the SIRESS Operator in the event that its participant undergoes business rescue or insolvency. Business rescue is applicable in the jurisdiction where such status/registration has been legislated and the insolvency law of the participant's jurisdiction will be applicable.

#### iv Provisions for settlement failure

Options to manage settlement failure are provided in section 7 of the settlement agreement, settlement agreement schedule 3 and the SADC Banking Association's (BA) Business Process Manual (Beige Book).

SIRESS settles on a pre-funded basis. The participants' accounts must be pre-funded prior to settlement. The settlement failure management process and procedure addresses deal with the procedures for removing a participant that failed to provide sufficient funds in SIRESS in order to meet its interbank settlement obligation resulting from a batch of payments submitted to SIRESS by the Regional Clearing and Settlement System Operator (RCSO).

#### v Provisions for the rights and interests

The SARB is appointed as the operator of SIRESS by the participating SADC central banks in terms of the provisions of the stakeholders agreements. Under provision of section 4A(5)(b) of the NPS Act, the SARB is also designated as the operator of SIRESS. The rights and interest of the SIRESS operator are evidenced in the SIRESS stakeholders, and the SIRESS service and settlement agreements.

#### vi Provisions for applicable law

The SIRESS stakeholders, and SIRESS service and settlement agreements provide that the applicable law for the operations and provision of services is the South African law. The South African NPS is governed by the NPS Act.<sup>15</sup> The act provides for the management, administration, operation, regulation and supervision of payment, clearing and settlement systems in the Republic of South Africa; and for connected matters.<sup>16</sup>

SIRESS operations are based on contractual arrangements.

- **Contractual provisions between the participating central banks and the SIRESS operator**

The terms under which the SARB is appointed as the SIRESS operator by the participating central banks are documented in the stakeholders agreement. The stakeholders agreement is signed by each participating central bank and the SARB as the SIRESS Operator.

The agreement also provides for the details on the financial contribution by participating central banks, the intellectual property and ownership of SIRESS, confidentiality, dispute resolution mechanisms and termination of the agreement.

Participating central banks also execute the SIRESS memorandum of understanding (MoU) in order to establish a cooperative oversight arrangement for SIRESS. This is done to provide a mechanism for mutual assistance between the participating central banks in carrying out their individual responsibilities in pursuit of their shared public policy objectives for the safety and efficiency of payment and settlement systems and their focus on the stability of the financial system.

- **Contractual provisions between the SIRESS Operator and participating banks**

The SIRESS service agreement is executed by the SIRESS Operator and the participating banks. It provides the conditions to participate/access SIRESS; settlement management, including business rescue and insolvency provisions; settlement services and procedures; applicable fees and penalties; dispute resolution mechanism; and confidentiality.

15. See the NPS Act 78 of 1998.

16. See the description of the NPS Act 78 of 1998.





- **Contractual provisions among the participating banks**

All participants (banks and central banks) are obliged to sign the SIRESS settlement agreement. The SIRESS settlement agreement is executed between the SIRESS participating banks and it provides, among other things, compliance requirements, options to manage settlement failure, records management, risk management, settlement management and performance monitoring, and finality and irrevocability of settlement. The settlement agreement is signed multilaterally; however, each participating bank is not obliged to transact with each and every participant in SIRESS.<sup>17</sup>

17. See section 1.5 of the Settlement Agreement Preamble.

The SADC Payment Scheme Management Body (PSMB) is established with the objective of organising, managing and regulating the participation of SIRESS participants in various payment schemes of the SADC clearing and settlement system.

The SADC PSMB acts as a self-regulatory body under the authority of the SADC PSOC. The participating banks also execute an assent agreement between themselves under the SADC PSMB.

There is a requirement that, prior to admission for a participant to participate in the regional clearing and settlement environment, such participant shall be expected to execute an assent agreement regulating different regional payment schemes (RPSs)<sup>18</sup> in which the participant wishes to participate with other participants under the SADC PSMB.<sup>19</sup>

18. Refer to the definition section of the SIRESS settlement agreement.

19. See section 4 of the settlement agreement.

### 3.1.3 Key consideration 2

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

The rules as formulated and amended govern matters, including regulations, and rights and responsibilities of the participants, including business processes and models. The SADC PSOC is responsible for the regulatory rules, the SIRESS Operator is responsible for the operational rules, and the SADC PSMB for the business rules and models.

The rules are affected by the SADC PSOC oversight arrangements which guide the SADC PSMB Beige Book, and the SIRESS Operator which guides the SIRESS Service Level and Operational Manual.

Technical business rules and models are evidenced in the SIRESS functional specifications and SADC BA business models, including message templates.<sup>20</sup> A comprehensive set of participant rules and functional specifications can be found on the SADC PSMB website.<sup>21</sup> The SIRESS Operational Procedures and Service Level Manual is included as part of the documentation provided to, and signed off by, participants when joining SIRESS.

20. See repository in SWIFT MyStandards.

21. See <http://www.sadcbanking.org>.

The operating procedures are evidenced by the Operational Procedures and Service Level Manual maintained by the SIRESS operator. Since SIRESS has recently been implemented, the SIRESS procedures are amended as and when the situation arises. The procedures are available from the NPSD internal network file storage in electronic format.

The SIRESS operator occasionally issues participant notices (e.g. review of interest rates, new participants, public holidays) with regard to the operations of SIRESS. The operational notices are sent to participants, and SADC PSMB and SADC PSOC members, and are published on the CCBG Payment System website.<sup>22</sup>

22. See <http://www.sadcbankers.org>.

The participation fees and charges are determined by the SIRESS operator and approved by the SADC PSOC.<sup>23</sup> The operational fees are determined in terms of the SARB's cost recovery policy and other charges are determined according to the business operational needs.

23. Refer to clause 11 of the SIRESS settlement agreement and clause 9 of the SIRESS service agreement.

24. Refer to clause 14 of the SIRESS settlement agreement.

25. Refer to clauses 14.3 and 14.4 of the SIRESS settlement agreement.

26. KC1.2 KE 2. Consistency of the FMI's rules, procedures and contracts with relevant laws and regulations.

27. see <http://www.sadcbankers.org>

The settlement agreement provides for settlement rules and procedures.<sup>24</sup> The agreement provides for the adherence to the RPSs arrangements, the formulation and approval of the rules as well as the rights and obligations of the participants and the SIRESS operator.<sup>25</sup>

The SIRESS PSOC, SADC PSMB and SIRESS operator ensure that the rules are consistent with the relevant laws and regulations and, where appropriate and when required, seek legal and expert opinion with regard to consistency and enforceability of the rules in terms of the relevant applicable laws.

SIRESS PSMB business models and rules are formulated by the SADC PSMB and approved by the SADC PSOC. The SADC PSOC rules and regulations are formulated by the committee and approved as such and, where relevant, referred to the SADC CCBG for approval. In the instance where operational rules and procedures are formulated by the SIRESS operator, such rules are approved by the SADC PSOC.<sup>26</sup>

The SADC PSMB publishes a 'Getting Started Guide' which is a summarised handbook of the regulatory and business requirements of a new financial institution wanting to join SIRESS. The document describes certain procedural and business requirements and other information relating to participation in SIRESS.

### 3.1.4 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.

The SADC PSOC and PSMB articulate the legal basis for their activities to relevant authorities, participants and, where relevant, participants' customers in a clear and understandable way.

The SIRESS PSMB business models and rules are formulated by the SADC PSMB and approved by the SADC PSOC. The SADC PSOC rules and regulations are formulated by the committee and approved as such and, where relevant, referred to the SADC Committee of Central Banks Governors for approval. In the instance where operational rules and procedures are formulated by the SIRESS operator, such rules are approved by the SADC PSOC.

The rules are communicated to participants and other interested parties. Where clarification of the rules and applicable legal opinion is sought, the matter is referred to the relevant legal bodies (e.g. Legal Subcommittee of the CCBG or the SARB's Legal Department (SIRESS operator-relegated matters)). The existence and provided legal opinion is shared with interested parties where relevant.

The SADC PSOC submits a biannual report to the CCBG in April and September of each year. This report is submitted as part of the Payment System Subcommittee's progress report. The SADC PSMB also submits its report to the CCBG as part of the SADC BA progress reporting to the CCBG on a biannual basis. The progress reports are available on the CCBG website.<sup>27</sup>

- **SIRESS Operational Notices**

The SARB, as the SIRESS operator, publishes Operational Notices on the CCBG website in order to communicate operational matters, such as system documentations, rules and procedures, to ensure settlement. Operational Notices are also sent to participants, SADC PSOC members and the SADC PSMB.



### 3.1.5 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 subjected to stays.

In terms of section 4 (A) of the NPS Act, SIRESS has been designated as a settlement system by the SARB. Section 5 of the NPS Act provides that settlement in SIRESS as a designated settlement system is final and irrevocable and cannot be reversed, voided or subjected to stays.

The settlement and service agreements stipulate that the applicable law in terms of provisions for the settlement management, services and operations of SIRESS is the South African law and the jurisdiction of the High Court of South Africa.<sup>28</sup> The participant juristic laws are still applicable in terms of exchange control, domestic RTGS participation or settlement arrangements, oversight and other regulatory provisions.

Section 9 of the SARB Act<sup>29</sup> provides the reasons that will void the rules, procedure and contracts under the 'Validity of the Board's decisions and acts'. No decision or act of the Board<sup>30</sup> or act performed under the authority of the Board shall be invalid. When rules, procedures and contracts are reviewed, this is always subject to legal opinion and confirmation from the SARB's Legal Services Department, taking into account comments from current participants.

### 3.1.6 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.

The operating rules, settlement management and the provision of settlement services in SIRESS are governed by South African law, and participant banks submit to the jurisdiction of the High Court of South Africa or its successor. Consequently, South Africa is the relevant jurisdiction for the enforcement of the rules. The above applies even though a SIRESS participant may be incorporated in another jurisdiction (e.g. Malawi).

As mentioned previously, the SIRESS rules, operations, provision of settlement services and management are governed by South African law. However, to date, there has not been any identification of activities that might give rise to the conflict of laws and that will subsequently require attention from the participating central banks' jurisdictions.<sup>31</sup>

The assessment above will be reviewed on an ad hoc basis and on an annual basis by the SADC PSOC. Participating central banks will be requested to provide an opinion in the event that the law in their jurisdiction will not have an impact on the forcibility of the SIRESS rules and regulations, including aspects identified as being material to SIRESS.<sup>32</sup>

## 3.2 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.

### 3.2.1 Assessment of compliance

The SARB, as the SIRESS operator, broadly observes Principle 2, except key consideration 3. All key considerations are observed. The FMI is operated by the SARB and has wide public policy objectives and responsibilities for monetary and liquidity

28. Refer to clause 22 of the settlement agreement and clause 27 of the service agreement.

29. See the South African Reserve Bank Act.

30. South African Reserve Bank Board.

31. See KE 1. Identification of potential conflict of laws across jurisdictions.

32. See KE 2. Mitigation of risks arising from conflict of laws across jurisdictions.

policies. The Board of the SARB has delegated responsibilities applicable to the FMI to the Management Committee of the SARB.

SIRESS is owned by SADC through the SADC CCBG. Notwithstanding the overall ownership, the intellectual property rights in and to the system which are used in the operation of SIRESS remain vested in the SARB. SIRESS is operated by the SARB. Ownership matters and the decision-making processes of SIRESS fall under the governance structures of the CCBG.

### SIRESS ownership and operations structure



The SADC FIP finance and investment sector objectives are to:

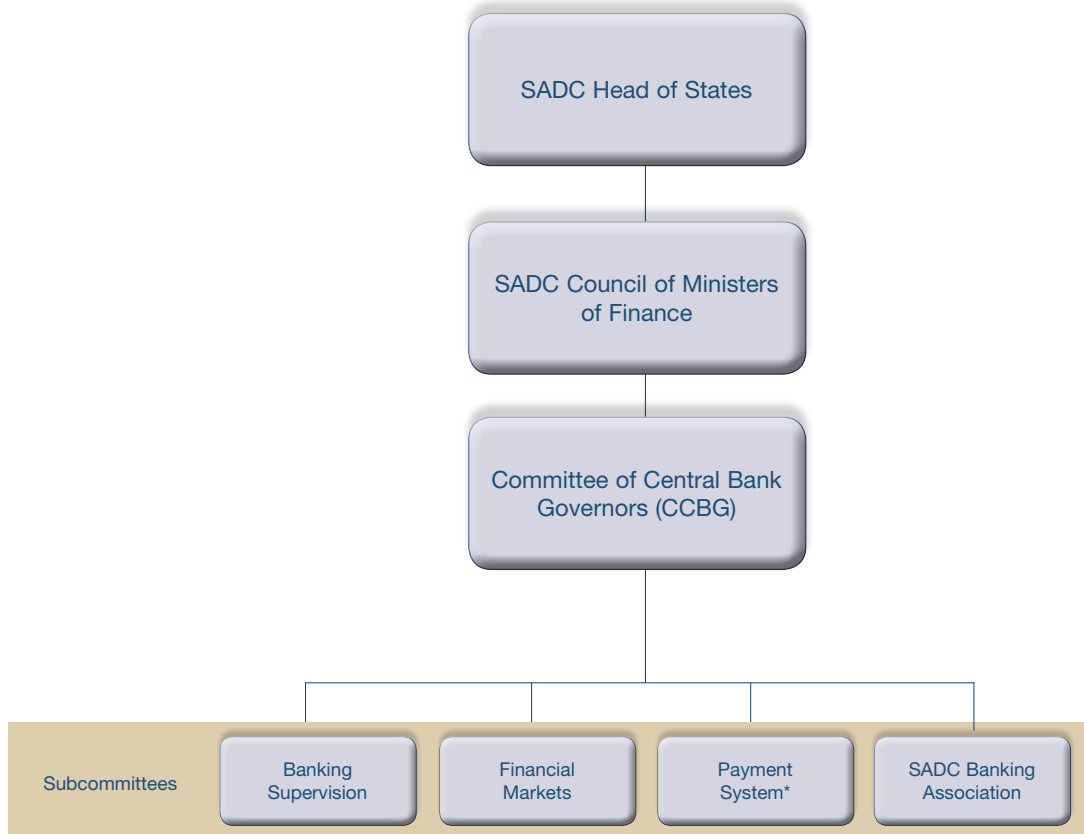
- promote the development of sound investment policies of member states in order to establish an enabling environment for investment in the region;
- provide a framework for regional cooperation in the area of finance in collaboration with central banks, other regulatory and supervisory authorities, banks and other financial intermediaries in order to mobilise resources for investment; and
- encourage movement towards regional macroeconomic stability by, among other things, promoting prudent fiscal and monetary policies.

The SADC Council of Ministers approved the establishment of the Finance and Investment Sector, with two separate committees, namely the Committee of Treasury Officials and the CCBG in January 1995.<sup>33</sup> The CCBG focuses on the monetary and fiscal matters and reports directly to the Sectorial Committee of Ministers responsible for finance and investment.

The CCBG also coordinates the development of national clearing, payment and settlement arrangements with a view to facilitate financial transactions among SADC members.

