Southern African Development Community Integrated Regional Electronic Settlement System self-assessment of the Principles for Financial Market Infrastructures

2018

Responding institution	South African Reserve Bank (SARB)
Jurisdiction(s) in which the financial market infrastructure (FMI) operates	South Africa and the Southern African Development Community (SADC)
Authority(-ies) regulating, supervising or overseeing the FMI	SARB and the SADC Payment System Oversight Committee
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Where to find further information	Telephone no.: +27 (0)12 313 4622 Email address: SIRESSCSC@resbank.co.za

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1.0	30 July 2014	Submitted to the Oversight Division in the National Payment System Department of the SARB
2.0	31 March 2018	Submitted to the Oversight Division in the National Payment System Department of the SARB

This is the second issue of the SIRESS self-assessment of the Principles for Financial Market Infrastructures (PFMIs). Data may include own calculations made for the purposes of this publication.

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Abbreviations

AGM	annual general meeting
BCMC	Business Continuity Management Committee
BCP	business continuity plan
BIS	Bank for International Settlements
Board	Board of Directors
BREC	Board Risk and Ethics Committee
BSTD	Business Systems and Technology Department
CCBG	Committee of Central Bank Governors
CCP	central counterparty
CEO	Chief Executive Officer
COBIT	Control Objectives for Information and Related Technologies
COMFI	Committee of Ministers for Finance and Investment
COO	Chief Operating Officer
CPL	continuous processing line
CPSS	Committee on Payment and Settlement Systems
CSC	Customer Support Centre
CSD	central securities depository
DNS	domain name service
e.g.	exemplī grātiā (for example)
FIP	Protocol on Finance and Investment
FMI	financial market infrastructure
FSC	Financial Stability Committee
FSCF	Financial Sector Contingency Forum
GEC	Governors' Executive Committee
GL	General Ledger
HoD	Head of Department
i.e.	id est (that is)
IAD	Internal Audit Department
ICT	information and communications technology
IOSCO	International Organization of Securities Commissions
ISO	International Organization for Standardization
IT	information technology
ITIL	Information Technology Infrastructure Library
KC	key consideration

KE	key element
LCR	liquidity coverage ratio
LVPS	low value payment system
MoU	memorandum of understanding
MoU for SIRESS	MoU for Cooperative Oversight of SIRESS
NKP	national key point
no.	number
NPS	national payment system
NPS Act	National Payment System Act 78 of 1998
NPSAB	National Payment System Advisory Board
NPSD	National Payment System Department
NPSSB	National Payment System Strategy Body
NSFR	net stable funding ratio
ORM	operational risk management
p.	page
PASA	Payments Association of South Africa
PCH	Payment Clearing House
PFMI	Principles for Financial Market Infrastructures
PSMB	Payment System Management Body
PSOC	Payment System Oversight Committee
RCS	regional clearing and settlement
RCSO	regional clearing and settlement system operator
ref.	reference
RMC	Risk Management Committee
RMCD	Risk Management and Compliance Department
RPS	regional payment scheme
RTGS	real-time gross settlement
RTL	real-time line
RTO	recovery time objective
SADC	Southern African Development Community
SAMOS (system)	South African Multiple Option Settlement (system)
SARB	South African Reserve Bank
SARB Academy	South African Reserve Bank Academy
SARB Act	South African Reserve Bank Act 90 of 1989, as amended.

SARB Group	South African Reserve Bank Group
SCD	settlement cycle day
SIRESS	SADC Integrated Regional Electronic Settlement System
SLA	service level agreement
SMS	Short Message Service
SSPG	Settlement System Participant Group
SSS	security settlement system
SUG	SIRESS User Group
SWIFT	Society for Worldwide Interbank Financial Telecommunication
TR	trade repository

Glossary

Term	Definition
beneficiary participant	A SIRESS participant whose account in SIRESS will be credited in fulfilment of one or more settlement instructions received from a paying participant, who will receive a settlement notification and thereby incur an obligation to credit the account of the beneficiary identified in the payment instruction to which the settlement notification relates.
clearing and settlement system	The cross-border clearing and settlement environment in the SADC region.
collateral	A participant's liquid assets recognised by the SARB as eligible assets for the purpose of the provision of loans.
financial market infrastructure	A multilateral system among participating institutions, including the operator of the system, which is used for the clearing, settling and recording of payments, securities, derivatives and other financial transactions.
Financial Sector Contingency Forum (FSCF)	A national coordination body that identifies potential threats of a systemic nature that may adversely affect the stability of the South African financial sector, tasked with developing and coordinating 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 the 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. It 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.
payer participant	A paying participant with a settlement obligation whose settlement account will be debited by the SARB in fulfilment of one or more settlement instructions received.
payment obligation	Indebtedness that one party owes to another because of the clearing of one or more payment instructions.
Payments Association of South Africa (PASA)	A payment system management body recognised by the SARB.
PASA Executive	The CEO appointed by the PASA Council and any other person appointed by the CEO to the PASA Executive.
regional clearing and settlement system operator (RCSO)	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.
regional payment scheme (RPS)	A clearing arrangement developed for a payment instrument used in the SADC region that binds SIRESS participants to transact in terms of the Regional Rule Book of such a scheme.
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 SIRESS participant with the SARB (as the central bank) for settlement purposes.

Term	Definition
settlement agreement	The agreement that governs a settlement to be signed and adhered to by all SIRESS participants.
settlement bank	A SIRESS settlement system participant.
settlement cycle day (SCD)	The value date applicable to payment obligations settled or still to be settled in any settlement cycle.
settlement failure	In relation to a SIRESS participant, the failure by such a SIRESS participant to fulfil its settlement obligations to one or more of the other SIRESS participants within a reasonable period of time, as determined by the SIRESS operator, but in any event by no later than the end of the settlement cycle during which the relevant settlement instruction was given and in respect of which the SIRESS operator has declared it to be a settlement failure and has notified the SADC PSMB and SADC PSOC accordingly, and (if so required) the selected option to manage a settlement failure identified in the settlement agreement for the applicable RPS implemented by the SIRESS operator.
settlement instruction	An instruction given to the SIRESS operator by a SIRESS participant or by an RCSO on behalf of a SIRESS participant and under its mandate, to effect the settlement of one or more payment obligations or to discharge any other obligation of one SIRESS participant to another SIRESS participant.
settlement rules	The settlement rules and procedures (if any) contained in the settlement agreement as well as those drafted and recommended by the SADC PSMB and approved by the SADC PSOC, and such further settlement rules as may be prescribed by the SADC PSOC.
South African Multiple Option Settlement (SAMOS) system	A system operated by the SARB or any other settlement system adopted by the SARB in replacement thereof.
South African Reserve Bank (SARB)	The central bank of South Africa, as defined in sections 1 and 2 of the South African Reserve Bank Act 90 of 1989, as amended.

CHAPTER I

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), which is the real-time gross settlement (RTGS) system that facilitates the settlement of cross-border transactions in the SADC region, publishes this second self-assessment report based on the assessment that was conducted in 2017.

The self-assessment was conducted against the Principles for Financial Market Infrastructures (PFMI) issued in April 2012 by the Committee on Payments and Market Infrastructures (CPMI) of the Bank for International Settlements (BIS) and the Technical Committee of the International Organization of Securities Commissions (IOSCO).

The self-assessment, and therefore this report, outlines the observance of the PFMI based on the status of the operations of SIRESS as at December 2017.

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 full transparency in discharging its obligations for the benefit of all stakeholders.

The next self-assessment will be undertaken in 2019. A revised report will then be published to disclose the updated status of compliance with the PFMI.

South African Reserve Bank

December 2017

CHAPTER II

Executive summary

In April 2012, the Committee on Payment and Settlement Systems (CPSS)- now referred to as the Committee on Payment and Market Infrastructures (CPMI) of the Bank for International Settlements (BIS) as well as the Technical Committee of the International Organization of Securities Commissions (IOSCO) published the Principles for Financial Market Infrastructures (collectively referred to as the ‘PFMI’ and each principle referred to as a ‘Principle’). As defined by the BIS and the 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 endorsed the PFMI as the risk management standard for systemically important FMIs in South Africa.[1]

The first self-assessment report was published on 30 March 2017. It covered the SARB’s operations of the Southern African cross-border real-time gross settlement (RTGS) system, called the Southern African Development Community (SADC) Integrated Regional Electronic Settlement System (SIRESS). This is the second self-assessment of the SARB’s operations of SIRESS against the applicable PFMI.

1 Position paper NPS 01/2013 published on 10 September 2013, file ref. no. 18/5/1 – 2013

SIRESS was implemented on 22 July 2013. It is based on the South African domestic RTGS system. SIRESS is operated by the SARB, as appointed by the SADC member central banks participating in SIRESS. Participants in SIRESS include central banks and financial institutions, that is, banks and non-banks in the SADC region that are authorised by their respective central bank to participate in their domestic settlement system in that country. The FMI derives its mandate to provide 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 SARB Risk Management Policy.

The self-assessment includes a description of SIRESS operations and describes how the SIRESS Operator as an FMI complies with each Principle applicable to it. The self-assessment has been compiled by a division in the SARB's National Payment System Department (NPSD), namely the Domestic and Regional Services Division, as the operator of the FMI as well as other relevant stakeholders in the SARB.

Table 1: Summary of the self-assessment against the PFMI.