33. Refer to the CCBG terms of reference available at <http://www.sadcbankers.org/Lists/News and Publications/Attachments/3/Terms of reference.pdf>

## SADC and CCBG governance structure



\* Incorporates the SADC Payment System Oversight Committee

The management and operations of SIRESS fall under the governance structure of the SARB, and it is therefore subject to the oversight, governance, audit and decision-making processes of the SARB.

Both governance arrangements are clear and transparent. The governance arrangements promote the safety and efficiency of SIRESS, and support the stability of the broader financial system and public interest considerations.

With regard to ownership governance arrangements, the obligations are evidenced in the SIRESS MoU for Cooperative Oversight of SIRESS and the SIRESS Oversight Guide as executed by the participating central banks.

It should, however, be noted that the CCBG as an entity does not have the legal status to be able to contract third parties (all contracts are co-signed by all the Governors in the CCBG). The creation of a legal status for the CCBG as an entity is being pursued by the CCBG Legal Subcommittee.

SIRESS is subject to the NPS Act's governance, which is driven by the mission statement of the NPSD as well as clearly defined NPS industry objectives. The SARB also acts as overseer of the South African NPS.<sup>34</sup> The NPSD has the responsibility to implement the South African National Payment System Framework and Strategy agreed upon by the SARB and the banking industry. The NPSD strives to reduce and manage the risks in the NPS by promoting compliance with accepted international best practices for payment systems. The NPSD is primarily focused on the domestic NPS, but also plays a vital role in the development of SADC's payment systems.

34. Refer to clause 5.1 of the MoU for Cooperative Oversight of SIRESS.

These elements place a high priority on the safety and efficiency of the FMI entities and support the financial stability of the South African NPS environment. Additionally, SIRESS operates under a clearly documented risk management framework and risk policies developed under an overarching policy framework. The SARB governance arrangements clearly specify the roles and responsibilities of the Board of the SARB and its subsidiaries. The SARB Board is responsible for the ultimate direction, support and supervision strategy of the SARB as a whole, as well as for governance and compliance arrangements and relevant control functions. The daily operational activities of the NPS have been delegated to the NPSD.

### 3.2.2 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.**

The NPSD supports the mission of the SARB by ensuring the overall effectiveness and integrity of the NPS. The mission of the NPSD within the SARB is to ensure the safety and efficiency of the NPS in the country. Thus, it plays a significant role in supporting the SARB's role of maintaining financial stability in the financial system. Its role and function strives towards three distinguishable functional areas, namely:

- provision of payment settlement services (operational);
- oversight of the NPS; and
- developing regional capacity and infrastructure in SADC.

Attention will be focused particularly on the distinction between the operational and oversight roles. In line with international trends, the NPSD believes that the SARB will continue to own and operate the settlement system and that NPS oversight, as an integral part of financial stability, will remain the function of the central bank. Owing to the unique role and functions of the SARB, risk management has also been taken into account as one of the primary objectives, in line with the statutory and constitutional responsibility of the SARB.

The SARB also functions within an environment characterised by continuous change and uncertainty. This requires constant monitoring and analysis of, and appropriate response to, potential and actual risks emanating from the global political and economic environment. The executive management of the SARB is intensely aware of the high performance standards that all role players within South Africa's external environment expect of the central bank.

Risk management is viewed as an integral part and an essential element of good corporate governance, and therefore it has established a risk management policy to ensure that risks are managed in a coordinated, comprehensive and systematic manner that is consistent with internationally accepted standards and guidelines:

- To ensure that the safety and efficiency is achieved and maintained, it forms part of the annual strategic planning sessions where focus areas are agreed upon with specific milestones.
- Settlement is done in central bank money and this therefore underpins the financial stability.

With regard to the SADC PSOC, the objectives of participating central banks are to have a cooperative oversight arrangement for SIRESS that will provide a mechanism for mutual assistance between the participating central banks in carrying out their individual responsibilities in pursuit of their shared public policy objectives for the safety and efficiency



of payment and settlement systems and their focus on the stability of the financial system.

Participating central banks join the SIRESS oversight body, namely the SADC PSOC, which discharges their oversight responsibilities over SIRESS.

The participating central banks also seek to promote a consistent oversight approach that:

- achieves comprehensive oversight over SIRESS, including the functioning of the SADC PSMB;
- enhances oversight efficiency by minimising the burden on the SIRESS operator and the duplication of efforts by the participating central banks;
- fosters transparency among the participating central banks regarding the development and implementation of applicable policies; and
- supports fully informed judgements when participating central banks make their independent yet interdependent oversight assessments and decisions vis-à-vis SIRESS.

### 3.2.3 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.

#### a. SADC CCBG governance arrangements

The Committee of Ministers for Finance and Investment (COMFI), the SADC CCBG and the Peer Review Panel institutions are established in terms of Article 17 of the FIP.

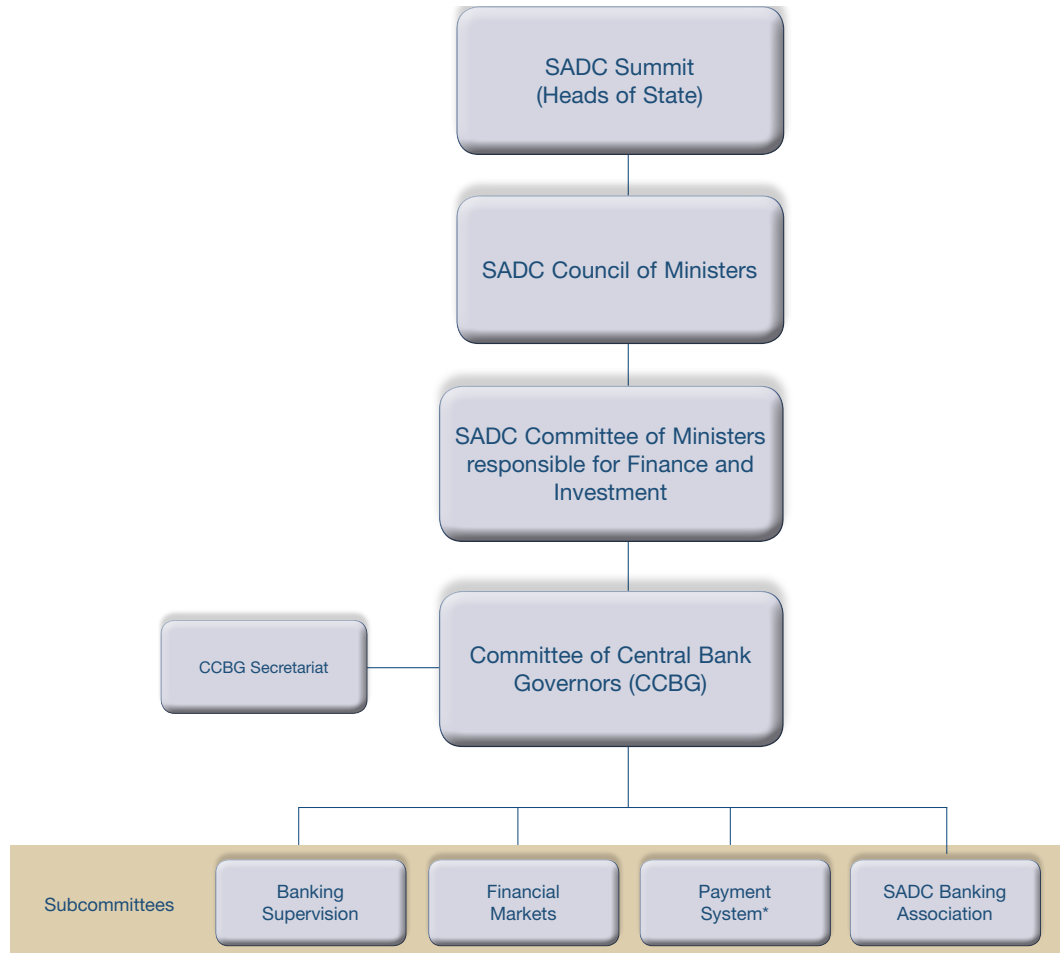
The CCBG consists of the Governor of the central bank of each SADC member state. The CCBG reports to the SADC COMFI.

Annexure 6, Article 3 of the SADC FIP provides for the establishment of cooperation and coordination between central banks on payment, clearing and settlement systems in order to, among other things:<sup>35</sup>

- define and implement a cross-border payment strategy for the region;
- identify, measure, minimise and manage payment system risk, in particular systemic risk relating to the payment system; and
- conduct ongoing payment system oversight aimed at reducing and eliminating cross-border settlement risk and systemic financial risk.

35. see [http://www.sadc.int/files/4213/5332/6872/Protocol\\_on\\_Finance\\_\\_Investment2006.pdf](http://www.sadc.int/files/4213/5332/6872/Protocol_on_Finance__Investment2006.pdf).

## SADC and CCBG Governance Structure



\* Incorporates the SADC Payment System Oversight Committee

### b. SADC PSOC governance arrangements

Article 6, Annexure 6 of the FIP provides that the Payment System Subcommittee shall, among other things:

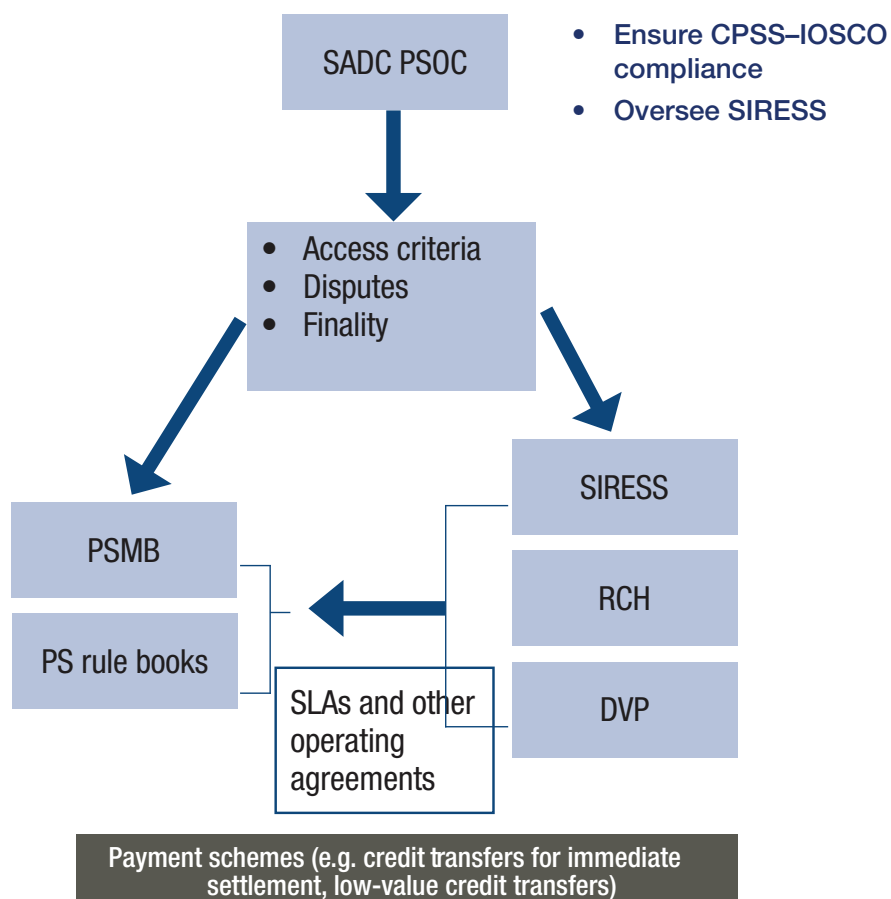
- review and monitor objectives set out in Article 3 of the FIP; and
- establish a payment system oversight function for the region.

In support of these objectives, the SADC PSOC was established and the SIRESS governance arrangements are documented and evidenced in the MoU for Cooperative Oversight of SIRESS (MoU for SIRESS).

The SADC PSOC is established by the CCBG to regulate, oversee and supervise SIRESS and the SADC PSMB.



## SADC PSOC and PSMB governance structure



### c. SADC PSMB governance arrangements

The SADC Banking Association (SADC BA) was established to coordinate the cross-border banking activities of its members. These activities include influencing policy, interacting with stakeholders, and initiating projects that can contribute to sustainable banking and investment policies and activities in the SADC region. Being in the cooperative (non-competitive) space, the focus of the SADC BA's interventions is to define payments instruments, business rules, and messaging standards for interbank use.

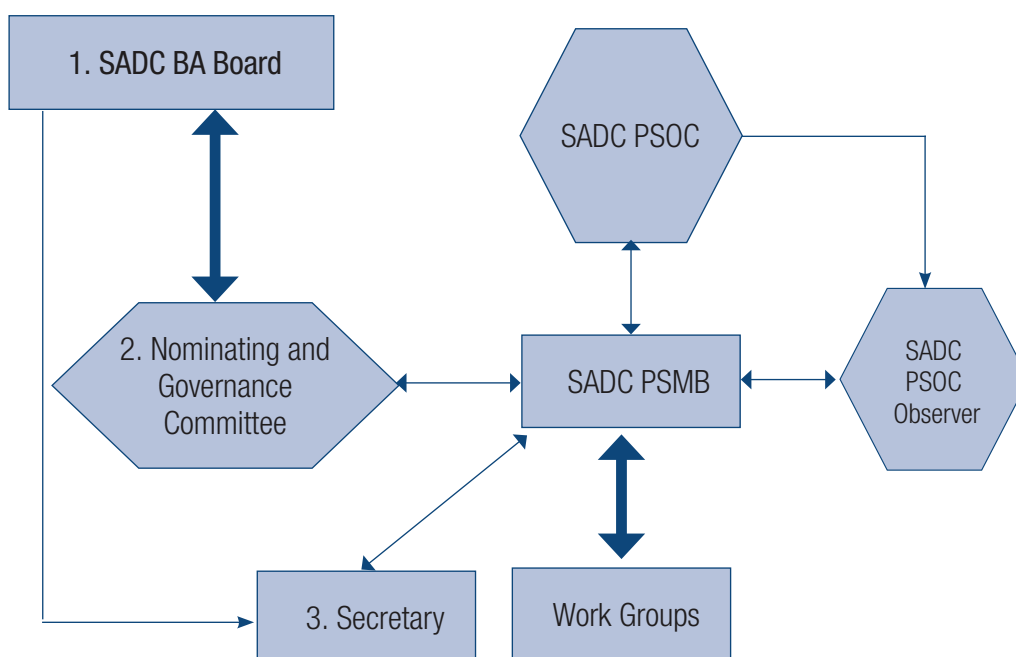
The SADC PSMB was established with the objective of organising, managing and regulating the participation of SIRESS participants in various payment schemes of the SADC clearing and settlement system.

Each country that has individual members participating in a payment scheme is allowed to have a seat on the PSMB.

In terms of the PSMB, the Settlement System Participant Group (SSPG)<sup>36</sup> was established by the SIRESS participants in the interbank clearing and settlement system by signing the settlement agreement. The body acts with a common interest or consultative forum for the purpose of recommending and, once approved by the SADC PSOC and SADC PSMB, implementing rules for settlement and liaising and consulting with the SADC PSOC, SADC PSMB, SIRESS operator and such other party or parties within the clearing and settlement environment as may be appropriate or desirable with regard to matters, including operational, relating to the settlement of payment obligations in the cross-border clearing and settlement arena.

36. Available in the Settlement System Participant Group Constitution document published October 2013

## Payment Scheme Management Body Governance Structure



### 3.2.4 The SARB as the SIRESS operator

#### a. The SARB's governance arrangements

The SARB Act 1989, as amended, provides for a Board consisting of 15 directors. The Governor and three deputy governors are appointed by the President of the Republic of South Africa, after consultation with the Minister of Finance and the Board, initially for five-year terms. Four other directors are appointed by the President, after consultation with the Minister, for three-year terms. The remaining seven are elected by shareholders at an ordinary general meeting of shareholders.

The SARB annually holds an ordinary meeting of shareholders at its Head Office building in Pretoria. On this occasion the Governor, as Chairperson, delivers an annual address on matters covering the state of the economy, certain aspects of monetary policy and the operations of the SARB. At this meeting the SARB tables a comprehensive *Annual Report* on its operations and finances for approval by shareholders. The *Annual Report* also contains a discussion of monetary policy.

The Board meets regularly to ensure that it fulfils its role of ensuring corporate governance of the SARB. The Board ensures compliance with principles of good corporate governance by, among other things, adopting rules and determining policies for the sound accounting, administration and functioning of the SARB, as well as by exercising the other tasks reserved in terms of the SARB Act. In the process, the Board utilises various committees and subcommittees, chaired by non-executive directors. To ensure the proper functioning of the SARB and the optimal discharge of its responsibilities, some of the SARB's activities have been organised in subsidiary companies.

Internally the SARB has 15 departments, including the SARB Academy. Each Head of Department reports to either the Governor or a Deputy Governor. Collectively, the departments ensure the smooth running of the SARB and the implementation of the SARB's mandate.

The SARB is responsible for bank regulation and supervision in South Africa via the Bank Supervision Department. The SARB has delegated this function to the Registrar of Banks. The purpose is to achieve a sound, efficient banking system in the interest of the depositors of banks and the economy as a whole. This function is performed by issuing banking licences to banking institutions, and monitoring their activities in terms of either the Banks Act 94 of 1990 or the Mutual Banks Act 124 of 1993 and the regulations relating thereto.

The SARB has delegated responsibility for the NPS functions to the NPSD within the SARB. Furthermore, it recognises the obligations and powers of PASA as a PSMB established with the object of organising, managing and regulating the participation of its members in the payment system, including all matters affecting payment instructions, and the rights and obligations of members and of provisional members of PASA. The NPS Act clearly stated the powers and duties of the SARB and the PSMB regarding the settlement system.

Although the operations and oversight functions of the FMI are located in the same department within the SARB, each division has its own Deputy General Manager with assigned delegations and areas of responsibility.

The SIRESS system is governed through service level agreements (SLAs), SIRESS service agreements, settlement agreements, Scheme Agreements and the SAMOS user group. The PASA constitution and the NPS regulatory framework, including fiduciary duties of PASA council members, are reviewed on a needs basis.

#### **b. Disclosure of governance arrangements**

The SARB is the owner of the FMI and therefore no external owners exist. The governance of the SARB is published as part of the SARB's *Annual Report* but with no specific reference made to FMI governance. The governance arrangements are discussed at SADC PSOC level as discussed above.

### **3.2.5 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.

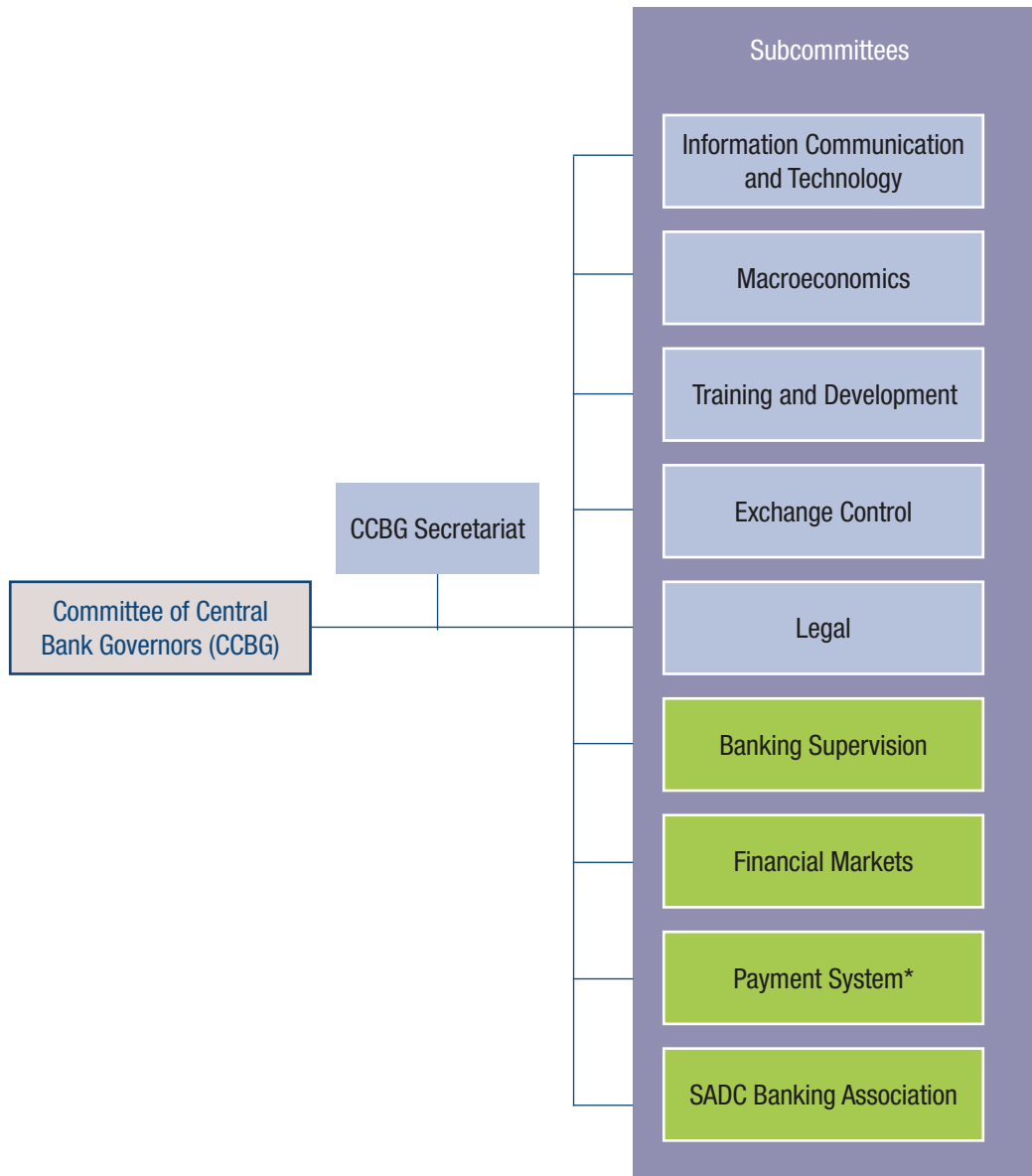
#### **a. SADC CCBG**

The CCBG was established to promote and achieve closer cooperation among central banks. Chapter 10, Article 19 of the FIP provides for the functions and responsibilities of the CCBG (i.e. the responsibility for the implementation of those aspects that are specifically allocated to it):

- a. by COMFI; and
- b. in the various Annexes of FIP.

The CCBG also deals with the development of well-managed financial institutions and markets; cooperation regarding international and regional financial relations; and monetary, investment and foreign exchange policies in the region.

## Subcommittees of the CCBG



\* Incorporates the SADC Payment System Oversight Committee

### a. Payment systems

The Chapter 5, Article 8 of the FIP provides that the state parties shall ensure cooperation among their respective central banks in relation to payments, clearing and settlement systems as set out in Annex 6.

The objective of Annex 6 is to establish a framework for cooperation and coordination between central banks on payment, clearing and settlement systems in order to:

- define and implement, in each state party, a safe and efficient payment system based on internationally accepted principles;
- define and implement a cross-border payment strategy for the region;
- identify, measure, minimise and manage payment system risk (in particular systemic risk relating to payment systems);

- achieve convergence across the region of the features, policies, practices, rules and procedures relating to payment systems, and clearing and settlement systems;
- conduct ongoing payment system oversight aimed at reducing and eliminating cross-border settlement risk and systemic financial risk.

Chapter 5, Annexure 6, Article 5 of the FIP provides that the CCBG shall establish the Payment System Subcommittee responsible for the implementation of Annex 6.

Each central bank is represented on the SADC CCBG Payment System Subcommittee by one payment system.

The SADC Payment System Subcommittee shall establish a SADC Payment System Working Group, and shall delegate the day-to-day administration relating to the implementation of Annex 6 to the Payment System Working Group. The Working Group shall comprise a project leader, a project manager and such number of payment system analysts as are appointed by the SADC Payment System Steering Committee. The Working Group shall be responsible for the implementation of Annex 6 on a daily basis.

Chapter 5, Annexure 5, Article 7 provides for the functions of the Legal Subcommittee which, among other things, includes to:

- review and monitor progress in respect of the objectives set out in Article 3;
- initiate such tasks and projects as the SADC Payment System Steering Committee may deem necessary in order to support the objectives set out in Article 3;
- consider and recommend the enactment of, or amendments to, the legislation of state parties relating to payment systems, and clearing and settlement systems, including the making and amendment of rules and procedures, risk management policies and any other matters relevant to such legislation and such payment systems, and clearing and settlement systems;
- discuss and reach consensus on strategic issues relating to the objectives set out in Article 3;
- meet at least once every year or when necessary or, if so requested by any state party, more frequently;
- establish its own procedures, including the establishment of such subcommittees as the SADC Payment System Steering Committee may deem necessary;
- establish a payment system oversight function for the region; and
- keep the CCBG informed of the development and progress in achieving the objectives set out in Article 3.

The SADC Payment System Working Group shall:

- work towards achieving the objectives set out in Article 3;
- accomplish the tasks delegated to it by the SADC Payment System Subcommittee;
- report progress on all aspects of its work to the SADC Payment System Steering Committee on a regular basis;
- take such initiatives as it may consider appropriate to build payment system skills within the region;
- monitor the progress of each state party and of the region in matters contemplated in Annex 6 and report such progress to the SADC Payment System Subcommittee;

- make such information relating to matters contemplated in Annex 6 as it may consider appropriately available to the public and all interested parties within the region; and
- develop mutually beneficial liaisons with international bodies such as the World Bank, the BIS and the central banks of third states.

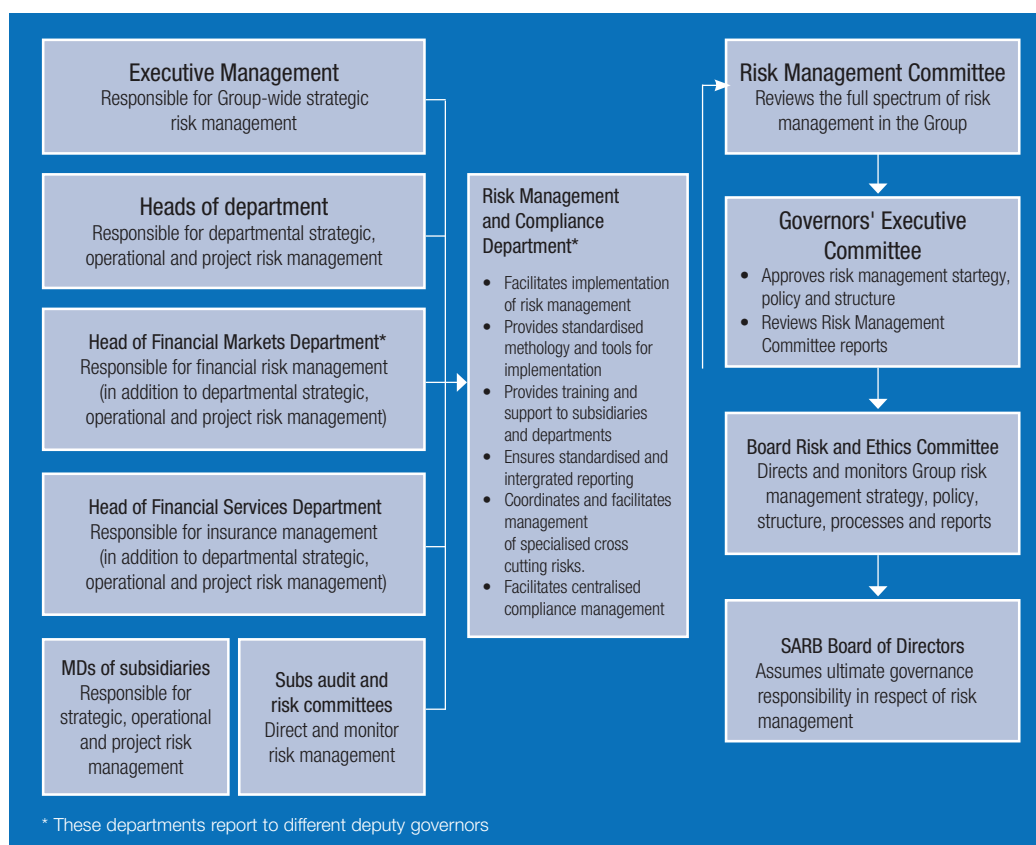
### c The SARB Board of Directors

In accordance with SARB Act,<sup>37</sup> the Board is a unitary Board that functions in terms of the SARB Act and a Board Charter that, as with all other Board committees' terms of reference, is reviewed annually by the Board. The Board of the SARB is ultimately responsible for directing and monitoring the total process of risk management, as well as forming its own opinion on the adequacy and effectiveness of the process. However, the role of the Board is explicitly limited to that of a governance Board. The following committees have been established to facilitate the functioning of the SARB and the Board.

#### i. Governors' Executive Committee)

The SARB's Governors' Executive Committee (GEC) has overall executive responsibility for risk management in the SARB and is accountable to the Board for ensuring adequate risk management structures and processes. The Risk Management Committee (RMC), which is a subcommittee of the GEC, assists the GEC with regard to its executive responsibility for risk management in the SARB.

The SARB's risk management governance structure illustrates this below.