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	√			
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				

Table 1: Summary of the self-assessment against the PFMI (continued)

Principle	Description	Appli-cable?	Observed	Broadly observed	Partly observed	Reviewed
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.	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 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				

Table 1: Summary of the self-assessment against the PFMI (continue)

Principle	Description	Appli-cable?	Observed	Broadly observed	Partly observed	Reviewed
Principle 12: Exchange of value settlement systems	If an FMI settles transactions that involve the settlement of two linked obligations (for 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 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 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				

Table 1: Summary of the self-assessment against the PFMI (continue)

Principle	Description	Appli-cable?	Observed	Broadly observed	Partly observed	Reviewed
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.	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 FMIs 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 should provide timely and accurate data to relevant authorities and the public in line with their respective needs.	No				

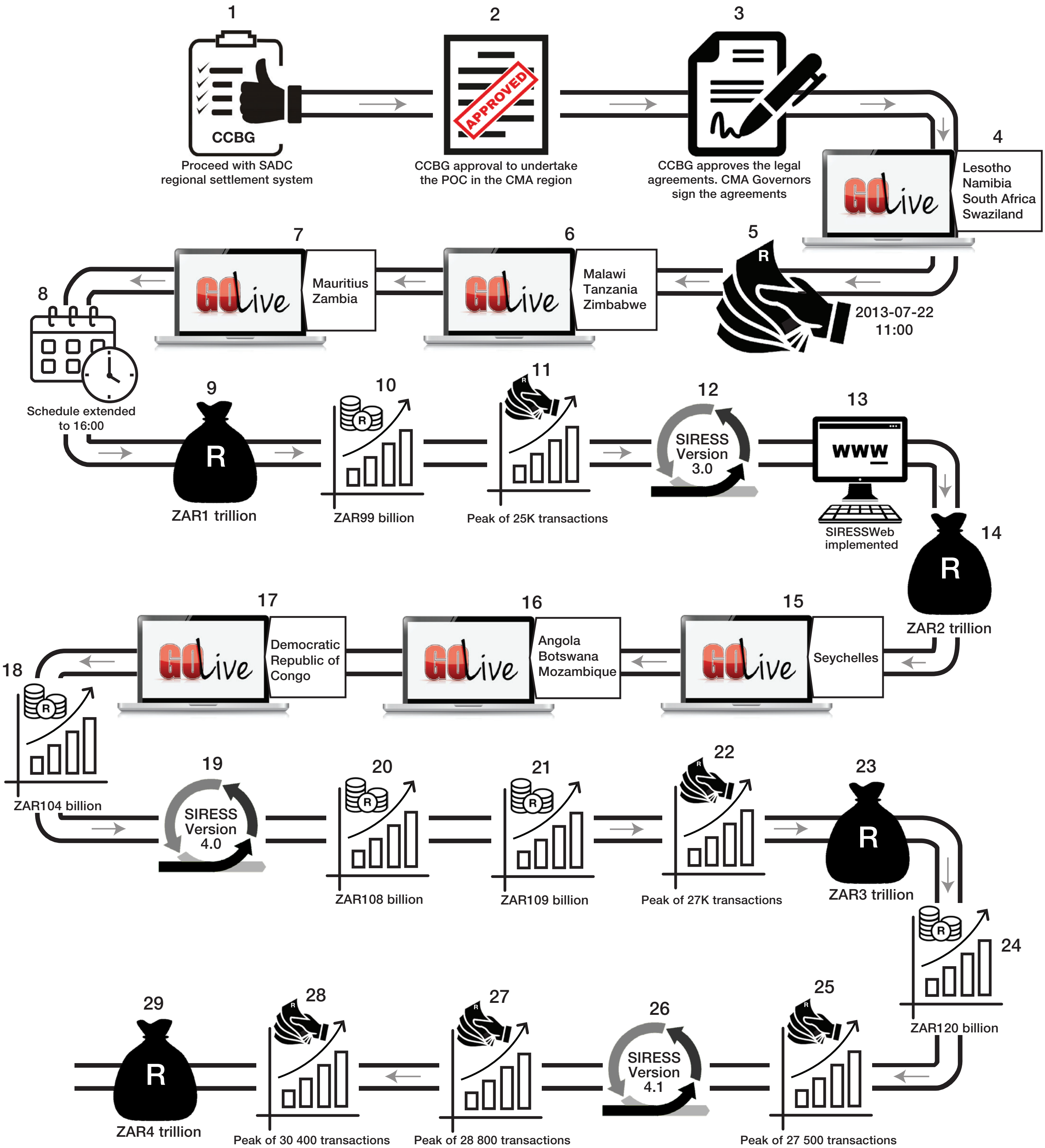
CHAPTER III

Notable events for SIRESS

Table 2: Notable events for SIRESS

SIRESS notable events		
Event number	Date	Description
1	May 2009	CCBG approves proceeding with a SADC regional settlement system.
2	October 2010	CCBG approves to undertake the POC in the CMA region.
3	April 2013	CCBG approves the legal agreements. CMA Governors sign the agreements.
4	22 July 2013	SIRESS goes live in Lesotho, Namibia, South Africa and Swaziland.
5	22 July 2013 11:00	The first SIRESS customer payment is settled.
6	April 2014	SIRESS Phase II goes live in Malawi, Tanzania and Zimbabwe.
7	September 2014	SIRESS Phase III goes live in Mauritius and Zambia.
8	10–20 October 2014	The SIRESS settlement schedule is extended to 16:00.
9	29 April 2015	R1 trillion is settled from inception.
10	September 2015	A peak of R99 billion is reached.
11	October 2015	A peak of 25 000 transactions is reached.
12	16 November 2015	SIRESS Version 3.0 is implemented.
13		SIRESSWeb is implemented.
14	6 April 2016	R2 trillion is settled from inception.
15	July 2016	The Seychelles goes live.
16	October 2016	Angola, Botswana and Mozambique go live.
17	November 2016	Democratic Republic of Congo goes live.
18		A peak of R104 billion is reached.
19	18 November 2016	SIRESS Version 4.0 is implemented.
20	December 2016	A peak of R108 billion is reached.
21	March 2017	A peak of R109 billion is reached.
22		A peak of 27 000 transactions is reached.
23	2 March 2017	R3 trillion is settled from inception.
24	August 2017	A peak of R120 billion is reached.
25		A peak of 27 500 transactions is reached.
26	19 August 2017	SIRESS Version 4.1 is implemented.
27	October 2017	A peak of 28 800 transactions is reached.
28	November 2017	A peak of 30 400 transactions is reached.
29	18 December 2017	R4 trillion is settled from inception.

Figure 1: Notable events for SIRESS



CHAPTER IV

Summary of changes since the last update

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

1.1 The assessment was updated to include business changes with regard to the operational risk function in the National Payment System Department (NPSD) of the South African Reserve Bank (SARB), the establishment of the Southern African Development Community (SADC) Integrated Regional Electronic Settlement System (SIRESS) User Group (SUG) and the holding of its inaugural meeting, and the review of the SARB's governance arrangements.

2. General description of the FMI and the market it serves

2.1 The regional cross-border real-time gross settlement (RTGS) system in the SADC region is called SIRESS. SIRESS is an automated interbank settlement system operated by the SARB, as appointed by the participating SADC central banks, to settle their obligations and payments on an immediate, real-time basis in the region. SIRESS settles on a prefunded basis. It is a single-currency settlement system that settles in the South African rand.

2.2 SIRESS settles single settlement instructions between participating banks. The functionality to process batched payment instructions was developed and implemented in the system in September 2015. SIRESS provides three settlement options to banks, namely the real-time line (RTL), continuous processing line (CPL) and the continuous batch processing line (CBPL) settlements.