37. Extracts from document titled 'Governance of risk management in the Bank'.

## ii. The SARB's Board Risk and Ethics Committee<sup>38</sup>

The Board Risk and Ethics Committee (BREC) is a subcommittee of the Board that was established to assist the Board with regard to its governance role in respect of risk management in the SARB. BREC comprises six non-executive directors, the Governor and two deputy governors. It is chaired by an independent non-executive director appointed by the Board. The SARB's Internal Code of Ethics is reviewed periodically. The terms of reference of the BREC provide for the committee to consider matters such as:

- reports on risk management in the SARB Group;
- evaluating and monitoring the implementation of the SARB Group's Risk Management and Financial Risk Management Policy;
- monitoring that risk assessments are performed and reviewed on an ongoing basis;
- the adequacy and effectiveness of the risk management processes and reporting systems;
- the risk profile of the SARB Group and key risks it faces;
- consideration of appropriate risk-mitigating measures implemented by the executive;
- the implementation by the executive of processes to identify and, as appropriate, respond to exogenous risks;
- the effectiveness of the system for monitoring compliance with legislation and the policies of the SARB Group;
- the status of the SARB Group's disaster recovery and business continuity plans (BCPs);
- reporting to the Board on the effectiveness of the system and process of risk management; and
- monitoring the SARB Group's ethics and social activities with regard to relevant legislation, other legal requirements or prevailing codes of best practice relating to social and economic development, good corporate citizenship, environment, health and public safety, including the impact of the Group's activities, customer relationships, labour and employment.

## iii. The SARB's Audit Committee<sup>39</sup>

The Audit Committee is an advisory committee and not an executive committee. This committee assists the Board in fulfilling its oversight responsibilities for the financial reporting process, the system of internal control, the audit process and, as appropriate, the SARB's process for monitoring compliance with laws and regulations as they relate to financial reporting. The Committee is accountable to the Board; however, the existence and functioning of the Committee does not relieve the directors of any of their responsibilities, but assists them to fulfil those responsibilities. The Committee fulfils responsibilities under the following focus areas: governance, internal audit, external audit, financial risk, legal, and information technology.

## iv. Standing Committee for the review of the NPS Act

The Standing Committee was established to review NPS developments and to ensure that the NPS Act provides the SARB with sufficient regulatory powers to oversee the safety and soundness of the payment system.

## v. The SARB's Financial Stability Committee

For the purposes of achieving the financial stability objective of the SARB,<sup>40</sup> a committee of the SARB, known as the Financial Stability Committee (FSC) was established which is

38. Extract from the 'Governance of risk management in the SARB' document

39. Extract from the 'Terms of Reference of the Audit Committee 2014 and Internal Audit Charter 2014'.

40. Extracts of the 'Terms of Reference of the Financial Stability Committee' document

responsible for formulating financial stability policy on behalf of the SARB in support of the primary objective of the SARB. The objective of the FSC is to complement the price stability objective of the SARB through the formulation and implementation of appropriate macroprudential policy measures to limit the cost of system-wide distress in the financial system. Typical key functions of the FSC include:

- consideration of conjectural assessments of risks to, and imbalances in, the broad financial system, and their implications for the stability of the financial system;
- consideration of the appropriateness and adequacy of resolution policies and measures for crisis resolution; and
- consideration of international and domestic developments in the area of macroprudential policy and regulation, including the G-20 regulatory reform agenda, and their potential policy implications for South Africa.

### 3.2.6 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).

This consideration does not apply to SIRESS because the central bank has a wider focus than just the FMI.

### 3.2.7 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.

#### a. Roles and responsibilities of management

The management team of the FMI contributes to a sound and efficient payment system that meets the requirements of the South African payment system. The strategic development plans of the NPS, the FMI settlement system development and user acceptance testing processes, as well as day-to-day operations and risk management form part of the operational plan of the department. The management team is responsible for monitoring developments in the settlement environment and making strategic decisions on the future developments of the settlement system, at least through a review of the system in a five-year cycle. The operations team is responsible for the day-to-day operations and monitoring of the FMI. The performance of staff charged with responsibilities in this area is evaluated based on a formal performance contract.

#### b. Experience, skills and integrity

The SARB's staff policies are approved by the GEC after consultation with staff, the Employment Equity Consultative Body and the South African Society of Bank Officials (SASBO). The SARB believes that competent people should be appointed for good business reasons and in line with SARB's employment equity strategy, as stated in the Policy on Employment of Staff.<sup>41</sup> Further legislation that the SARB adheres to during recruitment and selection are listed in the policy. This is a SARB-wide focus, with reference to the 'Reputation of the Bank as an institution' section outlined in the SARB's strategic document.<sup>42</sup>

Job profiles indicate educational requirements as well as skills and competencies required to manage the FMI. Recruitment, selection and skills development interventions are formally

41. see the SARB's Policy on Employment of Staff.

42. Strategic Framework for 2008/09 (August 2008).





undertaken and led by the Human Resources Department (HRD) within the SARB. New executives, management and employees are security vetted. The process is facilitated by the SARB security officials with liaison with the National Intelligent Agency (NIA) and the SAPS, where relevant. The security vetting is conducted to examine the integrity of the individual through a person's education (skills and competency), criminal background checks and private life in order to make sure the employee can be safely trusted to hold the job in the NPS. This is done in order to reduce personnel security risks and to ensure that the FMI security is not compromised in any manner.

To ensure a high level of public confidence in the SARB and all its subsidiaries, business units and divisions, the SARB is committed to a Code of Ethics and Business Conduct Policy.<sup>43</sup> This policy is endorsed by the Board and GEC of the SARB, and is based on a fundamental belief that business should be conducted honestly, fairly and legally. The SARB expects all employees to share its commitment to high moral, ethical and legal standards. The Code is further designed to be able to serve as information to external stakeholders of the SARB's policy in this important area of corporate governance.

43. SARB Code Of Ethics and Business Conduct (2007).

The policy also puts emphasis on compliance of all applicable laws and regulations (in particular the SARB Act) which relate to their activities for and on behalf of the SARB. The SARB will not condone any violation of the law or unethical business dealing by any employee. It also clearly states the SARB's stance on conflicts of interests, outside activities, and employment and directorships, including any payment for or other participation in an illegal act, such as bribery.

### 3.2.8 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.

Annex 6, Article 4 of the FIP provides that state parties' central banks should identify and measure payment system risk and establish appropriate procedures for the management of such risk. Under this policy framework, the state parties' central banks are required to identify, measure, minimise and manage payment system risk (in particular systemic risk relating to payment systems).

As the SIRESS operator, the following is applicable:

#### *Risk management framework*

The Risk Management Framework and Policy of the SARB, as approved by the Board, is in place through which possible risks have been identified and their mitigation addressed. The risk matrix is reviewed on a quarterly basis. The BCP, which includes the crisis management procedures is in place. The FMI has developed an object-relational mapping (ORM) framework which is reviewed and approved by management in the FMI.

#### *Authority and independence of risk management and audit functions*

The SARB has delegated the responsibilities of risk management to the Risk Management and Compliance Department (RMCD), a unit within the SARB structure. This unit coordinates the governance, risk management and compliance activities of the SARB. Its functions are underpinned by relevant policies. The RMCD is functionally accountable to the GEC and reports on behalf of management to the RMC and the BREC. The NPSD risk function mentioned above is regulated by this department.



In addition, the Internal Audit Department (IAD) is a unit within the SARB that reports to the Governor. The IAD performs audits on the systems, processes and procedures of the FMI.

### 3.2.9 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.

The CCBG and PSOC governance arrangements ensure transparency to regional payments activities, including SIRESS, to relevant stakeholders and other interested parties. The Payment System Subcommittee and the Oversight Committee engage with the participants and other stakeholders. The SADC Secretariat, SADC BA, SADC PSMB and CCBG Secretariat have standing invitations to the Payment System Subcommittee and Oversight Committee meetings. Where relevant, Payment System Subcommittee members engage with their juristic payment system associations where cross-border payment matters have a material impact on the domestic/NPS environment.

The SARB, as the SIRESS operator, has adopted a collaborative approach in identifying and taking account of the interests of SIRESS and SAMOS participants and other relevant stakeholders in its decision-making.

#### a. Disclosure

In order to promote the constitutional right of access to information, the SARB complies with the Promotion of Access to Information Act 2 of 2000. In response to this, the Promotion of Access to Information Manual<sup>44</sup> was published on 15 November 2011 and made available to the public. In this manual the purpose and functions of the SARB, as well as its structures and subsidiaries were voluntarily disclosed. In addition to the manual, the SARB holds different forums that are used as platforms to disclose major decisions to its stakeholders:

- The mandate, mission, objectives and functions of the SARB and its Board are published on the SARB website.
- The role of South African NPS and the role and responsibilities of the SARB through the NPSD are published on the SARB website.
- The SARB maintains the confidentiality of its FMI members; hence, member information is published on a secure site.
- All relevant legislations and the regulatory framework are published on the SARB website and includes position papers, information papers, directives and strategy documents.
- Communication is extended to the SADC community through the CCBG website.

### 3.3 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.

#### 3.3.1 Assessment of compliance

The SARB observes Principle 3. As mentioned previously in Principle 2, the SARB views risk management as an integral part and an essential element of good corporate governance.

44. In terms of section 14 of the Promotion of Access to Information Act 2 Of 2000, the manual is available at <http://www.resbank.co.za/Lists/NewsandPublications/Attachments/4882/SouthAfricanReserveBankManual.pdf>

The payment system is well structured so as to minimise applicable risks to its participants and all other stakeholders. The legislations also provide the legal underpinnings for the SARB's risk management framework and risk design. The SARB Group Risk Management Policy is formally documented and reviewed regularly to ensure that legal, credit, liquidity, operational and other types of risks are identified, measured, monitored and managed.

### 3.3.2 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 subjected to periodic review.

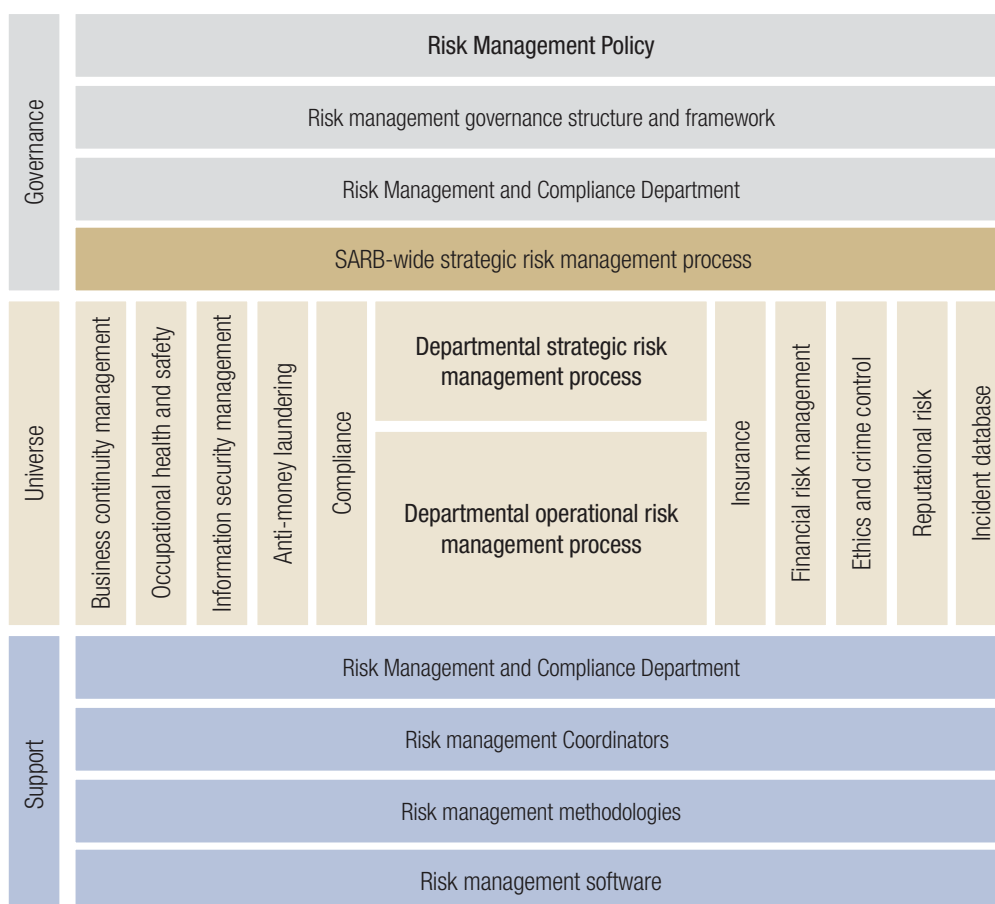
#### a. Risks that arise in or are borne by the FMI

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

#### b. Risk management policies, procedures and systems

All risk management processes and activities are conducted in terms of the SARB's risk management framework. The SARB's risk management framework details the SARB's governance processes, risk management universe, and support structures and processes.

SARB Risk Management Framework<sup>46</sup>



45. <http://www.resbank.co.za/AboutUs/RiskManagement/Pages/RiskManagementFramework.aspx>

A centralised risk management coordination function in the SARB is performed by the RMCD. The role of the RMCD is to (i) facilitate risk management ownership by management; (ii) provide a standardised strategic and operational risk management methodology and process; (iii) validate that the risk management processes are adequate and effective,

and comply with internationally accepted risk management standards; and (iv) ensure standardised and integrated reporting on all risk management activities and exposures to the GEC via the RMC and BREC. The RMCD is also responsible for the coordination and facilitation of specialised operational risk management processes, including business continuity management, occupational health and safety management as well as compliance risk management. Reporting on these risk management activities to the aforementioned committees is also coordinated by the RMCD.

The NPSD has a strategic risk matrix that is updated quarterly to highlight risks and mitigation factors. Rigorous change management processes are followed to assist with the management of risks. A crisis management procedure is used to assist with any problems, identify the risk and impact, and suggest remedial actions. SLAs and MoUs are signed by all parties agreeing to manage risks in their environment.

The SARB uses the CURA system to document risks, controls and mitigating factors. The NPSD also uses the NPS call logging system to record incidents. The SIRESS system also provides 'control log' and 'error log' reports identifying problems and controls in the system. This includes system alerts via e-mails and SMSes (Short Message Service). A monthly operational report is sent to the management team identifying issues, changes and solutions. The NPSD also participated in an operational risk assessment with the RMCD in order to compile a Risks and Contingency Register. Due to the nature of the SIRESS system, there is no need to aggregate exposures across the FMI and the relevant participants.

#### c. Review of risk management policies, procedures and systems

The NPSD aligns its processes with the policy of the SARB and works closely with the RMCD. Procedures are developed by SIRESS operations and approved by NPSD's management and the SARB's GEC were applicable. These procedures are continually updated and are audited by the external and internal auditors. The effectiveness of the risk management is assessed through audit reports and monthly operations reports which include system downtime.

The NPSD holds annual strategic sessions where risks are discussed, reviewed and documented in the risk matrix. A reporting framework will be developed to include the monthly operations reports sent to the Head of the NPSD Oversight Division, the Head of the NPSD, the Deputy Governor to which NPSD reports, the SADC PSOC and other interested parties. The NPSD management participates in the FSCF and Operational Risk Subcommittee of the FSCF.

### 3.3.3 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.**

As part of compliance,<sup>46</sup> each participant accepts responsibility for the adherence to standards as prescribed in the SIRESS service agreement to ensure the accuracy, lawfulness and integrity of all settlement instructions delivered and communications issued by or on behalf of such party to the SARB (as the central bank) and/or to other parties to this agreement. The risk exists that a settlement instruction or other settlement-related communication upon which another party is required to act may be unauthorised, inaccurate, incorrect or otherwise tainted, it being the party from whom or under whose mandate and authority such settlement instruction or other communication originated.

The SARB provides SIRESS members with information on the status of each individual payment instruction that the participant has submitted, as well as the SIRESS position

46. Available in the Settlement Agreement document.

monitor report (reflection of account balances, and RTL and CPL positions). This provision of information strengthens a participant's crisis management abilities.

Participants and the FMI are required to follow an approved change management process.<sup>47</sup> Participants must notify the FMI of all changes impacting on settlement on their side. Procedures are in place where the FMI is notified of problems experienced. The SIRESS Operations Division follows up on each incident that is recorded (as example messages that are not formatted according to the rules that might pose a risk to the system) requiring an incident response from participants, including detailed written responses to incidents.

The use of the payment and settlement service is preferable to a bilateral settlement because SIRESS eliminates principal risk. Participants are fully aware of the system validations (detailed in the settlement process under Principle 8) governing the settlement of their payment instructions, and the times by which payment settlement requirements must be satisfied. If the SARB is unable to settle a payment instruction because the validations have not been satisfied, the payment instruction will be rejected by SIRESS. Under these circumstances, the decision as to how to handle the settlement of the payment instructions is made by the originator of the payment instruction. Depending on the reason for the failure, the payer may decide to resubmit the unsettled payment instructions to SIRESS for settlement on the same day or at any other chosen valid settlement. The charge structure also includes penalties for messages that are incorrectly formatted. To encourage participants to send instructions from early morning and throughout the day, discussions on message processing costs are given.

### 3.3.4 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.

#### a. Material risks

Material risks identified are ZAR funding from the South African domestic RTGS and the system availability. Any disruption will have an impact on the ZAR settlement in SIRESS. Another risk is the FMI reliance on SWIFT as the only network carrier.

#### b. Risk management tools

The NPSD participates annually in the risk review with RMCD. The CURA system and the SIRESS call logging system are used to log and manage any identified risks.<sup>48</sup> These rules are managed by logging incidents in the NPS logging system. Actions, processes and procedures are updated when risks are identified. The system is also monitored throughout the business day. The BCP document is reviewed annually to ensure risks are mitigated by processes and procedures. As part of its responsibilities, RMCD is the owner of the risks tools such as CURA and is responsible for the review. The IAD conducts audits on tools used by the NPSD for effectiveness and reliability.

### 3.3.5 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.

This is not applicable to a central bank managing an FMI.

47. SIRESS Operations and Service Level Manual.

48. Representatives of the NPSD also participate in the PASA BC Policy and Risk Committees, the FSCF and the ORS

### 3.4 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.

#### 3.4.1 Assessment of compliance

Not applicable to SIRESS as an FMI.

### 3.5 Principle 5: Collateral

An FMI that requires a collateral to manage its or its participants' credit exposure should accept a collateral with low credit, liquidity and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.

#### 3.5.1 Assessment of compliance

Not applicable to SIRESS.

With regard to the collateral arrangements, SIRESS currently does not offer any collateral facilities for participants. The participants' accounts must be pre-funded prior to settlement. Liquidity is provided by transferring rands from the South African domestic RTGS into SIRESS. Collateral may be raised in the domestic jurisdiction of the participant using domestic facilities. The participants will then proceed to borrow rands in SIRESS and use domestic arrangements for collateral but this is outside of the domain of SIRESS.

### 3.6 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 to the payment system.

### 3.7 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.

#### 3.7.1 Assessment of compliance

The SARB, as the SIRESS operator, observes Principle 7.

Settlement in SIRESS is based on the pre-funding principle, in terms of which any interbank fund transfer will be affected only if sufficient funds are available in the paying bank's settlement account.

In providing a settlement service, liquidity and market risks are linked. The SARB defines liquidity risk as the risk of a participant's inability to fund obligations as scheduled because of liquidity constraints, resulting in losses to other SIRESS participants, unexpected calls on liquidity facilities and/or settlement of low-value payment RCSO obligations.



### 3.7.2. 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.

The high-level monitoring of liquidity risks is done by the banking supervisory regulator in each of the participating central banks. Some of the banking supervisory regulators in the region have amended their regulatory framework to include the requirements of the Basel III liquidity framework.<sup>49</sup> The changes to the Basel III liquidity framework relate to the inclusion of two new ratios for measuring liquidity risk in banks, namely the LCR and the NSFR. However, it also contains suggested liquidity risk monitoring tools for supervisors.

SIRESS as an FMI does not have liquidity needs but the following apply to its participants needing to plan for liquidity to ensure settlement:

- All SIRESS participants should ensure that they manage their liquidity needs to ensure prompt settlement.
- SIRESS participants are encouraged to liaise with their domestic central bank to raise liquidity in the domestic market and have other SIRESS participant banks in their jurisdictions or central bank, where relevant, pay the ZAR equivalent in SIRESS.
- SIRESS participants are also encouraged to sell assets or their other currency holdings in the market and buy ZAR in order to have more liquidity in SIRESS.

### 3.7.3 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.

The SIRESS Operations section monitors the system to ensure the continuous flow of settlement and funding messages. SIRESS facilitates the transfers of interbank funds and allows banks to monitor their settlement exposures through the position monitor report and position messages.<sup>50</sup> This improves the overall risk management in the interbank settlement system and enables the SARB to improve the settlement risk management and, therefore, reduce the potential for crises.

### 3.7.4 Key consideration 3

A payment system or securities settlement system (SSS), including one employing a deferred net settlement (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.

SIRESS as an FMI does not have liquidity stress test scenarios. The participants need to plan these liquidity stress scenarios which are coordinated between the banking regulator and participants. SIRESS is a single-currency system trading in ZAR. Participants are expected to plan their liquidity requirements and, where necessary, coordinate the settlement of extraordinary transactions with the FMI operators. SIRESS does not offer any collateral and thus does not cater for the acceptance of additional assets in times of liquidity stress.

49. The Basel III liquidity framework specifically refers to the Basel Committee document titled 'Basel III: International Framework for Liquidity Risk Measurement, Standards and Monitoring'.

50. Position messages are generated whenever there is a movement on the participant's account or when the system windows change.



### 3.7.5 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.

Not applicable to SIRESS as an FMI.

### 3.7.6 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.

SIRESS as an FMI does not have liquidity needs.

### 3.7.7 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.

Not applicable to SIRESS as an FMI.

### 3.7.8 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.

Not applicable to SIRESS as an FMI.

### 3.7.9 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.

Not applicable to SIRESS as an FMI.

### 3.7.10 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 multi-day 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.

Not applicable to SIRESS as an FMI.

### 3.7.11 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.

SIRESS currently does not offer any collateral facilities for participants.

Settlement in SIRESS is based on the pre-funding principle, in terms of which any interbank fund transfer will be affected only if sufficient funds are available in the paying bank's settlement account. The settlement account can be funded through payments received from the SARB and participating banks as a result of normal payment transactions between banks or funding from SAMOS via SAMOS–SIRESS participant banks or as a result of a loan/credit arrangement between the SIRESS participant banks.

## 3.8 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 preferable, an FMI should provide final settlement intraday or in real time.



### 3.8.1 Assessment of compliance

The SARB, as the SIRESS operator, observes Principle 8.

Payments are settled in SIRESS in central bank money. The settlement of payment instructions across the books of the SARB, and funding between settlement members and the SARB via central bank accounts is final and irrevocable once the relevant accounts have been appropriately debited and credited. Section 5 of the NPS Act provides for the following settlement provisions:

- Settlement is effected in money or by means of entries passed through the SARB settlement system or a designated settlement system.
- A settlement that has been effected in money or by means of an entry to the credit of the account maintained by a settlement system participant in the SARB settlement system or a designated settlement system is final and irrevocable and may not be reversed or set aside.
- An entry to or payment out of the account of a designated settlement system participant to settle a payment or settlement obligation in a designated settlement system is final and irrevocable and may not be reversed or set aside. SIRESS has been designated as such a settlement system.

Settlement finality is further strengthened in the SIRESS settlement agreement which provides that settlement is final and irrevocable once the system has passed the entries across the settlement accounts (including subsets of the settlement accounts such as the CPL) of the relevant parties.<sup>51</sup>

As discussed under Principle 1, settlement of payment instructions by participants in SIRESS is final and irrevocable, even in the event that a settlement participant becomes subject to insolvency proceedings.

### 3.8.2 Key consideration 8.1

An FMI's rules and procedures should clearly define the point at which settlement is final.

#### a. Point of settlement finality

SIRESS provides settlement services to participants in the books of the SARB. Settlement of payment instructions across the settlement accounts (including subsets of the settlement accounts such as the CPL) of the relevant parties to effect settlement between the parties in terms of a settlement instruction is final and irrevocable once the relevant accounts have been appropriately debited and credited.

SIRESS settles single as well as batched settlement instructions between banks for obligations arising out of, among other things, retail payment. The system is an RTGS system and provides two settlement options to banks, namely RTL and CPL settlements. A description of each option appears below.

- The RTL is a facility for settling single or batched settlement instructions immediately on a gross basis.
- The CPL is a settlement facility developed to settle single or batched settlement instructions on a gross basis utilising net liquidity and, if no liquidity is available, then the settlement instructions will be queued. The CPL account is funded from the settlement account.

51. Clause 15.3 of the SIRESS settlement agreement.

SIRESS settles on a pre-funded basis. The Regulations specify that a settlement instruction is an instruction given to the SARB (as the central bank) by a participant, or by an RCSSO on its behalf and under its authority to effect settlement of one or more payment obligations or to discharge any other obligation of one participant to another participant. Therefore, it shall be considered to have been properly entered into SIRESS upon being authenticated, validated, matched (where appropriate) and classified as a settlement instruction.

Settlement finality is described and protected in the NPS Act and in particular for SIRESS in section 5(iii) of the NPS Act. This is supported with explicit reference in the SIRESS service agreement and SIRESS settlement agreement.

In order for participant banks to join or participate in SIRESS, the participant's domestic central bank must execute a stakeholder agreement with the SARB and the participant bank must execute a service agreement with the SARB, as the operator of SIRESS, as well as a settlement agreement between the participants. The contracts are enforceable under South African law.

#### **b. Finality in the case of links**

As at 31 March 2014, SIRESS did not have any links to SSS, CCP, CSD or TR systems. It is, however, designed (in SIRESS version 2.0) to provide for links to SSSs or CSDs. The linked FMI receives a notification from the SIRESS system to confirm that settlement has taken place. An SLA will be signed with a linked FMI which manages the operations and links between SIRESS and the linked FMI.

#### **3.8.3. Key consideration 8.2**

An FMI should complete final settlement no later than the end of the value date, and preferably intraday or in real time, to reduce settlement risk. A large-value payment system (LVPS) or SSS should consider adopting RTGS or multiple-batch processing during the settlement day.

#### **a. Final settlement on the value date**

The structure of SIRESS is designed to provide final settlement of payment or settlement instructions in real time on the settlement date. A valid settlement date is known as a 'settlement cycle date' (SCD) in SIRESS. SIRESS provides a same-day settlement. Currently the SCD runs from 09:00 to 15:00, Monday to Friday, and the system is closed on South African holidays.

As indicated in key consideration 8.1, SIRESS provides the settlement of payments in the RTL or CPL. If payments are queued in the CPL, it will provide settlement if the participants have transferred sufficient funds to the CPL to settle the settlement instructions. At the start of the 'Finalise' window, if a settlement instruction on the CPL has not been funded, it is automatically discarded.

SIRESS also offers a facility to participants to schedule settlement instructions to settle at a particular date and time in future.

Only scheduled transactions or transactions in the queue on the CPL may be removed and only by the originator of that transaction.

As of May 2014, SIRESS does not offer the facility to process batches. It is planned that the facility for batch processing will be implemented in September 2014.

### 3.8.4 Key consideration 3

An FMI should clearly define the point after which unsettled payments, transfer instructions or other obligations may not be revoked by a participant.

As provided in the NPS Act, any credit payment that settles in SIRESS is irrevocable and may not be withdrawn by the paying bank. Should the paying bank require the return of funds, this can only be done or refunded by mutual agreement between the two transacting parties.

Only scheduled transactions or transactions queued in the CPL can be removed and only by the originator of the transaction. Any CPL transactions that have not settled at the end of Window 3 due to not being funded are rejected when SIRESS rolls into the 'Finalise' window. These transactions are handled by SIRESS as those with insufficient funds. An end-of-day settlement instruction can also be removed if it has not been accepted by the counterparty.

The above information is available in the SIRESS service agreement and the SIRESS business and technical functional specifications.

## 3.9 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.

### 3.9.1 Assessment of compliance

The SARB observes Principle 9.

The FMI is operated by the SARB, a central bank under appointment by the SADC CCBG. Funding and settlement in SIRESS are separate and distinct, but related, processes. Funding of ZAR is done from the SAMOS system by SAMOS–SIRESS participant banks. Payment instructions are settled across the books of the SARB. Payment is made to and from the SARB via the central bank accounts the SARB has allocated to each participating settlement participant.

### 3.9.2 Key consideration 1

An FMI should conduct its money settlements in central bank money, where practical and available, to avoid credit and liquidity risks.

Settlement in SIRESS occurs in central bank money and it is a single-currency settlement system in the South African domestic currency (the rand).

### 3.9.3 Key consideration 2

If central bank money is not used, an FMI should conduct its money settlements using a settlement asset with little or no credit or liquidity risk.

Not applicable to SIRESS.

### 3.9.4 Key consideration 3

If an FMI settles in commercial bank money, it should monitor, manage and limit its credit and liquidity risks arising from the commercial settlement banks. In particular, an FMI should establish and monitor adherence to strict criteria for its settlement banks that take account of, among other things, their regulation and supervision,



creditworthiness, capitalisation, access to liquidity, and operational reliability. An FMI should also monitor and manage the concentration of credit and liquidity exposures to its commercial settlement banks.

Not applicable to SIRESS.

#### 3.9.5 Key consideration 4

If an FMI conducts money settlements on its own books, it should minimise and strictly control its credit and liquidity risks.

Settlement instructions are settled across pre-funded SIRESS accounts. The FMI is not exposed to credit or liquidity risks.

#### 3.9.6 Key consideration 5

An FMI's legal agreements with any settlement banks should clearly state when transfers on the books of individual settlement banks are expected to occur, that transfers are to be final when effected, and that funds received should be transferable as soon as possible, at a minimum by the end of the day and ideally intraday, in order to enable the FMI and its participants to manage credit and liquidity risks.

The settlement agreement among the banks and the SIRESS service agreement between the SIRESS operator and the participants provide that when transfers occur, such transfers will be final and the relevant accounts will be updated. All funds are transferred immediately, in real time and always before the end of the day.

### 3.10 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.

Not applicable to the payment system.

### 3.11 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 to the payment system.

### 3.12 Principle 12: Exchange of value settlement systems

If an FMI settles transactions that involve the settlement of two linked obligations (e.g. 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.