2.3 The following depicts basic data and performance statistics on the services and operations of SIRESS

(a) Figure 2: Settlement volume – July 2013 to December 2017

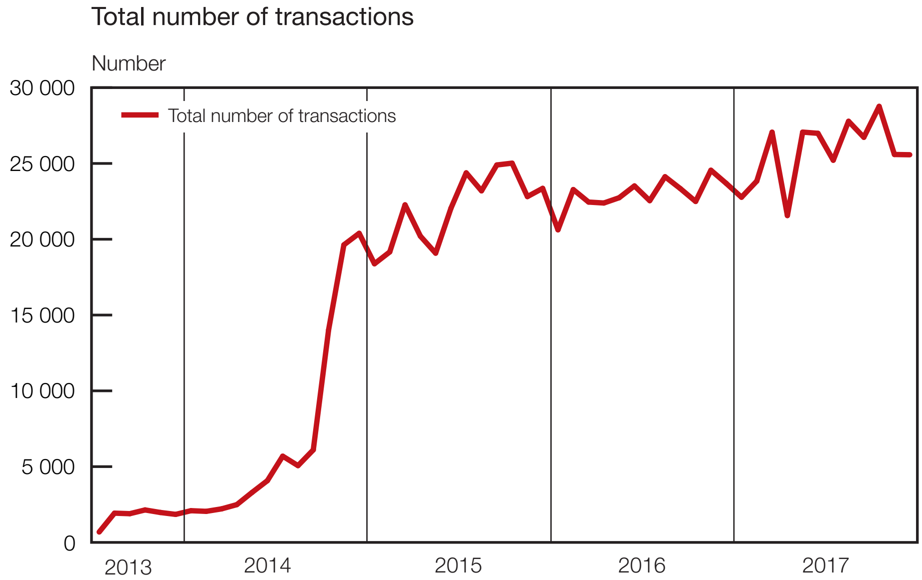


Figure 3: Settlement value – July 2013 to December 2017

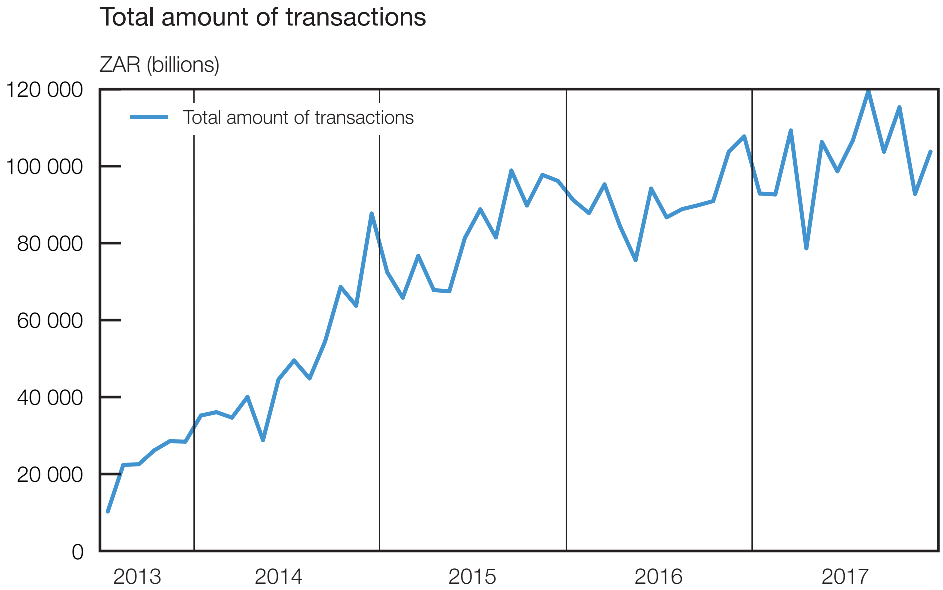


Figure 4: Combined volumes and values – July 2013 to December 2017

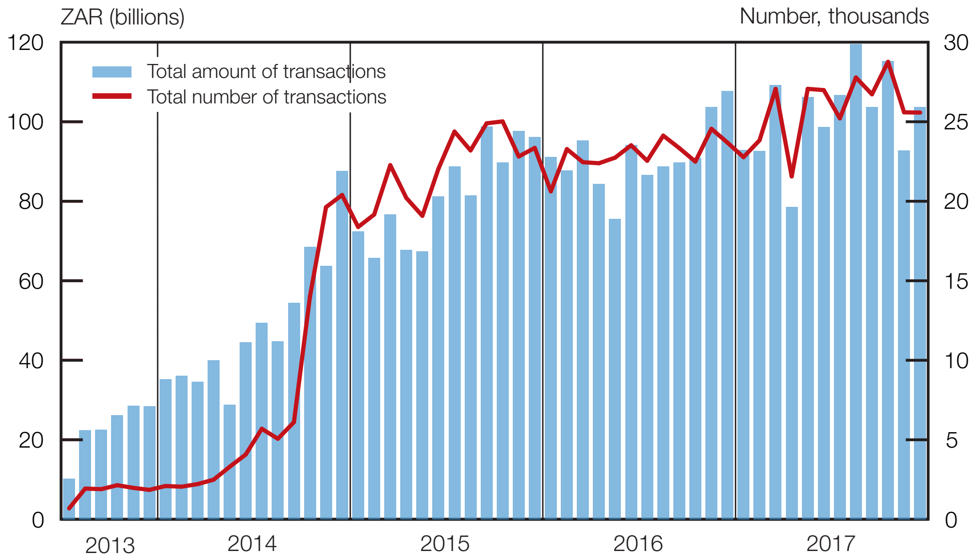
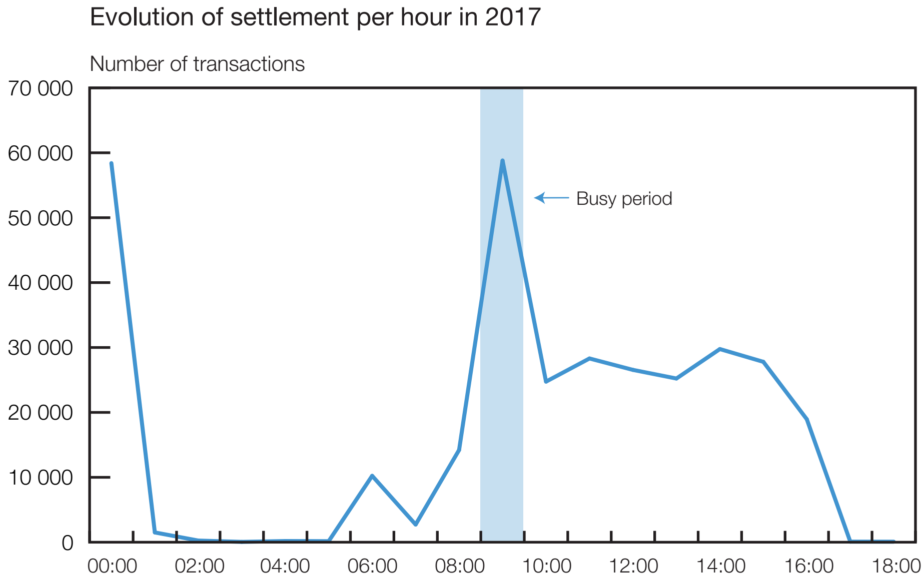


Table 3: Combined volumes and values – year-on-year July 2013 to December 2017

	2013	2014	2015	2016	2017
Volumes	ZAR138 billion	ZAR588 billion	ZAR984 billion	ZAR1,095 trillion	ZAR1,242 trillion
Values	10 481	87 127	264 816	275 974	314 943

Figure 5: Evolution of settlement activity per hour from 00:00 to 16:30 in 2017



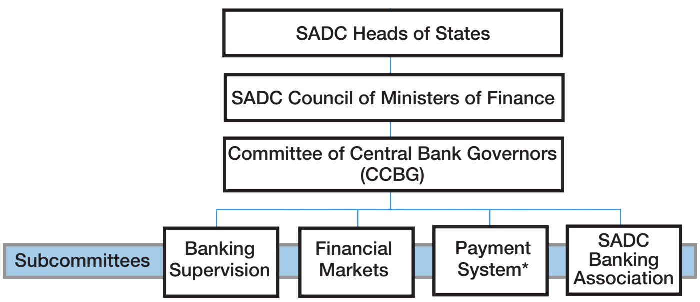
3. General organisation of the FMI

3.1 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 of the FIP recognises that central banks must cooperate through policy coordination, capacity building and system development, which in turn will contribute to reforming the facilitation of cross-border payments and supporting monetary policy objectives.

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

3.3 The financial market infrastructure (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, which system was developed by adapting the South African Multiple Option Settlement (SAMOS) system, remain vested in the SARB. SIRESS is operated by the SARB. The ownership matters and decision-making processes of SIRESS fall under the governance structures of the CCBG.

Figure 6: SADC and CCBG governance structure



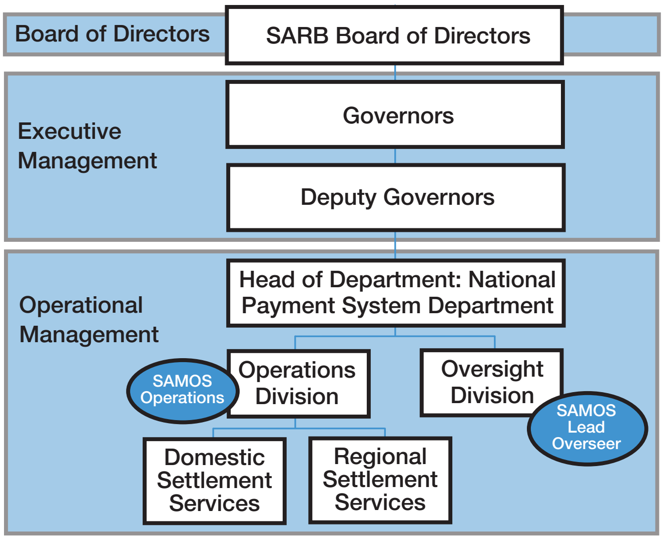
* Incorporates the SADC Payment System Oversight Committee

3.4 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 or settlement systems'.[2]

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

3.6 The structure of the NPSD is depicted in the figure below:

Figure 7: NPSD governance structure



4. The legal and regulatory framework

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

4.2 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 South Africa. The NPS Act also provides for the regulatory and supervisory powers of the SARB to manage and control all payment-related risks.

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

2 More information is available on the SARB website (www.resbank.co.za) under the following links: Regulation and supervision > NPS documents > Overview document.

4.4 SIRESS's 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.

4.5 The Stakeholders Agreement for the operation of SIRESS 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 SIRESS participants. The SIRESS Settlement Agreement, for the settlement of payment obligations in the SADC integrated regional payment system, is executed between the SIRESS participants.

5. SIRESS design

Figure 8: SIRESS settlement model

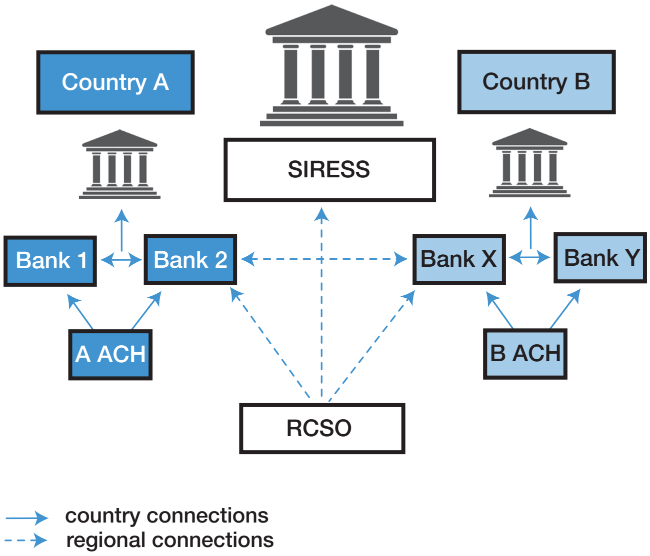


Figure 9: SIRESS settlement model example with countries and participant banks

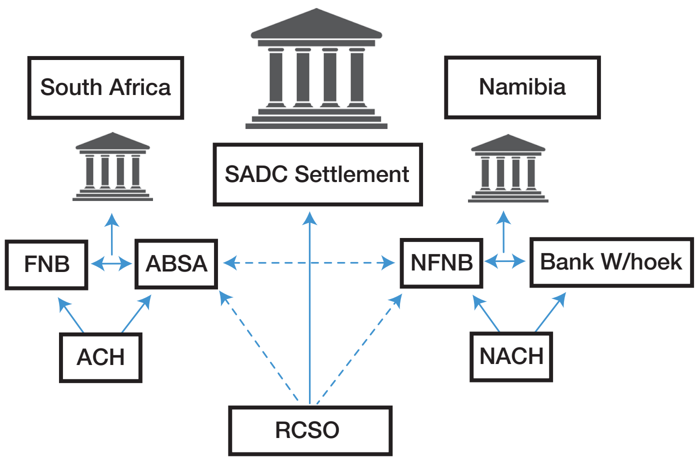


Figure 10: SIRESS systems interfaces

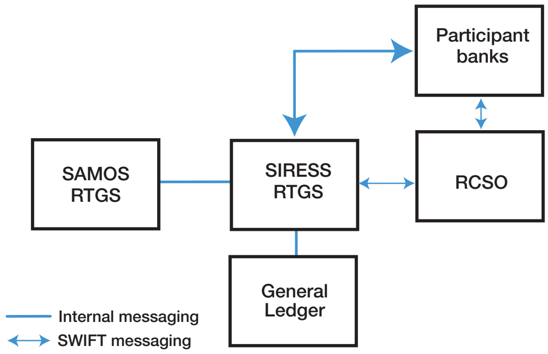
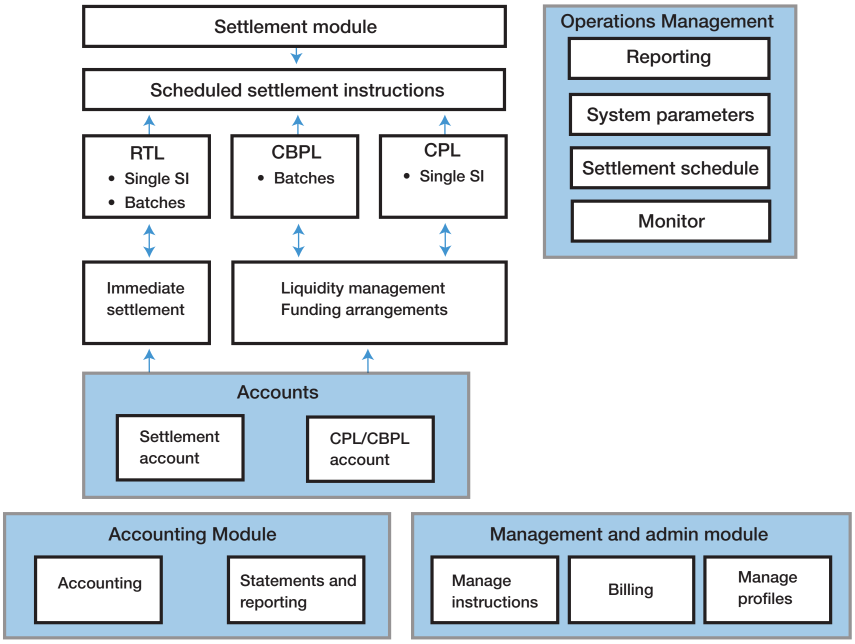


Figure 11: SIRESS logical view



5.1 Initially, SIRESS was developed by adapting the SAMOS system with a web-based front-end application known as the SIRESS Reporting Interface. On 15 November 2015, this SIRESS Reporting Interface was replaced with the SIRESSWeb application.

5.2 The SIRESSWeb application provides, among other things, instruction submissions by participants, participants' position to the regional clearing and settlement system operator (RCSO), regulatory reporting to central banks, and enriched reporting to participants.

5.3 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. The components of SIRESS include the following:

(a) Settlement schedule

(i) 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. Saturdays and Sundays) as well as on South African public holidays. The administrator of SIRESS can change the start and end times of windows. The end-of-day timing for the current settlement cycle day (SCD) cannot be moved earlier, but the end-of-day timing 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 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 SCD continues. Different operating hours are allowed for real-time, delayed and batch settlements.

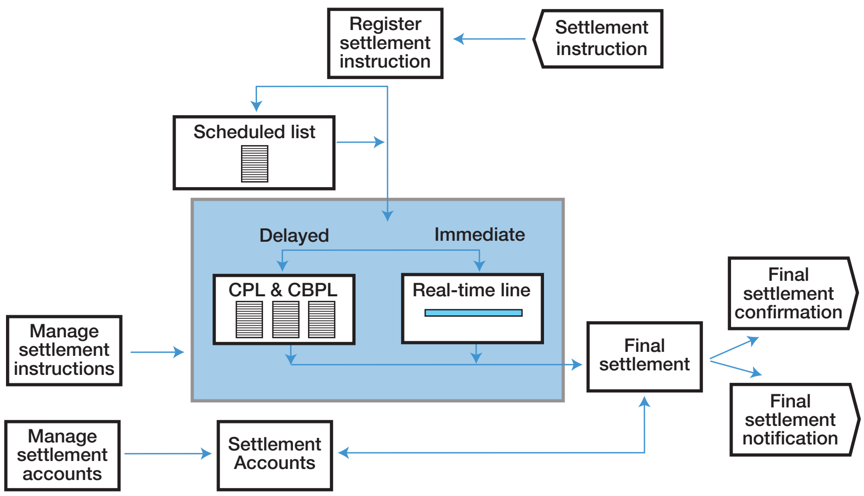
An example of a business day settlement schedule in a 24-hour cycle can look as follows.

Figure 12: SIRESS default settlement schedule

Window 1	Window 2	Window 3	Finalise Window	Position Window	Night Window	Start of new SCD
00:01-07:00	07:00-12:00	12:00-16:00	16:00-16:05	16:05-16:30	16:30-00:00	00:00-00:01
• Funding • IATI-SA-CPL • Normal settlement • Return of Funds *SIRESS charges + interest settled	• Normal settlement • Funding • IATI-SA-CPL • Return of Funds	• Normal settlement • Funding • IATI-SA-CPL • Return of Funds	FINALISE WINDOW	• End-of-day (EOD) settlement instructions only • Return of Funds	• End-of-day (EOD) settlement instructions only • Return of Funds *Inter bank lending + borrowing	• Flexcube update • SIRESS charges calculated • SIRESS charges and applicable interest posted to participant accounts • Settlement cycle day roll over

(b) Settlement options

Figure 13: SIRESS settlement options



(i) The RTL is a facility for settling single or batched settlement instructions in real-time on a gross basis.

(ii) The CPL is a settlement facility provided to settle single or batched settlement instructions on a gross basis, utilising net liquidity, and if no liquidity is available, the settlement instructions will be queued. The CPL account is funded from the settlement account.

(iii) The concurrent batch processing line is a settlement facility to process a batch of settlement instructions on a gross basis utilising net liquidity. If no liquidity is provided, the instructions are queued until a predetermined time when the whole batch will be discarded.

(c) Collateral management

(i) SIRESS does not offer collateral facilities. Participants' accounts must be prefunded.

(d) Accounting

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

(e) Reporting

(i) A comprehensive set of reports is available in SIRESS for the administrator, with an additional feature-rich 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 (e.g. credits and debits, statements, and interest received and paid). Central banks, as regulators, can draw reports from the SIRESSWeb application to view the business operations and positions of their participants. The RCSO can also draw positions of banks on the batch submitted by the RCSO for settlement.

(ii) The content and layout of reports are exactly the same for the SARB and the settlement bank. Enquiries on the current data (i.e. the current SCD's transaction data) as well as all active (and scheduled future) versions of static data, are available. Transaction data are kept for five years.

(f) Charges

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

6. NPSD operations

6.1 SIRESS customer service to participating banks and central banks is provided by the SIRESS Customer Support Centre (CSC).

CHAPTER V

Principle-by principle narrative disclosure

PRINCIPLE 1: LEGAL BASIS

1. Principle narrative

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

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

2. Assessment of compliance

2.1 The SARB, as the SIRESS operator, observes Principle 1.

2.2 Article 8 of the FIP provides that the state parties shall ensure cooperation among their respective central banks in relation to the payment, clearing and settlement system. Annexure 6 of the FIP 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.

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

2.4 The SARB means the South African Reserve Bank established by section 9 of the Currency and Banking Act 31 of 1920 (Currency and Banking Act).[3] 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.[4] The NPS Act provides the legal framework for the payment system. Section 4A(1) of the NPS Act provides that the SARB may designate a settlement system if such a 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.[5]

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

2.6 It is recommended that the SADC Payment System Oversight Committee (PSOC) identify and review the possible conflict of laws that might impact on the operations and provision of settlement services as well as the management of insolvency laws.[6]

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3 More information is available in the Banks Act 94 of 1990. The primary objective of the SARB is to protect the value of the currency of South Africa in the interest of balanced and sustainable economic growth.

4 www.resbank.co.za > Regulation and supervision > NPS documents > Overview > National Payment System Act (Act No. 78 of 1998)

5 http://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem(NPS)/Legal/Pages/Designation.aspx

6 Refer to the study done by Finmark consultants on the legal and regulatory framework with regard to provisions of insolvency in the SADC region. See specifically section 5.8 of the document.

3. 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.

3.1 Material aspects and relevant jurisdictions

(a) SIRESS activities are conducted across the SADC region, but the services are provided in South Africa and governed by South African law.[7]

(b) South Africa is, therefore, the relevant jurisdiction for the identified material aspects of the FMI's activities, which include:
- (i) the appointment of the SARB as the SIRESS operator;
- (ii) the authorisation of participants;
- (iii) settlement finality;
- (iv) participant failure; and
- (v) settlement failure.

3.2 The legal basis for each material aspect

(a) The legal basis for each material aspect is the appointment of the SARB as the SIRESS operator.

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

(c) The SARB was established by section 9 of the Currency and Banking Act and is governed by the SARB Act. The SARB Act mandates the SARB to oversee the regulation of the national payment system (NPS) and to ensure its safety, soundness and efficiency.

(d) 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.

(e) The SARB is designated as the operator of SIRESS, as set out in the Designation Notice in terms of section 4A of the NPS Act. The rights and obligations of the SIRESS operator are evidenced in the SIRESS stakeholders' agreement as well as the SIRESS service agreement and settlement agreements.

3.3 Provisions for the authorisation of participants

(a) 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 that are participants in their domestic RTGS system or in their domestic settlement arrangements. Where the 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 has 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.

7 Clause 22 of the SIRESS settlement agreement and clause 27 of the SIRESS service agreement

3.4 Provisions for settlement finality

(a) SIRESS provides to participants the settlement of services in the South African rand. The applicable law, being the South African law, provides for a well-founded legal basis that supports the finality and irrevocability of settlement. Sections 5(2) and 5(3) of the NPS Act provide for settlement in a designated settlement system to be final and irrevocable.[8]

(b) However, settlement finality and irrevocability depend on the designation granted to 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.[9]

3.5 Provisions for participant failure

(a) Participant failure is provided for under clause 5.4 of the settlement agreement. The settlement 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 written notification from the central bank of the country where the SIRESS participant originates, indicating that the SIRESS participant can no longer participate in SIRESS.

(b) 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 a status/registration has been legislated, and the insolvency law of the participant's jurisdiction will be applicable.

3.6 Provisions for settlement failure

(a) Options to manage settlement failure are provided in clause 7 of the settlement agreement, Schedule 3 of the settlement agreement, and the Business Process Manual (Beige Book) of the SADC Banking Association.

(b) SIRESS settles on a prefunded basis. The participants' accounts must be prefunded prior to settlement. The settlement failure management process and procedures deal with the procedures for removing a participant that failed to provide sufficient funds in SIRESS in order to meet its interbank settlement obligation as a result of a batch of payments submitted to SIRESS by the RCSO.

3.7 Provisions for the rights and interests of the SIRESS operator

(a) 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 section 4A(5)(b) of the NPS Act, the SARB is also designated as the operator of SIRESS. The rights and interests of the SIRESS operator are evidenced in the SIRESS stakeholders' agreement as well as the SIRESS service and settlement agreements.

3.8 Provisions for applicable law

(a) The SIRESS stakeholders' agreement as well as the 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.[10] The NPS Act provides for the management,

8 Section 5 of the National Payment System Act 78 of 1998

9 SARB Notice 749 of 2013 – 'SIRESS designation'

10 National Payment System Act 78 of 1998

administration, operation, regulation and supervision of payment, clearing and settlement systems in the Republic of South Africa, and for connected matters.[11]

3.9 Contractual provisions between the participating central banks and the SIRESS operator

(a) 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.

(b) The stakeholders' 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.

(c) The 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 respective responsibilities in pursuit of their shared public-policy objectives for the safety and efficiency of payment and settlement systems and their shared focus on the stability of the financial system.

3.10 Contractual provisions between the SIRESS operator and participants

(a) The SIRESS service agreement is executed by the SIRESS operator and the participating banks. It sets out the conditions to access and participate in SIRESS, settlement management (including business rescue and insolvency provisions), settlement services and procedures, applicable fees and penalties, a dispute resolution mechanism, and confidentiality.

3.11 Contractual provisions among the participants

(a) All participants (central banks and commercial banks) are obliged to sign the SIRESS settlement agreement. The SIRESS settlement agreement is executed between the SIRESS participants. It provides for, among other things, compliance requirements, options to manage settlement failure, records management, risk management, settlement management, performance monitoring, and the finality and irrevocability of settlement. The settlement agreement is signed multilaterally. However, no participant is obliged to transact with each and every other participant in SIRESS.[12]

(b) The SADC Payment Scheme Management Body (PSMB) is established with the objectives of organising, managing and regulating the SIRESS participants in various regional payment schemes (RPSs)[13] of the SADC clearing and settlement system.