#### 3.12.1 Assessment of compliance

Not applicable to SIRESS as an FMI.

### 3.13 Principle 13: Default rules

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 meet its obligations.

#### 3.13.1 Assessment of compliance

SIRESS partly observes Principle 13. Key consideration 3 is not observed in line with the mandate of the SARB and PSOC. Key consideration 4 has not been tested and the appropriateness is to be discussed with the SADC PSOC.

The NPS Act and the SIRESS settlement agreement provides for processes and procedures to be followed in the event of a participant failure due to insolvency, curatorship or business rescue. The NPS Act and the settlement agreement do not define the moment of default or 'zero hour'. However, the SIRESS service agreement provides for the participant to be penalised in the event that the participant defaults as a result of insufficient funds being available to meet the participant's obligations or where actions of the participant or omissions negatively impact on SIRESS.<sup>52</sup>

The settlement agreement defines the rights and responsibilities of the participant and the SIRESS operator and the actions that the SIRESS operator may take in the event of a settlement failure or default, or insolvency proceeding against a participant.<sup>53</sup>

The settlement agreement provides that any SIRESS participant under business rescue (or an equivalent process in the SADC country of origin) or curatorship, in terms of insolvency laws, in its country of origin, may continue to participate in the clearing and settlement system until its participation is withdrawn by the SIRESS operator, upon the receipt of a written notification from the central bank of the country from which the SIRESS participant originates, that the SIRESS participant can no longer participate in SIRESS.<sup>54</sup>

#### 3.13.2 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.

##### a. Participant default rules and procedures

When participants join SIRESS by executing the settlement and service agreements, they agree to be bound by the rules and honour their obligations in terms of the provisions in the agreements.

- The paying system participant will, in respect of each payment obligation arising from the clearing of payment instructions (whether in batch or individually), ensure that a settlement instruction to settle such payment obligation is delivered promptly to the SARB (as the central bank) for settlement.
- The paying system participant is obliged to ensure that its settlement instructions are fulfilled by ensuring that the funds required to settle its settlement obligation timeously in each settlement cycle are available in its settlement account at the SARB.
- The beneficiary system participant is obliged, as against the paying system participant, to ensure, upon receipt of settlement notification from the SARB, that funds so received are for its account pursuant to the clearing of one or more

52. Clause 9.3 of the SIRESS service agreement.

53. Section 7 of the settlement agreement

54. Clause 5.4 of the settlement agreement.

payment instructions and, if not for its account, to return such funds erroneously received by the issuing of a rectifying settlement instruction for the benefit of the system participant from whom the erroneously paid funds originated. Any funds received by a SIRESS participant due to an error by another SIRESS participant must be returned within the time frames and in the manner as agreed in terms of the settlement rules.

SIRESS's settlement and payment processes, algorithms, risk controls and procedures ensure efficient settlement. Even in the event of a participant default, SIRESS will always despatch a confirmation message to the originator of the settlement instruction to notify whether the settlement was successful or had failed.

The settlement agreement provides that any SIRESS participant under business rescue (or an equivalent process in the SADC country of origin) or curatorship, in terms of insolvency laws, in its country of origin, may continue to participate in the clearing and settlement system until its participation is withdrawn by the SIRESS operator, upon the receipt of a written notification from the central bank of the country from which the SIRESS participant originates, that the SIRESS participant can no longer participate in SIRESS.<sup>55</sup>

55. Clause 5.4 of the settlement agreement.

SIRESS has been designed with the functionality to immediately suspend a participant temporarily or permanently. The SARB may suspend a participant from participation in the payment settlement services in certain circumstances, including:

- when the participant has violated any material provision in its settlement agreement, the settlement rules or as per the participant's central bank authorisation, and suspension is in the best interests of the system or SIRESS participants, or there has been a material adverse change with respect to the participant; and/or
- upon confirmation that an insolvency event has occurred with respect to the participant and, if necessary, for the protection of the SARB or SIRESS participants.

Once a participant has been suspended, any pending payment instructions in SIRESS submitted by that participant will not be eligible for settlement. Suspended payment instructions will be rejected by the system or scheduled instructions will be rejected at an applicable scheduled settlement date and time identified in the payment instructions.

All settlement members who have unsettled payment instructions with the suspended participant are made aware of the suspended payment instructions. Suspension allows other settlement members to avoid having to rescind instructions involving an insolvent participant in order to prevent the continued processing of payment instructions relating to transactions that might otherwise be required to be terminated or permitted to be terminated under an applicable master agreement.

#### **b. Use of financial resources**

Since SIRESS is a pre-funded settlement system and managed by the SARB, there can be no losses.

#### **3.13.3 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.**

As noted above, the procedures that the SIRESS operations has in place to manage a participant default allows for the immediate suspension of the relevant participant from SIRESS. SIRESS functionality allows for immediate suspension of a participant at any point in the operational timeline. All actions taken are with the involvement of the SADC PSOC, SADC PSMB and the participant's central bank.



#### 3.13.4 Key consideration 3

An FMI should publicly disclose key aspects of its default rules and procedures.

In line with the mandate of the SARB, the default rules and procedures are not publicly available. The default rules and procedures have been disclosed to the SADC PSOC and SADC PSMB in the settlement agreement schedules and the processes developed by the SADC PSMB on the management of a failed bank or a bank in default. The documents are available from the SADC PSMB to participants.

#### 3.13.5 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.

SIRESS went live in July 2013 and there has not been an opportunity to test the procedures. The possibility and appropriateness to test the default process will be discussed with the SADC PSOC. The functionality to suspend a participant is tested as part of the normal change control procedures and system testing.

### 3.14 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 to the payment system.

### 3.15 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.

#### 3.15.1 Assessment of compliance

The SARB, as the SIRESS operator, observes Principle 15.

It should be noted that since the services are provided by the central bank, key considerations 2 to 5 are not applicable. The requirement to hold ring-fenced liquid net assets funded by equity to cover business risk and support a recovery or wind-down plan does not apply to the central bank FMI given a central bank's inherent financial soundness. The SARB has a robust framework to identify, monitor and manage its general business risks under the overall risk management framework, as discussed under Principle 3 and Principle 17.

#### 3.15.2 Key consideration 1

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

As discussed in Principle 3, the SARB has a robust framework to identify, monitor and manage its general business risks under the organisation-wide risk management





framework. The management of this risk is the responsibility of the Financial Services Department and Financial Market Department of the SARB.

From an FMI perspective, full operational cost recovery is applied and agreed with participants. Operational pricing is determined by the SARB, as the SIRESS operator, and approved by the SADC PSOC.

The cost and revenue is monitored on a monthly basis. On an annual basis, the total cost and revenue are summarised to ensure that all costs are recovered. The summary is submitted to the executive management and is used as input to determine the charge structure for the following year.

### 3.15.3 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.

Not applicable to SIRESS as an FMI in the central bank.

### 3.15.4 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.

Not applicable to SIRESS as an FMI in the central bank.

### 3.15.5 Key consideration 4

Assets held to cover general business risk should be of a high quality and be 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.

Not applicable to SIRESS as an FMI in the central bank.

### 3.15.6 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 and updated regularly.

Not applicable to SIRESS as an FMI in the central bank.

## 3.16 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.

### 3.16.1. Assessment of compliance

Not applicable to SIRESS.

## 3.17 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 the timely recovery of operations and fulfilment of the FMI's obligations, including in the event of a wide-scale or major disruption.

### 3.17.1 Assessment of compliance

The SARB broadly observes Principle 17. As part of key consideration 1, the NPSD has established an operational risk function to enhance the monitoring of operational risk in the FMI. This function is still in the process of being implemented.

Operational risk in SIRESS is mitigated through its design and architecture, which ensures system integrity, security and availability. SIRESS has a high degree of operational reliability due to its resilient technical architecture and infrastructure, which enables the SARB to provide the payment settlement services to its operators and participating banks.

### 3.17.2 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.

#### a. Identification of operational risk

The SARB Group Risk Management Policy<sup>56</sup> forms the basis for regulating and integrating risk management in the SARB. This policy is approved by the Board of the SARB and provides the framework for managing operational risk management at the organisational level. The policy is underpinned by the COSO Enterprise Risk Management Framework principles and methodologies. This ensures that the NPSD identifies its core processes, and assesses risk causes and controls implemented to identify residual risks. This process is completed during the annual strategic risk assessment conducted by the NPSD with the assistance of the RMCD as the facilitator. All the risks identified are recorded in the risk matrix to allow the NPSD and RMCD to monitor the risks. The FMI is also required to conduct formal operational risk assessments to identify operational risks, and assess the adequacy and effectiveness of controls implemented in its environment. The result of this process is reported by the RMCD to the risk management oversight committees of the SARB and monitored through the risk management process of the SARB.

Since the inception of SIRESS, the SARB has put in place policies, processes and controls to manage or mitigate any potential operational risks. These arrangements include a service standard agreement with the SARB's Business Systems and Technology Department (BSTD) to manage systems and processes risks by ensuring that the FMI's operational reliability objectives (i.e. availability and recovery time and recovery point objectives) are met. Redundancy and disaster recovery systems, including business continuity arrangements, were established to ensure that the FMI is robust and resilient. The FMI operations' human resources are provided with on-the-job training and standard security vetting is conducted for any new appointments in the SARB. An operational risk management function has also recently been established in the NPSD to formalise



operational risk management process at the FMI operations level. This function will mainly be of a coordinating, supporting and monitoring role within the FMI. An operational risk management framework was adopted to guide and govern this risk management process at the FMI operational level. This framework also provides for the interaction of this function with the risk management function (performed by the RMCD) in the SARB to ensure that operational risks are managed and mitigated.

Participants in SIRESS are required to sign a SIRESS service agreement before they can start transacting in SIRESS. This agreement allows the FMI and each participant to agree on the business and technical requirements to achieve the following:

- for the FMI to provide the settlement service to the participant and the industry as a whole; and
- for the participant to provide consent to meet certain business and technical standards and practices required for its participation in SIRESS.

The FMI identified telecommunications (international and domestic), loss of SWIFT (international and domestic), loss of infrastructure, power failures, water shortages, processing system failures and loss of key human resources as sources of operational risks. Two single points of failure have been identified, namely (i) SWIFT (in relation to the general unavailability of SWIFT on a national and international basis); and (ii) processing system (software) failure. The FMI has implemented effective and adequate controls to ensure that these risks are mitigated. In instances where the risk might persist, the FMI has systems and processes in place to ensure that the risks are managed.

#### **b. Management of operational risk**

The identified risks are recorded in the NPSD risk matrix maintained by the RMCD. The matrix is updated every quarter with follow-up actions or any new developments in managing the risks. Senior management is accountable to the RMCD on the follow-up actions that have to be effected. The FMI operations are monitored and supported as per the service standard agreement with BSTD which is used for measuring any deviations to the agreed service levels. Interruptions in services are reported in the daily barometer maintained by BSTD. Daily meetings are held with BSTD to discuss urgent FMI operational issues. Monthly service level meetings are held between the NPSD and BSTD to discuss performance in terms of the agreed service levels.

A BCP is also in place to ensure that the FMI is prepared in terms of the recovery of the system should a disruptive incident occur.

Internal and external audit conduct independent review of the systems, processes and controls. The FMI is also overseen internally by the NPSD oversight function. The SIRESS service agreement is in place to ensure that participants adhere to agreed business and technical requirements. All system participants are required to test all changes implemented in their payment and settlement environments and to provide the FMI with implementation, fall-back and back-out plans.

The FMI subscribes to the BIS-CPSS principles, and its systems, processes and controls are designed to conform to the principles espoused by the BIS-CPSS and to benchmark it against CLS and other central banks. The FMI participates in the ORS and FSCF committees to align with national best practices.

#### **c. Policies, processes and controls**

The operating procedures are documented in the Settlement Operations Manual that outlines all procedures used by the NPSD operations team in its daily, weekly, monthly and annual tasks performed on and for the RTGS system.



The FMI's human resources and risk management policies are embedded in the SARB's human resources policies. A strict recruitment process is followed by the SARB's human resources function in processing the appointment of new recruits. This includes the minimum education and work experience requirement for different positions as well as a security vetting process for selected candidates, which is conducted by the security function of the SARB, ensuring that each staff member appointed is of impeccable integrity to minimise chances of unwarranted behaviour. For the monitoring and support function, all appointees are subjected to on-the-job training lasting for a period of at least six (6) months which covers all FMI operations and the operating procedures. There is a sufficient number of employees in place to monitor and support the FMI operations to ensure any disruptions relating to staff availability do not impact on the smooth functioning of the FMI operations. Skillset, knowledge and human capacity of the FMI staff are designed in a way that the risk of key-person dependencies is mitigated. Staff are also afforded the opportunity for personal development and capacity building in areas relevant to the FMI activities. FMI operations staff must also conform to the code of ethics practiced within the SARB. A whistle-blowing policy is in place for staff to report any unbecoming behaviour of their colleagues.

All changes directly and indirectly impacting FMI operations must follow the change management process as outlined in the SARB's change management policy. Changes are approved by senior management before being discussed at a weekly Change Advisory Board meeting. A change request notice must be prepared and sent to the relevant change manager before the meeting. All notices require the change requester to specify the impact of the change, type of testing conducted, implementation and back-out plans in order to mitigate operational risks. An endeavour report of all changes that took place is produced on a monthly basis by the system in BSTD. This report is checked by the NPSD against all authorised changes that were submitted.

All projects are subjected to the project management methodology followed by the SARB. A steering committee meets regularly to provide strategic guidance for major projects. The FMI meets with BSTD to discuss and agree on business requirements for all projects and changes to the system. The changes are developed, integrated and tested in separately allocated environments.

### 3.17.3 Key consideration 2

An FMI's Board 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.

#### a. Roles, responsibilities and framework

The roles and responsibilities for operational risk management are clearly defined in the SARB Group risk Management Policy.<sup>57</sup> The Head of the NPSD and by delegation to senior management in the department is, according to this policy, responsible for the following:

- Assume full responsibility for risk management within the FMI.
- Ensure the implementation and maintenance of, and reporting on, the risk management processes of the FMI.
- Ensure that operational risk assessments are conducted within the FMI.
- Ensure that the FMI complies with the risk management process as outlined in the policy.

57. Page 11, SARB Group Risk Management Policy



The SARB is a central bank and, as such, the FMI operation is not the only or main business of the SARB. The operational risk management framework outlined in the SARB's risk management policy provides a high-level conceptual framework and the extent to which the Board is involved in endorsing the operational risk management framework. According to the FMI risk management policy, the Board is ultimately responsible for directing and monitoring the total process of risk management as well as forming its own opinion on the adequacy and effectiveness of the process. The GEC approves any changes to the risk management policy. The RMCD oversees the entire risk management process in the SARB and reports to the GEC on the process. With the establishment of the operational risk management function in the FMI operations, the intention is to implement the operational risk management framework explicitly at the operational level which will be endorsed by the senior management of the FMI. The risk management policy is reviewed biannually by the RMCD and it is also presented for consideration to the RMC, GEC and BREC as and when this is required.