(c) The SADC PSMB acts as a self-regulatory body under the authority of the SADC PSOC. The participants also execute an assent agreement between themselves under the SADC PSMB.

(d) There is a requirement that, before a participant is granted admission to participate in the SADC clearing and settlement environment, such a participant will execute an assent agreement regulating the different RPSs in

11 Description of the National Payment System Act 78 of 1998

12 Section 1.5 of the SIRESS settlement agreement preamble

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

which the participant wishes to participate with other participants under the SADC PSMB.[14]

4. Key consideration 2: An FMI should have rules, procedures and contracts that are clear, understandable and consistent with relevant laws and regulations.

4.1 The rules, as formulated and amended, govern certain matters, including regulations as well as the 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 is responsible for business rules and models.

4.2 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).

4.3 Technical business rules and models are evidenced in the SIRESS functional specifications and the business models of the SADC Banking Association, including message templates.[15] A comprehensive set of participant rules and functional specifications can be found on the SADC Banking Association's website.[16] 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.

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

4.5 The SIRESS operator occasionally issues participant notices (e.g. a review of interest rates, new participants and public holidays) with regard to the operations of SIRESS. These operational notices are sent to the participants as well as members of both the SADC PSMB and the SADC PSOC, and are published on the website of the CCBG Payment System Subcommittee.

4.6 The participation fees and charges are determined by the SIRESS operator and approved by the SADC PSOC.[17] 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.

4.7 The settlement agreement provides for settlement rules and procedures.[18] The settlement agreement also provides for the adherence to RPS arrangements, the formulation and approval of rules, as well as the rights and obligations of the participants and the SIRESS operator.[19]

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

14 Section 4 of the SIRESS settlement agreement
15 http://www.sadcbanking.org and http://www.pasa.org.za
16 http://www.sadcbanking.org
17 Clause 11 of the SIRESS settlement agreement and clause 9 of the SIRESS service agreement
18 Clause 14 of the SIRESS settlement agreement
19 Clauses 14.3 to 14.4 of the SIRESS settlement agreement

4.9 The SADC 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. Where relevant, they are referred to the SADC CCBG for approval. In instances where operational rules and procedures are formulated by the SIRESS operator, such rules are approved by the SADC PSOC.[20]

4.10 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.

5. 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.

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

5.2 The SADC 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. Where relevant, they are referred to the SADC CCBG for approval. In instances where operational rules and procedures are formulated by the SIRESS operator, such rules are approved by the SADC PSOC.

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

5.4 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 progress report of the Payment System Subcommittee. The SADC PSMB also submits its report to the CCBG as part of the SADC Banking Association's progress reporting to the CCBG on a biannual basis. These progress reports are available on the CCBG website.[21]

5.5 SIRESS Operational Notices

(a) The SARB, as the SIRESS operator, publishes Operational Notices on the CCBG website in order to communicate on operational matters (such as system documentation as well as rules and procedures) to ensure settlement.

Operational Notices are also sent to participants and members of the SADC PSOC and the SADC PSMB. They are published on the SIRESSWeb application.

6. 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

20 KEY CONSIDERATION 1.2, KEY ELEMENT 2. *Consistency of the FMI's rules, procedures, and contracts with relevant laws and regulations*

21 http://www.sadcbankers.org

under such rules and procedures will not be voided, reversed or subject to stays.

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

6.2 The settlement and service agreements stipulate that the South African law under the jurisdiction of the High Court of South Africa[22] is the applicable law in terms of the provisions for the settlement management, services and operations of SIRESS. The participants' juristic laws are still applicable in terms of exchange control, domestic RTGS participation or settlement arrangements, oversight, and other regulatory provisions.

6.3 Section 9 of the SARB Act[23] provides the reasons that void the rules, procedures and/or contracts under the 'Validity of the Board's decisions and acts' clause. No decision or act of the Board of Directors (Board) [24] or a decision or act performed under the authority of the Board shall be invalid. When rules, procedures and contracts are reviewed, this is always subject to a legal opinion and confirmation from the SARB's Legal Services Department, considering comments from the current participants.

7. 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.

7.1 The operating rules, settlement management, and the provision of settlement services in SIRESS are all governed by South African law, and participating 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.

7.2 As mentioned previously, the SIRESS rules, operations, provision of settlement services, and management are governed by South African law. However, to date no activities have been identified that might give rise to a conflict of laws and might subsequently require attention from the participating central banks' jurisdictions.[25]

7.3 The assessment 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 enforceability of the SIRESS rules and regulations, including aspects identified as being material to SIRESS.[26]

22 Clause 22 of the SIRESS settlement agreement and clause 27 of the SIRESS service agreement

23 Clause 22 of the SIRESS settlement agreement and clause 27 of the SIRESS service agreement South African Reserve Bank Act 90 of 1989

24 South African Reserve Bank Board of Directors

25 KEY CONSIDERATION 1.5 KEY ELEMENT 1. *Identification of potential conflict of laws across jurisdictions*

26 KEY CONSIDERATION 1.5 KEY ELEMENT 2. *Mitigation of risks arising from conflict of laws across jurisdictions*

PRINCIPLE 2: GOVERNANCE

1. Principle narrative

1.1 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.

2. Assessment of compliance

2.1 The SARB, as the SIRESS operator, observes Principle 2.

2.2 All key considerations are observed. The FMI is operated by the SARB and has wide public-policy objectives and responsibilities, including monetary policy. The Board of the SARB has delegated certain responsibilities to the line management that is applicable to the FMI.

2.3 SIRESS is subject to the governance arrangements as per the NPS Act, which is driven by the mission statement of the NPSD as well as the clearly defined objectives of the NPS industry. The SARB acts as an overseer of the NPS. The NPSD has the responsibility for implementing the framework and strategy agreed to 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 relevant to payment systems. The NPSD is primarily focused on the domestic NPS but also plays a vital role in the development of the payment systems in SADC.

2.4 These elements place a high priority on the safety and efficiency of the FMI entities and support financial stability. Additionally, SIRESS is operated and managed under robust policies and controls, which allows for strategic risk management and operational risk management (ORM) within the FMI. The governance arrangements clearly specify the roles and responsibilities of the Board of the SARB and its subsidiaries.

2.5 According to the SARB Act, the Board shall be responsible for the corporate governance of the SARB by ensuring compliance with the principles of good corporate governance as well as adopting rules and determining policies for the sound accounting, administration and functioning of the SARB. The Governor and the Deputy Governors are responsible for policy issues and the day-to-day management of the SARB.

2.6 Protecting the value of the South African currency is the primary function of the SARB. In discharging this role, the SARB takes responsibility for:

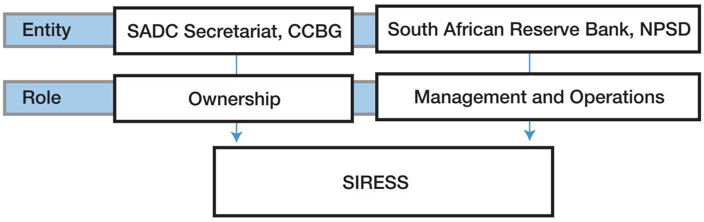
(a) ensuring that the money, banking and financial system in the country is sound, meets the requirements of the community, and keeps abreast of international developments;

(b) assisting government as well as other members of the SADC economic community with data relevant to the formulation and implementation of macroeconomic policy; and

(c) informing the South African community and all other relevant stakeholders about the South African monetary policy and economic situation.

2.7 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.

Figure 14: SIRESS ownership and operational structure



2.8 The objectives of the SADC finance and investment sector, as set out in the FIP, are to:

(a) promote the development of sound investment policies of member states in order to establish an enabling environment for investment in the region;

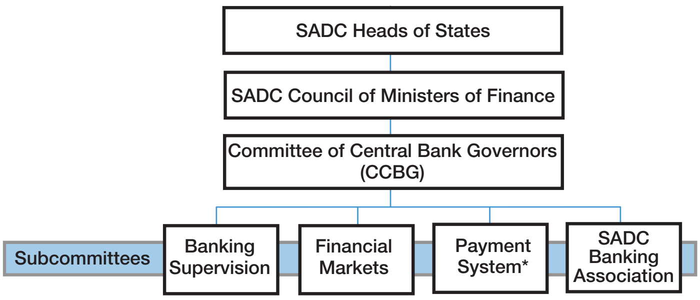
(b) provide a framework for regional cooperation in the area of finance in collaboration with central banks, other regulatory and supervisory authorities, banks and financial intermediaries in order to mobilise resources for investment; and

(c) encourage movement towards regional macroeconomic stability by, among other things, promoting prudent fiscal and monetary policies.

2.9 In January 1995, the SADC Council of Ministers approved the establishment of the Finance and Investment Sector with two committees, namely the CCBG and the Committee of Treasury Officials.[27] The CCBG focuses on monetary and fiscal matters and reports directly to the Sectorial Committee of Ministers responsible for finance and investment.

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

Figure 15: SADC and CCBG governance structure



* Incorporates the SADC Payment System Oversight Committee

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

27 The terms of reference of the CCBG are available at http://www.sadcbankers.org/Lists/News and Publications/Attachments/3/Terms of reference.pdf.

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

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

2.14 The CCBG does not have the legal status to contract third parties. All contracts are co-signed by all the Governors in the CCBG.

2.15 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. 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.

3.1 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 in maintaining the financial stability of the country. The role and function of the NPSD strive towards three distinguishable functional areas, namely:

(a) providing payment settlement services (operational);

(b) overseeing the NPS; and

(c) developing capacity and infrastructure in the SADC region.

3.2 Attention is particularly focused 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 considered as one of the primary objectives, in line with the statutory and constitutional responsibility of the SARB.

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

3.4 The risk management process is viewed as an integral part and essential element of good corporate governance.

The SARB has therefore established a risk management policy to manage risks in a coordinated, comprehensive and systematic manner, consistent with international standards and best practices. Managing risks allows the FMI to strive for the achievement of the following:

(a) maintaining the safety and efficiency of the NPS (which forms part of the SARB's risk assessment and annual strategic planning sessions to identify focus areas and strategic initiatives);

(b) ensuring that the settlement of financial obligations in the economy takes place in central bank money (which underpins financial stability); and

(c) ensuring that a national coordination body, namely the Financial Sector Contingency Forum (FSCF), exists for the management of risks impacting on the financial system to support the safety and efficiency of the NPS.

3.5 With regard to the SADC PSOC, the objectives of the participating central banks include having a cooperative oversight arrangement for SIRESS in place that provides 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 shared focus on the stability of the financial system.

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

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

(a) achieves comprehensive oversight over SIRESS, including the functioning of the SADC PSMB;

(b) enhances oversight efficiency by minimising the burden on the SIRESS operator and the duplication of efforts by the participating central banks;

(c) fosters transparency among the participating central banks regarding the development and implementation of applicable policies; and

(d) supports fully informed judgements when participating central banks make their independent yet interdependent oversight assessments and decisions vis-à-vis SIRESS.

4. 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.

4.1 SADC CCBG governance arrangements

(a) 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.

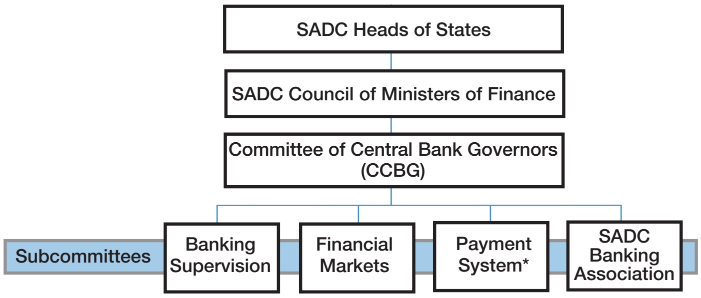
(b) The CCBG consists of the Governors of the central banks of each SADC member state. The CCBG reports to the SADC COMFI.

(c) Article 3 of Annexure 6 of the FIP provides for the establishment of cooperation and coordination between central banks on payment, clearing and settlement systems in order to, among other things:[28]

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

28 http://www.sadc.int/files/4213/5332/6872/Protocol_on_Finance__Investment2006.pdf

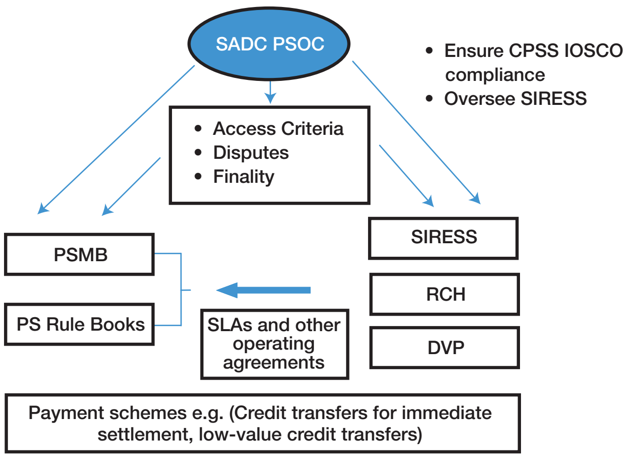
Figure 16: SADC CCBG governance structure



* Incorporates the SADC Payment System Oversight Committee

4.2 SADC PSOC governance arrangements

Figure 17: SADC PSOC governance arrangements



Source: SADC Bankers Association

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

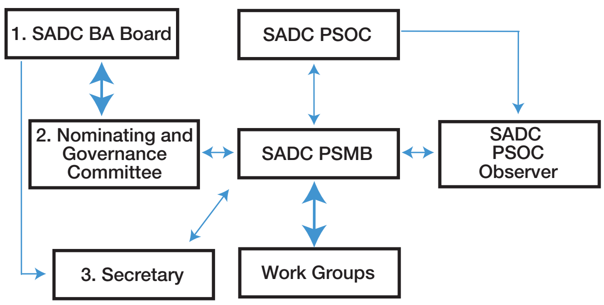
(i) review and monitor the objectives set out in Article 3 of the FIP; and
(ii) establish a payment system oversight function for the SADC region.

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

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

4.3 SADC PSMB governance arrangements

Figure 18: Payment System Management Body governance structure



(a) The SADC Banking Association 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 Banking Association's interventions is to define payments instruments, business rules and messaging standards for interbank use.

(b) The SADC PSMB was established with the objectives of organising, managing and regulating the SIRESS participants in the various payment schemes of the SADC clearing and settlement system.

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

(d) In terms of the SADC PSMB, the Settlement System Participant Group (SSPG)[29] was established by the SIRESS participants in the interbank clearing and settlement system by signing a settlement agreement. The SSPG acts with a common interest or consultative forum for the purpose of recommending and, once approved by the SADC PSOC and the SADC PSMB, implementing rules for settlement as well as liaising and consulting with the SADC PSOC, the SADC PSMB, the SIRESS operator and other parties within the clearing and settlement environment, as may be appropriate or desirable with regard to various matters, including operational, relating to the settlement of payment obligations in the cross-border clearing and settlement arena.

4.4 The SARB as the SIRESS operator: the SARB's governance arrangements

(a) The SARB Act provides for the SARB Board to consist of 15 directors. The SARB Governor and three Deputy Governors are appointed by the President of the Republic of South Africa, after consultation with the Board and the Minister of Finance, initially for five-year terms.

Four other directors are appointed by the President for three-year terms, after consultation with the Minister of Finance. The remaining seven directors are elected by shareholders at their ordinary annual general meeting (AGM).

(b) The SARB holds the AGM 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 annual meeting, the SARB tables a comprehensive Annual Report on its operations and finances for approval by shareholders. The Annual Report also contains a discussion on monetary policy.

(c) The Board meets regularly to fulfil its role of ensuring good corporate governance of the SARB. The Board ensures compliance with the 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 executing the other tasks reserved for it in terms of the SARB Act. The Board has established 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 are organised in subsidiary companies.

(d) Internally, the SARB has 18 departments, including the South African Reserve Bank Academy (SARB Academy). The head of each department structured

29 More information is available in the Settlement System Participant Group Constitution published in October 2013.

under the Governor, a particular Deputy Governor, the Chief Operating Officer (COO) and the Group Executive: Currency Cluster from time to time report directly to the Governor, that Deputy Governor, the COO and the Group Executive: Currency Cluster respectively. Collectively, the departments ensure the smooth running of the SARB and the implementation of its mandate.

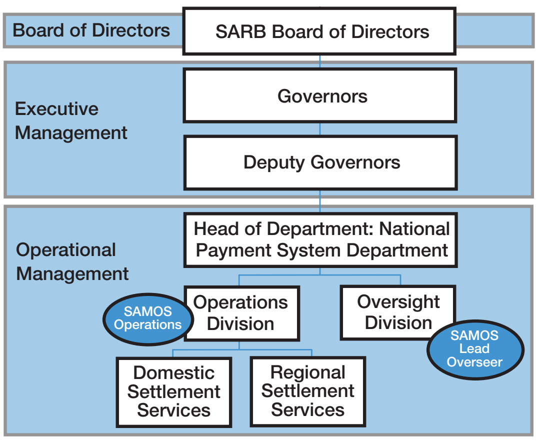
(e) The Deputy Governor responsible for the NPS has delegated the responsibility for managing FMI operations to the head of the NPSD. These responsibilities are clearly defined in the delegation of authority approved by the Governor. The head of the NPSD reports to the Deputy Governor, who in turn reports to the Governor. The Governor of the SARB is therefore ultimately accountable for the proper functioning and sound management of the FMI.

(f) Currently, the management, operations and oversight of the FMI are located in the same department. Therefore, the managers of these functions report to the same Deputy Governor. The head of the NPSD is assisted by two deputy general managers: one is responsible for the management and operations of the FMI, and the other is responsible for the oversight of the NPS in the country. Each deputy general manager has a separate performance agreement with the head of the NPSD. Although the management, operations and oversight functions of the FMI are located in the same department within the SARB, each division within the NPSD has its own deputy general manager with an assigned delegation and areas of responsibility.

(g) The revised regulatory framework for the NPS is expected to provide for an improved governance arrangement between the operator of the FMI on the one hand and the supervision and oversight functions of the NPS on the other.

(h) The SARB recognises the obligations and powers of the Payments Association of South Africa (PASA) as a PSMB established with the objectives of organising and managing the participation of banks and operators in the payment system. These include all matters affecting payment instructions as well as the rights and obligations of PASA members. The NPS Act provides for the powers and duties of the SARB and the PSMB regarding the settlement system.

Figure 19: Governance structures of the NPSD



(i) The operations and management of SIRESS are governed by service level agreements (SLAs), SIRESS service agreements entered into with each participating bank, settlement agreements, and PSMB (Payment Clearing House) agreements. A user group has also been established to allow the FMI to engage participants and operators on any matter that impacts on the FMI's operations. The PSMB's constitution and the regulatory framework for the NPS, including the fiduciary duties of PSMB Council members, are reviewed when needed.

4.5 Disclosure of governance arrangements

(a) The SARB is the owner and operator of the FMI, and therefore no other external owners exist. The governance arrangements of the SARB are published in the *Annual Report*, but no specific reference is made to FMI governance. It is discussed, at a certain level, with the current participants through PSMB structures. This self-assessment allows the FMI to disclose its governance arrangements.

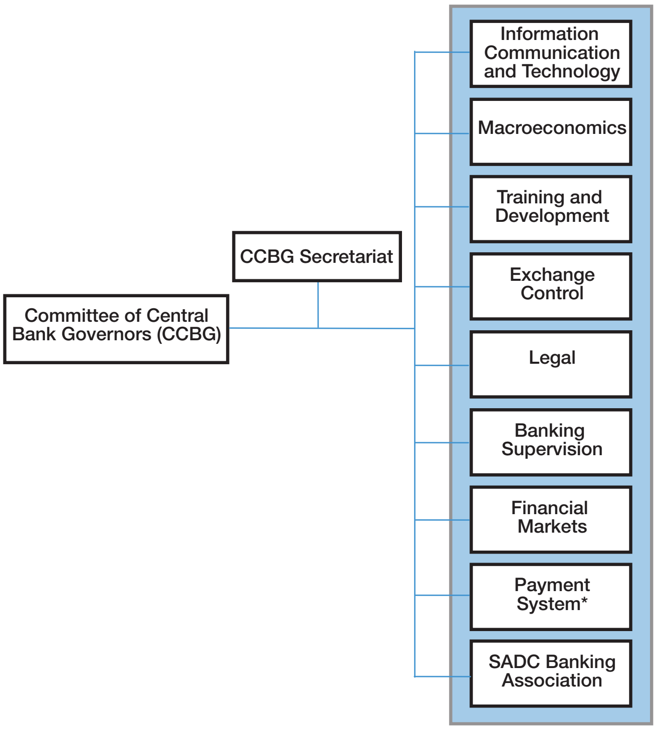
5. Key consideration 3 : The roles and responsibilities of an FMI's board of directors (or equivalent) should be clearly specified, and there should be documented procedures for its functioning, including procedures to identify, address and manage member conflicts of interest. The board should review both its overall performance and the performance of its individual board members regularly.

5.1 SADC CCBG

(a) The CCBG was established to promote and achieve closer cooperation among the central banks in the SADC region. Chapter 10 of 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 by COMFI and in the various annexes of the FIP).