#### **b. Review, audit and testing**

The FMI operations are audited annually or as and when required by internal audit. This audit also covers arrangements that the FMI has with its participants. All the FMI's critical business processes are tested on a biannual basis with participants and system operators. Participants are required to conduct a disaster recovery (DR) test to test their systems or critical business operations with the FMI at least on an annual basis.<sup>58</sup>

To date, no formal external audit has been conducted on the operational risk management framework or generally on the SARB's risk management policy. A high-level discussion, however, takes place on an annual basis between the SARB's external auditors and the RMCD on the processes and systems in place for the SARB's risks management process.

#### **3.17.4 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.**

The FMI's qualitative and quantitative operational reliability objectives include the availability of the system, the recovery time objective (RTO) and the recovery point objective (RPO). The availability of the system is set for 99,5 per cent during the FMI operations' primary time (between 08:30 and 16:15). The operational reliability objectives are documented and agreed to with BSTD in the service standard and the BCP so that the critical business processes are recovered within two hours after a disruptive incident is declared. The service standard is reviewed annually. BSTD ensures that arrangements for support personnel, systems and processes required for achieving agreed service levels are in place to meet the set objectives. Communication during the disruptive incidents is managed through escalation procedures.

#### **3.17.5 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.**

Capacity planning is performed by BSTD. A combination of scripted system notifications for the use of storage and vendor SLA reports provides for early warning indicators of the system usage and capacity. Stress testing of the systems is done prior to any implementation of a new system or process in the production environment based on historical maximum volumes as well as projected volumes, considering the data available at the time. In situations where additional capacity (storage, memory or computer processing unit) is required, capacity will be added to address borderline systems requirements.

58. SIRESS Operational and Service Level Manual 'Disaster Recovery Procedures'



A Situation where no additional capacity or licensing is available would need to be addressed through the SARB's procurement policies and procedures to procure required capacity. Provision exists in the SARB for an emergency procurement process.

#### 3.17.6 Key consideration 5

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

##### a. Physical security

The SARB is an organ of state and all its facilities are declared as national key points (NKPs) in respect of critical infrastructure protection legislation. As such, the SARB's security is subject to external oversight and review by official entities. In support of this, an annual NKP security assessment is conducted, and an information security audit is done. The SARB has created, within the Security Management Department, processes, structures and technologies to provide continuous situational awareness in terms of threats to all its assets, and liaises closely with external stakeholders to ensure that threats are identified and addressed.

An internal vulnerability assessment capability also exists and an annual programme to review security at all SARB facilities is executed. On the basis of these, the risk is assessed and appropriate countermeasures are implemented. The SARB's security complies with legislative guidance in terms of physical, personnel and information security. Security processes and infrastructure are also benchmarked against local and international practices and, where appropriate, local and international standards are utilised.

##### b. Information security

The FMI, through BSTD, conducts vulnerability scans which are done on a regular basis to identify any information security-related risks. Any security aspects to systems or processes are considered and implemented during the design phase of development.

The SARB, through BSTD, follows international and industry-level standards such as King III, COBIT, ITIL and ISO 270001 for the design and implementation of policies, procedures, processes and controls.

The testing cycle during the implementation of new systems or processes includes security testing at an infrastructure and application level. External security experts are contracted to test the solution for vulnerabilities before being implemented in production. Vulnerabilities identified during this security test are addressed before the solution is implemented.

Regular audits are performed by external and internal auditors on these policies, processes and procedures.

#### 3.17.7 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 cases of extreme circumstances. The FMI should regularly test these arrangements.



### a. Objectives of a business continuity plan

The FMI BCP<sup>59</sup> is specific on all the FMI's critical business process and information and communications technology (ICT) applications used, the critical time period during which these processes are required, interdependencies, and the amount of time required to recover these processes. The operational disruptions catered for in the FMI's BCP cover any situation or incident that has a major negative impact on the continuity of the identified critical business processes or reputation of the FMI. Included in the BCP are governance arrangements which clarify the level of authority required to invoke the BCP. Roles and responsibilities of the recovery team and operational procedures are in place to support the recovery of the critical business processes.

The RTO for the FMI's critical business processes for all major business processes is set for two hours within primary and secondary time.

### b. Design of business continuity plan

From a technical perspective, the SARB implements solutions on the network, storage, server and SWIFT connectivity levels which are designed to avoid single points of failure. These initiatives are ongoing as continuous improvement has allowed RTOs to be reduced significantly. The network components that support the FMI operations are implemented in a redundant configuration, with the duplication of key switches, routers and firewalls at both the primary and alternate site.

The core server, mainframe, applications and data are replicated synchronously from the primary site to the alternate site, using enterprise class storage subsystems. The peripheral systems use a combination of asynchronous replication or, in some cases, active standalone systems are used. The failover of server, storage and application components requires intervention to confirm failover locally at the primary site or to the alternate site at any point in time. Failover mechanisms protect against hardware and telecommunication failures. Software, database and operating system corruptions are protected using backup/restore and database tools.

The replication and mirroring between the ICT infrastructure at primary and secondary levels allows data to be synchronised. This allows BSTD to bring down the primary infrastructure and bring up the secondary infrastructure within the agreed service level. The operational capacity of the system is sufficient to allow for the completion of settlement by the end of the day even during worst-case situations.

The FMI's crisis management procedure prescribes that the FMI operation management must, within five (5) minutes of the occurrence of the disruptive incident, invoke crisis management after escalating the incident to the relevant support function and the Crisis Management Committee. Once the Crisis Management Committee has convened, escalation to participants, suppliers and other regulatory bodies is required within 15 minutes of the occurrence to advise all relevant stakeholders of the incident and the steps to be followed. Within 30 minutes of the incident, a decision must be made by the Business Continuity Committee of the SARB on whether or not to switch operations to the disaster recovery/secondary site.

### c. Secondary site

The business continuity arrangements provide for the monitoring and support function for the FMI operations to take place at dual sites (i.e. primary and secondary sites). FMI operations teams are located at each site on a daily basis to monitor RTGS operations and provide support to the participating institutions. This allows for the immediate availability of FMI operations staff and for access to the system within the agreed recovery time if the ICT infrastructure at the secondary site was brought up. Although the secondary site is within



15 km of the primary site, the secondary site has a distinct risk profile from an infrastructure perspective, including factors such as the electricity grid and telecommunications lines.

Due to resource constraints, BSTD has not made commitments to deploy support personnel at the secondary site for the recovery of the FMI's critical business processes. The proximity, which is less than 15 km from the primary site, allows these members of the recovery team to reach the secondary site within the reasonable period. Remote support, however, is in place to bring up these critical business processes as required by the FMI. In extreme circumstances, the FMI can use the SARB's GL to book critical payments and achieve finality and irrevocability.

#### d. Review and testing

The BCP arrangements are tested at least twice a year. Any anomalies, weaknesses and malfunctions encountered are viewed as an opportunity to review the BCP arrangements. Based on the outcomes of these tests and reports submitted to the executive management, these arrangements can be reviewed. The business continuity arrangements are also audited. Every year a walk-through exercise for a specific scenario is conducted. Through this, the FMI also has an opportunity to identify gaps or risks and provide solutions or alternatives to manage or mitigate the risks.

The BCM committee governing the FMI is responsible for other reviews to improve the business continuity arrangements in the organisation. Any changes, improvements or requirements will be discussed and agreed upon with the FMI. As and when required, the SARB appoints external auditors to review the SARB's overall BCP. Participants form part of the business continuity tests conducted by the FMI. The SIRESS service agreement between the FMI and participants also require each participant to implement business continuity arrangements for their payment and settlement systems and to test these systems on an annual basis.

For any major changes to the FMI operations, participants are required to test their systems within one month of implementation of these changes.<sup>60</sup>

### 3.17.8 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.

#### a. Risks to the FMI's own operations

Telecommunications (international and domestic), loss of SWIFT (international and domestic), loss of infrastructure, power failures, water shortages, payment processing system failures and loss of key human resources have been identified as sources of operational risks. An operational profile for each participant is compiled and maintained to manage any potential risks introduced to the FMI's operations. Participants are required to log any changes to their payment and settlement systems with the FMIs. Testing is required for these changes and progress is monitored by the FMI. Participants are also required to provide implementation and back-out plans for changes that they introduce in their systems.

The risks arising from system support, skills and electricity are managed and monitored as part of the service standard agreement agreed to between the FMI and BSTD. Service level agreements with penalty clauses are in place with service providers to protect critical services.

#### b. Risks posed to other FMIs

60. Annexure A 'SIRESS Change Management Procedures' of the SIRESS Operational and Service Level Manual.





Currently, SAMOS is the only interdependent FMI for SIRESS for the provision of liquidity and the return of funds. Contingency arrangements have been discussed and agreed upon with the FMI and documented in the FMI's operating procedures. The identification of risks mainly takes place through the daily monitoring and support function that the FMI provides. Through this, the FMI is able to trace patterns and the type of risks that it poses to the other linked FMIs. The risks are managed internally in the NPSD. Changes to the FMI's processes and systems are also discussed with interdependent FMIs. These changes are tested with the interdependent FMIs before being implemented in the live environment.

The FSCF also coordinates efforts by interdependent FMIs to agree on industry-wide business continuity arrangements and arranges to have these tested as per the agreed schedule.

### **3.18 Principle 18: Access and participation requirements**

A payment system should have objective, risk-based and publicly disclosed criteria for participation, which permit fair and open access.

#### **3.18.1 Assessment of compliance**

The SARB, as the SIRESS operator, observes Principle 18.

The rules, which are publicly available, define the requirements for initial and continuing participation in SIRESS. Upon joining, participants are continuously monitored for compliance to the regulatory framework. Failure to abide by these regulations could result in suspension from the system.

#### **3.18.2 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.

##### **a. Participation criteria and requirements**

Participation in SIRESS is defined into three categories, namely country participation, SIRESS participants, and clearing and settlement services providers.

##### **b. Country participation**

Before a financial institution (i.e. SIRESS participant banks) joins SIRESS, the relevant domestic central bank has to enter into an agreement to appoint the SARB as an operator of SIRESS by executing the stakeholders agreement. Under their jurisdiction, the domestic central bank must give permission to banks that may join SIRESS.

Participant central banks must be SADC member state central banks and the country in question should be in good standing in SADC. In other words, member state should not be suspended from SADC.

Each central bank pays a contribution fee as determined by the Payment System Subcommittee and approved by the CCBG.

### c. Participant banks' participation

Banks that would like to participate in SIRESS need approval from their central bank.

Operationally, participants are required to comply with the technical and business functional requirements,<sup>61</sup> and business rules and models that are developed by the SADC BA/ SADC PSMB. The participants are required to complete market testing and error-free testing on SIRESS. The additional conditions are applicable to all participants, including central banks participating as participants in the settlement services.

In order for a financial institution other than a central bank to be approved to join SIRESS, the financial institution must apply to its central bank which, in turn, will consider the following requirements for the participant:

- legally constituted and comply with all relative laws in own country of jurisdiction;
- regulated and supervised financial institution that is currently a member of the country's RTGS system or domestic settlement system;
- foreign banks with branches operating in the SADC region;
- have the required infrastructure to support and enable smooth participation in the system;
- able to demonstrate to local central bank evidence of having tested the system, including adequate communication links in place, among other technical requirements;
- has established and implemented policies and procedures to ensure compliance with international laws, regulations and rules such as anti-money laundering requirements, among others;
- assure the local central bank that it will comply with all rules of the regional system and in this regard agree to sign SLAs with the SIRESS operator.

The participant central bank reserves the right to impose additional operational or other requirements on prospective SIRESS participants in order to approve their commercial banks' participation in SIRESS.

### d. Access criteria for the clearing and settlement system operator

The SADC PSMB has been given powers by the SADC PSOC to draft access criteria requirements to be considered when clearing and settlement system operators (RCS system operators) would like to provide their services to the participant bank in the clearing of regional cross-border transactions.<sup>62</sup>

The RCS system operator criteria document sets out the requirements that the RCS system operator must fulfil in order to participate in SIRESS as an RCS system operator.

The RCS system operator is evaluated on the following criteria:

- general business risk criteria;
- service criteria;
- legal and contractual criteria;
- governance criteria;
- risk management criteria;
- participant-default rules and procedures;
- operational and technical criteria; and
- access and participation criteria.

61. SIRESS functional specifications, SADC BA Business Process Models, and SIRESS Service Level and Operational Manual.

62. Clause 2.1. of the 'Criteria for authorisation to act as SADC regional clearing and settlement system operator (RCS system operator) for cross border payments within SADC'.



#### e. Participant fees and charges

The SIRESS fees and cost recovery policy is developed by the SIRESS operator, as provided in section 9 of the service agreement. Fees and other charges are determined by the SIRESS operator for the consideration of the SADC PSOC for approval. Fees and charges are made available to the participants and the SADC PSMB. New participants are required to sign that they have noted the cost recovery and fees applicable to SIRESS.

#### f. Access to trade repositories

Not applicable.

### 3.18.3 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 endeavour to set requirements that have the least restrictive impact on access that circumstances permit.

The MoU for Cooperative Oversight of SIRESS provides that SADC central banks have a common interest in the design and management of SIRESS given their shared public policy objectives for ensuring the safety and efficiency of payment and settlement systems in their respective currencies, and their focus on the stability of the financial system.

Individual participating central banks are required to consult with other participating central banks as and when necessary before implementing policies or taking any action that could materially affect SIRESS. This consultation is done in order to avoid, where relevant and possible, inconsistencies in the oversight relationship with SIRESS, as actions taken by one central bank with respect to SIRESS could have implications for the other participating central banks. This principle should, as far as possible, be interpreted broadly to cover any policy or action that has a material impact on SIRESS. The expectation is that individual central banks will conduct this consultation as timely as possible.

SIRESS participant banks are required to participate in their domestic RTGS system or domestic central bank settlement arrangements where the RTGS is not functional. Prior to participation in SIRESS, the prospective participant would have been vetted by the domestic central bank for domestic participation before participating in the regional settlement system. The domestic central bank is responsible for managing ongoing participation of its participants in SIRESS.

The requirements and the processes to be followed in order to participate in SIRESS are publically available from the SADC BA free of charge. Each prospective participant is required to approach its central bank to ascertain whether the central bank has additional requirements that the prospective participant must comply with or if there are an additional criteria requirements required by its central bank.

### 3.18.4 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.

The SIRESS stakeholders agreement provides that a country might terminate its agreement to appoint the SARB as the SIRESS operator.<sup>63</sup> The implication of a central bank terminating its participation in SIRESS will impact its commercial banks participation

63. Section 16 of the Stakeholders agreement.

(i.e. if a country terminates its agreement with the SARB as the SIRESS operator, the participation of commercial banks in its jurisdiction is also terminated).

#### **a. Monitoring compliance**

The SIRESS operator monitors participant activity to ensure that participant banks have sufficient liquidity to manage their settlement positions. SIRESS participant banks that submit instructions for settlement and do not fund their accounts are penalised and their actions are reported to the central banks. Participant banks are under the ongoing regulation, supervision and oversight of their central banks and other authorities in their jurisdiction.