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

Figure 20: Subcommittees of the CCBG



* Incorporates the SADC Payment System Oversight Committee

(c) Payment systems

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

(ii) The objective of Annex 6 is to establish a framework for cooperation and coordination between SADC central banks on payment, clearing and settlement systems in order to:
   (a) define and implement, in each state party, a safe and efficient payment system based on internationally accepted principles;
   (b) define and implement a cross-border payment strategy for the region;
   (c) identify, measure, minimise and manage payment system risk (in particular systemic risk relating to payment systems);
   (d) achieve convergence across the region of the features, policies, practices, rules and procedures relating to payment systems as well as clearing and settlement systems; and
   (e) conduct ongoing payment system oversight aimed at reducing and eliminating cross-border settlement risk and systemic financial risk.

(iii) Chapter 5, Annexure 6, and Article 5 of the FIP provide that the CCBG shall establish a Payment System Subcommittee responsible for the implementation of Annex 6.

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

(v) The SADC CCBG Payment System Subcommittee shall establish a SADC CCBG Payment System Working Group and shall delegate the day-to-day administration relating to the implementation of Annex 6 to this Payment System Working Group.

(vi) The SADC CCBG Payment System Working Group shall comprise a project leader, a project manager, and such a number of payment-system analysts as may be appointed by the SADC CCBG Payment System Steering Committee. The Payment System Working Group shall be responsible for the implementation of Annex 6 on a daily basis.

(vii) Chapter 5, Annexure 5, and Article 7 of the FIP provide for the functions of the Legal Subcommittee, which include:
   (a) review and monitor progress in respect of the objectives set out in Article 3 of the FIP;
   (b) initiate the tasks and projects that the SADC CCBG Payment System Steering Committee may deem necessary in order to support the objectives set out in Article 3 of the FIP;
   (c) consider and recommend the enactment of and/or amendments to the legislation of state parties relating to payment systems as well as clearing and settlement systems, including the making and/or amendment of rules and procedures, risk management policies, and any other matters relevant to such legislation and such payment systems as well as clearing and settlement systems;
   (d) discuss and reach consensus on the strategic issues relating to the objectives set out in Article 3 of the FIP;
   (e) meet at least once every year, or whenever necessary, or when requested to do so by any state party;

(f) establish own procedures, including for the establishment of any subcommittees that the SADC CCBG Payment System Steering Committee may deem necessary;
(g) establish a payment-system oversight function for the SADC region; and
(h) keep the CCBG informed of the developments and progress being made in achieving the objectives set out in Article 3 of the FIP.

(viii) The SADC CCBG Payment System Working Group shall:
(a) work towards achieving the objectives set out in Article 3 of the FIP;
(b) accomplish the tasks delegated to it by the SADC CCBG Payment System Subcommittee;
(c) report, on a regular basis, the progress being made on all aspects of its work to the SADC CCBG Payment System Steering Committee;
(d) take such initiatives as it may consider appropriate to build payment-system skills within the region;
(e) monitor the progress of each state party and of the region in matters contemplated in Annex 6 of the FIP and report such progress to the SADC CCBG Payment System Subcommittee;
(f) make information relating to the matters contemplated in Annex 6 of the FIP appropriately available to the public and all interested parties within the region; and
(g) develop mutually beneficial liaisons with international bodies such as the World Bank, the Bank for International Settlements (BIS) and the central banks of third states.

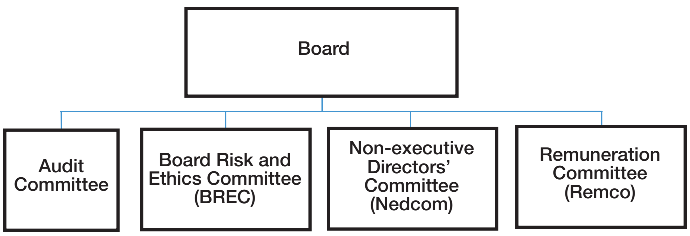
5.2 The SARB Board of Directors[30]

(a) The SARB's Board is a unitary body that functions in terms of the SARB Act and a Board Charter. The terms of reference of the Board Charter and of all the committees are reviewed on an annual basis. The governance framework established for the Board outlines the following requirements and responsibilities:

(i) composition and membership of the Board;
(ii) Board and organisational matters;
(iii) Board committees and their terms of reference; and
(iv) policies and procedures relating to corporate governance.

(b) In line with the SARB Act, the role of the Board is explicitly limited to that of corporate governance. The SARB Board is ultimately responsible for overseeing and monitoring the risk management processes established for the SARB, including for FMI operations. The responsibility and accountability for FMI operations rest with the Governor, the Deputy Governors and the relevant committees established by the Governors' Executive Committee (GEC).

Figure 21: SARB Board and committees structure



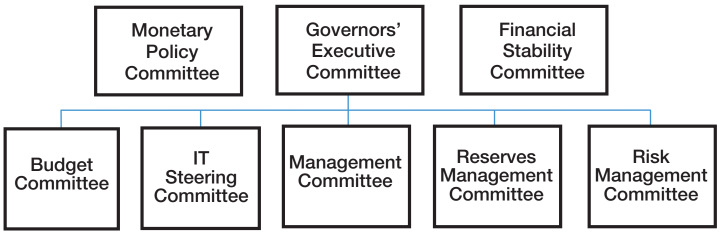
30 These are extracts from the *Governance of risk management in the South African Reserve Bank* document.

(c) All the issues considered by the SARB Board are outlined in the SARB Act. The Board Charter outlines the rules and procedures necessary for the Board to perform its governance functions. The regulations issued by the Minister of Finance, in line with section 36 of the SARB Act, provide for the management of any conflict of interest of the directors of the SARB Board.

(d) The following committees have been established to facilitate the functioning of the SARB and its Board.

(i) Governors' Executive Committee

Figure 22: SARB executive management: GEC and its subcommittee



(a) Members of the GEC include the Governor and the Deputy Governors. The COO, the Group Executive: Currency Management, and the General Counsel of the SARB attend GEC meetings ex officio. The GEC is responsible for policy decisions and the management of the SARB. To assist with the day-to-day management of the SARB, including policy decisions, the GEC has established various committees, as depicted in Figure 15. The roles and responsibilities of each committee are spelt out in the SARB *Annual Report*, which can be found on the SARB's website.

(ii) Board Risk and Ethics Committee[31]

(a) The Board Risk and Ethics Committee (BREC) is a subcommittee of the Board, established to assist the Board with its governance role in respect of risk management. 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. Among other things, the subcommittee assists the Board in discharging its responsibilities for the management of risks and good corporate citizenship in the SARB. BREC oversees and monitors all matters relating to risk management by reviewing the status of risk management, the effectiveness of the risk management policy and activities, and the mitigation measures that address key risks. The SARB's internal code of ethics is reviewed periodically.

(iii) Audit Committee[32]

(a) The Audit 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 the laws and regulations relating to financial reporting.

(iv) NPS Act Standing Committee

(a) This committee was established to review NPS developments

31 This is taken from the *Governance of risk management in the South African Reserve Bank* document.

32 This is taken from the South African Reserve Bank's *TOR Audit Committee 2014* document and the *Internal Audit Charter 2014*.

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) NPS Strategy Body

(a) One of the strategies identified in the NPSD Vision 2010 document was the establishment of an overarching payment system management structure. The SARB identified the need to consult and act in collaboration with the various stakeholders in the NPS. Accordingly, the SARB established the National Payment System Advisory Body (NPSAB) in 2008, which is representative of all the regulated stakeholders within the NPS and other interested parties (e.g. National Treasury). In 2011, the name of the NPSAB was changed to the National Payment System Strategy Body (NPSSB). The NPSSB allows banks, non-banks and other participants to establish various associations to represent the interests of their respective members at the NPSSB.

(b) The NPSSB focuses mainly on strategic payment system-related issues, most importantly those issues that may have a risk-related impact on the NPS and its participants. Furthermore, the NPSSB acts in the interest of the NPS as a whole and not in the interest of individuals or participant groups. The NPSSB functions in an advisory capacity to the SARB, and the inputs received are considered in the policy and strategic decisions made by the SARB. The NPSSB has no juristic personality or decision-making powers. It is chaired by a Deputy Governor of the SARB; the secretarial functions are performed by the NPSD. The NPSSB is made up of the following groups:
(i) SARB
(ii) PASA
(iii) Banking Association South Africa
(iv) National Treasury
(v) Payment System Stakeholder Forum (for low-value payments)
(vi) South African Retailers' Payment Issues Forum
(vii) Association of System Operators
(viii) Third Party Payers Association

(vi) Financial Stability Committee

(a) The Financial Stability Committee (FSC) was established for the purpose of achieving the financial stability objective of the SARB. The main responsibility of this committee is to formulate the 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 a system-wide distress event in the financial system. The typical key functions of the FSC include the consideration of:
(i) the conjectural assessments of the risks to, and the imbalances in, the broad financial system, and their implications for the stability of the financial system;
(ii) the appropriateness and adequacy of resolution policies and measures for crisis resolution; and
(iii) international and domestic developments in the areas of macroprudential policy and regulation, including the Group

of Twenty regulatory reform agenda and its potential policy implications for South Africa.

(vii) PASA Council

(a) The NPSD has oversight responsibility for the NPS. However, flowing from its recognition of PASA as a PSMB, it has delegated many of its powers of 'self-regulation' to PASA, which in turn has been mandated to 'organise, manage and regulate' its members with regard to payment matters. The body ultimately responsible within the PASA domain is the PASA Council.

(b) The PASA Council is the governing body of PASA and is composed of councillors drawn from PASA members. Although appointed by members, the councillors have a fiduciary responsibility to act independently and objectively, in the best interest of the NPS, and with a holistic and inclusive mindset.

The PASA Council also bears he responsibility of ensuring an efficient, reliable and stable payments environment to serve the South African economy and people. It comprises a non-voting chairperson and councillors appointed as follows:

(i) any association members with a throughput representing more than 10% of the total value and volume cleared through the interbank systems during the previous year (currently four members);
(ii) three association members elected by the rest of the members (commonly referred to as the 'lower volume and value banks');
(iii) the Chief Executive Officer (CEO) of PASA; and
(iv) the SARB.

(c) Of the nine councillors, eight have voting powers; the SARB is a non-voting member. The councillors elect a chairperson on a biannual basis. The member institution of the elected chairperson has to appoint an additional councillor since the Chairperson of the PASA Council does not represent his/her own bank and therefore has no vote.

(d) PASA has established various committees that govern the NPS, as indicated below:

(i) Settlement Risk Focus Committee
- The Settlement Risk Focus Committee is a body constituted by PASA, mandated to investigate and evaluate the various options to manage settlement failure in relation to each PCH.