Participant failure, including insolvency proceedings and termination of the agreement by either the participant or SIRESS operator, is provided in section 18 of the service agreement.

#### **b. Suspension and orderly exit**

If the SADC PSMB is of the opinion that the RCS system operator does not meet or comply with the criteria and rules to be a RCS system operator, the authorisation will not be renewed and all the relevant RPS agreements will be terminated. Section 20 of the SLA between the SIRESS operator the RCS system operators provides for conditions under which either party may terminate the agreement.

### **3.19 Principle 19: Tiered participation arrangements**

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

Tiered participation is not allowed in SIRESS.

### **3.20 Principle 20: FMI links**

An FMI that establishes a link with one or more FMI should identify, monitor and manage link-related risks.

Not applicable to the payment system.

### **3.21 Principle 21: Efficiency and effectiveness**

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

#### **3.21.1 Assessment of compliance**

The SARB, as the SIRESS operator, partially observes Principle 21.

SIRESS efficiently and effectively meets the requirements of its participants and the industry it serves by providing a valuable settlement service. The SARB seeks feedback from participating central banks, participating banks and other interested parties.

The SIRESS operator interacts with the participants via the participants' representative body, SADC PSMB. However, the body is an independent governance structure of the SADC BA with specific powers to administer SADC payment schemes.

There is a shortcoming in the user group representation whereby the SIRESS operator can meet with the participants in order to discuss the SIRESS operator's performance, level



of customer service, the efficiency of the SIRESS services, cost recovery policy matters, effectiveness of system implementation and upgrades, offered products and services, and other relevant matters.

The results can be shared with the SADC PSOC, SADC PSMB and other interested parties where relevant. The information is taken into account when planning strategic initiatives.

It is therefore recommended that the SADC PSMB SIRESS Settlement Participant Group (SSPG)<sup>64</sup> as established should be made operational.

### 3.21.2 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 choice of a clearing and settlement arrangement; operating structure; scope of products cleared, settled, or recorded; and use of technology and procedures.**

The payment settlement service is specifically designed to effectively and efficiently improve and address settlement risk in the SADC regional cross-border payment system. The SARB (NPSD) has been appointed by the CCBG as the operator of SIRESS. While providing and maintaining an efficient payment settlement service through SIRESS, the SARB has also facilitated the improvement of operational standards and straight-through processing, and has helped to reduce the need for reconciliation among its participants. The aim of SIRESS had also been to significantly reduce the amount of post-settlement workflow as the validations required and algorithms used reduces duplicates, failed payments and unaccountable claims. As a result, participation in SIRESS provides potential financial savings, reduced settlement periods, unnecessary interbank charges, fewer currency conversions, and fewer resources are required to investigate missing payments and interest claims.

The SARB regularly seeks to improve the efficiency and practicality of SIRESS. The SARB, as the SIRESS operator, attends and provides information to the participant body (SADC PSMB) meetings and SADC PSOC meetings whereby the SARB communicates planned activities, shares organisational changes impacting SIRESS, and addresses complaints to improve an interactive relationship between members. The SADC PSMB, as the participant representative body, is formally requested to comment on any proposed operational, IT, risk and/or legal changes which may affect its participation in SIRESS.

### 3.21.3 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.**

The goals of the effectiveness of SIRESS are stipulated in the SIRESS service agreement and Service Standard and can be measured by either the NPSD or the SIRESS participant. Any deviation is noted and reported in the monthly operational report which includes system changes and user administrative changes, including system downtime.

In terms of overseeing the payment system, the SARB always acts in the interest of the system as a whole and not that of any individual stakeholder. Although payment technologies are developing at a significant pace, the SARB is cautious not to stifle development and has always maintained a position that regulation will follow innovation. However, as the service provider, it is the priority of the SARB through the NPSD to ensure that the quality and standard of SIRESS is high in terms of availability, interoperability and integrity. This includes ensuring sound management of the risk SIRESS is exposed to in production and during the testing or implementation of new changes to its current functionality or

64. SIRESS Settlement Agreement definition 2.2.35 "SIRESS Settlement Participant Group" or "SSPG" means the SIRESS Participants in the cross-border clearing and settlement arena when acting as a body with a common interest or consultative forum for the purpose of recommending and, once approved by the SADC PSOC and SADC PSMB, implementing rules for settlement, and liaising and consulting with the SADC PSOC, SADC PSMB, SIRESS operator and such other party or parties within the clearing and settlement environment as may be appropriate or desirable, in regard to matters, including operational relating to settlement of payment obligations in the cross-border clearing and settlement arena.



infrastructure. This includes the risks that SIRESS participants or regional clearing system operators may expose the system to when they implement changes on their back-office and internal systems, interface applications and infrastructures that link into SIRESS.

In order to provide the industry with the best service, SIRESS availability is paramount and it is stipulated in the service standard agreement with BSTD as follows:

- Primary time (08:30–15:30, Monday to Friday):  
SIRESS system availability should be at least 99,5 per cent. A maximum of one hour (60 minutes) downtime per month will be allowed where a single downtime incident should not last more than 30 minutes.
- Tertiary time (15:31–08:29 during the working week or in alignment with scheduled maintenance weekends):

Regardless of whether a downtime incident is experienced or not, the service level shall be deemed as met for as long as all batches sent for settlement during this time settle before midnight or the scheduled commencement of the next settlement cycle day.

Any incident encountered is captured in the SIRESS call logging system and these calls are further scrutinised to ensure that necessary remedial actions have been provided. These calls are used as input in the decision-making process, which may result in improving operational effectiveness, new system feature enhancements, and overall system performance and management.

#### 3.21.4 Key consideration 3

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

As at May 2014, the SIRESS FMI was in operation for over a year.<sup>65</sup> There has not been any annual or periodic review of the functionality of the FMI yet. The SIRESS operator staff performance contracts are reviewed on an annual basis to ensure that the correct service is offered to the demands of the SADC community. The SIRESS operator management conducts a strategic review session on the FMI once a year. The SADC PSOC, non-participating central banks as well as the participants through their member representative body, the SADC PSMB, receive feedback on the FMI operations while providing input into how SIRESS can better meet the needs of its participating member and the industry as a whole.

Operational statistical reports are provided to SADC PSOC members per country and the NPSD management. Settlement statistics relevant to the requesting participant are provided to participants when requested. The statistics for volumes and values are provided to the broader audience which includes the SADC BA, SADC Secretariat, CCBG Secretariat and non-participating central banks' county leaders. An operational report which includes message volumes, system changes, static data changes and other operational matters is provided to the NPSD management team and the SADC PSOC committee members. This report is used as a mechanism to determine the use of the infrastructure by the participating members and to assess incidents, system downtime/availability and the resolutions thereof.

All operational issues or incidents are reported and logged on the SIRESS call logging system. Any system downtime is recorded on a BSTD ICT barometer that is circulated to each of the SARB's users; thus, it is visible to the NPSD management and the SARB's executive management. This data is used as input to managerial decision-making and system feature enhancements in a bid to improve the operation's effectiveness.

65. The SIRESS Roadmap is in progress to review, among others, the FMI functionality (business needs and requirements).

## 3.22 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.

### 3.22.1 Assessment of compliance

The SARB observes Principle 22.

SIRESS uses internationally accepted message standards and communication protocol with participants and system operators. The SWIFT FIN service is utilised for the messaging.

### 3.22.2 Key consideration 1

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

#### a. Communication procedures and standards

SIRESS supports the appropriate internationally accepted standards for the communication of financial instructions. All message formats comply with the SWIFT message standards. The messages used in SIRESS are MT202, MT103, MT298, MT598, MT900, MT910, MT920, MT950 and MT998.

For communication purposes, SWIFT is used as the network provider. The SWIFT FIN service is utilised for the messaging.

## 3.23 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.

### 3.23.1 Assessment of compliance

The SARB, as the SIRESS operator, broadly observes Principle 23. With reference to key consideration 5, the SARB has not yet completed the CPSS–IOSCO Disclosure Framework for the FMI.

The SARB recognises the need for transparency, and appreciates the need for participants to fully comprehend the risks of participating in the settlement service. To facilitate this, the SARB maintains comprehensive rules and procedures made available to the SARB's members and, where appropriate, to the public.

The SARB, as the SIRESS operator, provides monthly data on the volumes, values, incident reports (where relevant), the number of participants and list of participants to the SADC PSOC country leaders, SADC PSMB and SADC Secretariat. Some of the information on participants is published on the CCBG Secretariat website.

On its corporate website,<sup>66</sup> the SARB makes public (in English) a significant amount of information about the SARB and its subsidiaries, bank supervision services and regulations, certain market data, regulatory and oversight information (including details on the NPS Oversight Framework<sup>67</sup>) and speeches by the Governor of the SARB and other counterparties to the South African NPS and community as a whole. The SARB also publishes all relevant regulatory consultation documents, governance information, annual reports, risk frameworks and best practices, including other press releases.

66. Available at [www.resbank.co.za](http://www.resbank.co.za)

67. Available at [http://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem\(NPS\)/Documents/Oversight/Oversight.pdf](http://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem(NPS)/Documents/Oversight/Oversight.pdf)



The SADC CCBG, as the owner of SIRESS, broadly observes Principle 23. The SADC Secretariat publishes information about the FIP performance matrix, under the FIP Monitoring and Evaluation. The information is shared with the European Union, SADC member states and FinMark Trust.

The SADC Payment System project maintains a payment system statistical database which provides information about the status of the payment system in the member states. The information is provided by the central banks and then made available to the general public and other interested parties.

### 3.23.2 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.

#### a. Rules and procedures

Documents published that contain the rules and procedures include the following:

- SIRESS Operational Procedure and Service Level Manual as an addendum to the SIRESS service agreement;
- position papers on, for example, cost recovery;
- BCP documents; and
- SADC Payment System Business Processes and Related Document Manual (SADC BA Beige Book), maintained by the SADC BA/SADC PSMB.

During a review process, these documents are distributed to all SIRESS participants for their input, and feedback received is considered during decision-making before a final document is adopted and published. Relevant participant forums such as the payment system workshops and SADC PSMB meetings are also used as platforms to discuss such reviews.

#### b. Disclosure

The SARB has clear and comprehensive rules and procedures that are fully disclosed to its participants. The key rules and procedures of the payment and settlement services are set forth in the Settlement Agreement, Service Agreement and SADC BA Beige book.

The SARB complies with the Promotion of Access to Information Act 2 of 2000. In response to this, the Promotion of Access to Information Manual<sup>68</sup> was published on 15 November 2011 and made available to the public. The objective of this manual is to comply with the provisions of the Promotion of Access to Information Act, 2000 in order to promote the constitutional right of access to information. In addition to the manuals, the SARB holds different forums that are used as platforms to disclose major decisions to its stakeholders:

- The mandate, mission, objectives and functions of the SARB and its Board are published on the SARB website.
- The role of the South African NPS and the role and responsibilities of the SARB through the NPSD are published on the SARB website.
- The SARB maintains the confidentiality of its FMI members; hence, member information is published on a secure site under the SARB or CCBG website.
- All relevant legislation and the regulatory framework are published on the SARB website which includes position papers, information papers, directives and strategic documents.

68. In Terms of Section 14 of The Promotion of Access to Information Act 2 Of 2000 ("THE ACT"), the manual is available at <http://www.resbank.co.za/Lists/News%20and%20Publications/Attachments/4882/South%20AFrican%20Reserve%20Bank%20Manual.pdf>





- The SADC Payment System Sub-committee is required, in terms of Annex 2 Article 6, to meet at least once a year, and to date the committee has been holding an annual conference with the SADC PSBM and other stakeholders.
- The SARB, as the SIRESS operator, holds meetings with the SADC BA, SADC PSMB, regional operators and participating banks' formations.
- Communication to regional commercial banks and SIRESS participant banks is done through the SADC BA website.
- Additional communication is done during the implementation country visits and roadshows to the countries joining SIRESS.

### 3.23.3 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.

The SIRESS functional specifications provided in the SADC BA Payment System Business Processes and Related Documents Manual<sup>69</sup> detail the design and message layout of SIRESS. Any decisions and/or information are shared with participants through the SADC PSMB and SADC BA. All participants' rights, obligations and risks are documented in the SIRESS service agreement and the settlement agreement.

69. SADC BA Beige Book

### 3.23.4 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.

In order to ensure that the participants understand SIRESS, rules and mandatory operations, roadshows, and business and technical readiness country visits are provided to the countries and participants when joining SIRESS. The purpose of the visits is to provide training to SIRESS participants, assess the participants' readiness to join SIRESS, provide a business and technical overview of the SIRESS solution, and provide the participants with the summary of charges applicable to SIRESS.

Explanations are also shared at the SADC BA and payment system joint implementation meetings and individual sessions.

Participants are also offered technical and business assistance from the customer support centre and by SIRESS payment system analysts.

Non-compliance penalty fees are levied to participants who fail to comply with the rules.

### 3.23.5 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.

The SIRESS cost recovery document is shared with the SADC PSOC. The actual fees levied (i.e. processing fees, network fees and/or penalty fees) are only available to SIRESS participants and the SADC PSOC. These are reviewed annually by the SIRESS operator, approved by the SADC PSOC and shared with the participants, initially at the country visits and then thereafter through SIRESS Operational Notices and e-mails sent to each individual participant.



### 3.23.6 Key consideration 5

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

The SARB, as the SIRESS operator, has not yet completed the CPSS–IOSCO disclosure framework for the FMI. The SIRESS operator shares statistics of message volumes/values with the SADC PSOC, SADC PSMB, participants and other interested parties.

### 3.24 Principle 24: Disclosure of market data by trade repositories

A TR should provide timely and accurate data to relevant authorities and the public in line with their respective needs.

Not applicable to the payment system.

## 4. List of publicly available resources

Below is the list of publicly available resources, including those referenced in this disclosure.

1. *Bank Supervision Department Annual Report*
2. Banks Act 94 of 1990 (Banks Act)
3. *Government Gazette* Number 35950 published on 12 December 2012
4. Memorandum of Understanding for Cooperative Oversight of SIRESS
5. Mutual Banks Act
6. National Payment System Act 78 of 1998
7. Operational Procedures and Service Level Manual for the SIRESS System
8. PCH PG for Immediate Settlement: Payment Compensation Rules
9. SADC BA Business Process Manual
10. SADC Protocol on Finance and Investment
11. SADC PSMB Assent Agreements
12. SADC PSMB Roles and Responsibilities
13. SADC RCSO Service Level Agreement
14. SADC RCSO Criteria for authorisation to act as regional clearing and settlement system operator for cross-border payments within SADC
15. SARB's Notice 749 of 2013 – SIRESS Designation
16. SIRESS Service Agreement
17. SIRESS Procedure Manual
18. SIRESS Settlement Agreement and Schedules
19. South African Reserve Bank Act 90 of 1989, as amended
20. Stakeholders Agreement for SADC Regional Cross Border System
21. SWIFT User Handbook