(ii) Legal Committee
- The Legal Committee has been established and mandated by the PASA Council to peruse, vet and draft any appropriate legal documentation, and to advise on any appropriate legal matter emanating from any PASA committee, including the PASA Executive Office, for the sole purpose of advising, assisting and supporting PASA in achieving its goals and objectives as stated in the PASA Constitution. The Legal Committee has also been mandated by the PASA Council to review any statutory matters which could significantly impact on the compliance requirements and position of PASA, and to communicate this to its members.

(iii) Settlement System Participant Group

- The SSPG is established by the system participants in the interbank clearing and settlement system. The SSPG is constituted and mandated by the PASA Council to act as a body with a common interest or as a consultative forum for the purpose of recommending and, once approved by the SARB and PASA, implementing rules for settlement. The SSPG liaises and consults with the SARB, PASA and other parties within the clearing and settlement system, as may be appropriate or desirable, regarding various matters, including the operational matters relating to the settlement of payment obligations in the interbank clearing and settlement system.

(e) Directors conduct annual self-assessments to evaluate the functioning of the Board as a whole and of its various committees.

6. Key consideration 4: The board should contain suitable members with the appropriate skills and incentives to fulfill its multiple roles. This typically requires the inclusion of non-executive board member(s).

6.1 The SARB Act provides for 'fit and proper' criteria for directors as well as for the establishment of a Panel to evaluate prospective non-executive directors.

6.2 The Panel evaluates these directors in terms of skills, knowledge and diversity to ensure that the Board consists of members with integrity and diverse knowledge and skills. The needs and skills of the Board are assessed on an annual basis.

6.3 The directors' terms of office are prescribed in the SARB Act. The Board has adopted the principle which limits the term of non-executive directors to three terms of three years each, while the executive directors are appointed by the President of the Republic of South Africa for a period of five years and may be reappointed for additional terms not exceeding five years at a time.

6.4 The SARB does not have a share incentive scheme. As such, the executive directors do not participate in any incentive or performance bonus scheme. Shareholders do not approve the fees of the non-executive directors in advance by a special resolution, since the SARB is not governed by the Companies Act 71 of 2008.

6.5 All the directors, except the Governor and the three Deputy Governors, are non-executive directors. This is a requirement prescribed by the SARB Act.

6.6 An independent Board member is deemed as any director that is not involved in the day-to-day management or operations of the SARB.

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.

7.1 Roles and responsibilities of management

(a) The delegation of authority provides for the roles and responsibilities or line functions that the Governor delegates to the head of the NPSD and the rest of the management team. These include the day-to-day operations and management of the FMI, including the oversight and application of policies, principles and best practices. The management team of the FMI contributes to a sound and efficient payment system that meets the requirements of the NPS. The strategic development plans of the NPS as well as the FMI settlement system development and user acceptance testing processes, day-to-day operations and risk management form part of the operational plan of the NPSD.

(b) The delegation of authority sets out the line functions that are delegated to the management team. The management team is therefore responsible for monitoring developments in the settlement environment, and makes strategic decisions on the future developments of the settlement system, at least through a review of the system in a five-year cycle.

(c) 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 formal performance contracts.

7.2 Experience, skills and integrity

(a) Job profiles indicate the educational requirements, skills and competencies required to manage the FMI. Recruitment, selection and skills development intervention are formally undertaken and led by the Human Resources Department within the SARB. New executives, managers and other employees are security-vetted. The vetting process is facilitated by SARB security officials who liaise with the National Intelligence Agency and the South African Police Service, where relevant. Security vetting is conducted to examine the integrity of the individual through his/her education (skills and competency), criminal background checks and private life in order to make sure the employee can be trusted to hold a position in the NPS. This is also done to reduce personnel security risks and to ensure that the FMI security is not compromised in any manner.

(b) To ensure a high level of public confidence in the SARB's subsidiaries, business units and divisions, the SARB is committed to a Code of Ethics and Business Conduct (Code). This Code is approved by the GEC and endorsed by the Board and is based on the fundamental principle that business should be conducted with honesty and fairness, and according to the law. The SARB expects all its employees to share its commitment to high moral, ethical and legal standards. The Code is further designed to serve as an information source for the SARB's external stakeholders in this important area of corporate governance.

(c) The Code places emphasis on compliance with all applicable laws and regulations which relate to the activities of, and on behalf of, the SARB, in particular the SARB Act. The SARB does not condone any violation of any laws or regulations, or any unethical business dealing by any employee. The Code also clearly states the SARB's stance on conflicts of interest as well as outside activities, employment and directorships, including any payment for, or other participation in, an illegal act (such as bribery).

(d) Performance management is conducted by heads of department (HoDs) and the Deputy Governor (who is a member of the GEC) to whom the HoD reports. The SARB has a robust performance management system in place which allows for management to be assessed biannually. A disciplinary process is also in place to manage any misconduct by management or by any other employee of the SARB.

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.

8.1 Article 4 of Annex 6 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).

8.2 The following is applicable to the SIRESS operator:

(a) Risk management framework

(i) The South African Reserve Bank Group (SARB Group) Risk Management Policy, as approved by the GEC, is in place; this policy allows risks to be identified and managed. The strategic and operational risk matrices are reviewed on an annual basis. Where residual risks are identified, action plans for the establishment of new controls and/or for the enhancement of existing controls are implemented and/or monitored on a continual basis.

(ii) The SARB Group Risk Management Policy sets out the non-financial risk tolerance of the SARB Group. Risk tolerance is approached from an impact and a likelihood perspective. From the impact perspective, risk tolerance is set so that operations should be performed to minimise the potential risk impact inherent in the operations. From the likelihood perspective, risk tolerance requires a lower residual-risk likelihood where the potential risk impact is higher. There are currently no specific risk tolerance limits set for the FMI, except for the service levels agreed to with the Business Systems and Technology Department (BSTD) of the SARB to manage FMI operations.

(iii) The responsibility for risk management in the FMI rests with the head of NPSD and departmental management. The management team is therefore accountable to the GEC, BREC and the Risk Management Committee (RMC). The Board is ultimately responsible for directing and monitoring the entire process of risk management as well as forming its own opinion on the adequacy and effectiveness of the process. The business continuity plan (BCP) for the FMI sets out escalation and crisis management procedures to manage operational risks.

(iv) According to the SARB Group Risk Management Policy, the Risk Management and Compliance Department (RMCD) is responsible for developing, maintaining and promoting an appropriate risk management policy, framework, approach and culture as well as methodologies, processes and support systems. The SARB Group Risk Management Policy is reviewed biennially by RMCD and subsequently tabled for consideration by the GEC, BREC and RMC. The FMI has developed an ORM framework which allows for the proactive management of operational risks in the FMI environment. This ORM framework is reviewed and approved by the management of the FMI.

(b) Authority and independence of risk management and internal audit functions

(i) The SARB Group follows a combined assurance approach for risk management and internal control which allows for the integration, coordination and alignment of the assurance processes in the SARB. This approach also aims to enhance the level of risk, governance and control oversight in the SARB Group. Departmental management is primarily responsible for risk management and the implementation of controls for FMI operations.

(ii) The SARB has delegated the coordinating responsibility for risk management to RMCD. This function coordinates the governance, risk management and compliance activities of the SARB. RMCD is functionally accountable to the GEC and reports on behalf of management to BREC and the RMC. The ORM function mentioned above is managed by the NPSD.

(iii) The SARB's Internal Audit Department (IAD) provides objective, independent assurance on the adequacy and effectiveness of the SARB Group's governance, risk management and internal control processes. The Chief Internal Auditor reports to the Governor and the Chairperson of the Audit Committee. The IAD conducts audits on the controls, systems and processes of the FMI.

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.

9.1 Identification and consideration of stakeholder interests

(a) Other stakeholders addressed through PASA include system operators such as Strate and BankservAfrica.

(b) The CCBG and PSOC governance arrangements ensure transparency of regional payment activities, including SIRESS, to relevant stakeholders and other interested parties. The CCBG Payment System Subcommittee and the SADC Payment System Oversight Committee engage with the participants and other stakeholders.

(c) The SADC Secretariat, SADC Banking Association, SADC PSMB and CCBG Secretariat have standing invitations to the meetings of the CCBG Payment System Subcommittee and the SADC Payment System Oversight Committee.

(d) If relevant, members of the CCBG Payment System Subcommittee engage with their juristic payment system associations where cross-border payment matters have a material impact on the domestic and/or NPS environment.

(e) The FMI has adopted a collaborative approach to identifying and considering the interests of the FMI participants and other relevant stakeholders in its decision-making processes. This includes the NPSSB, the SIRESS User Group (SUG), the SSPG, PASA, as well as all the relevant legislation such as position papers and other publications that are taken into consideration. The SARB Board recognises PASA's role through the GEC which assigns responsibility to the NPSD. The PASA domain includes the following committees with representatives from NPSD:
   (i) BCP Committee
   (ii) PASA Risk Committee

(f) Immediate Settlement Committee.

9.2 The SUG meetings provide a platform for the FMI to discuss any issues that impact on stakeholders. The FMI can also convene special meetings to discuss any issue that has an impact on stakeholders. Various forums are available, including PASA (as discussed above) for stakeholders to discuss issues affecting the NPS and FMI operations.

9.3 If, for example, stakeholders are not satisfied with a response from PASA, the problem can be escalated to the NPSD and GEC, where applicable.

9.4 Disclosure

(a) 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[33] was published by the SARB for the public. In this manual, the purpose and functions of the SARB, its structures and its subsidiaries are voluntarily disclosed. In addition to the manual, the SARB holds different forums as platforms to disclose major decisions to its stakeholders, as follows:

(i) The mandate, mission, objectives and functions of the SARB and its Board are published on the SARB website.
(ii) The role of the NPS as well as the role and responsibilities of the SARB, through the NPSD, are published on the SARB website.
(iii) The SARB maintains the confidentiality of FMI members; member information is therefore published on a secure site.
(iv) All relevant legislation and regulatory frameworks are published on the SARB website, including position papers, information papers, directives and strategic documents.
(v) The FMI holds an SUG forum annually, which is a formal meeting to engage all active FMI participants and member central banks.
(vi) More communication is extended to the SADC community through the CCBG website.

33 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.

PRINCIPLE 3: FRAMEWORK FOR THE COMPREHENSIVE MANAGEMENT OF RISKS

1. Principle narrative

1.1 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.

2. Assessment of compliance

2.1 The SARB observes Principle 3.

2.2 As mentioned in Principle 2, the SARB views risk management as an integral part and an essential element of good corporate governance. The payment system is well designed and well structured to minimise applicable risks to its participants and all other stakeholders.

2.3 The legislation provides 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 all potential risks relating to FMI operations can be identified, assessed, measured, monitored and reported.

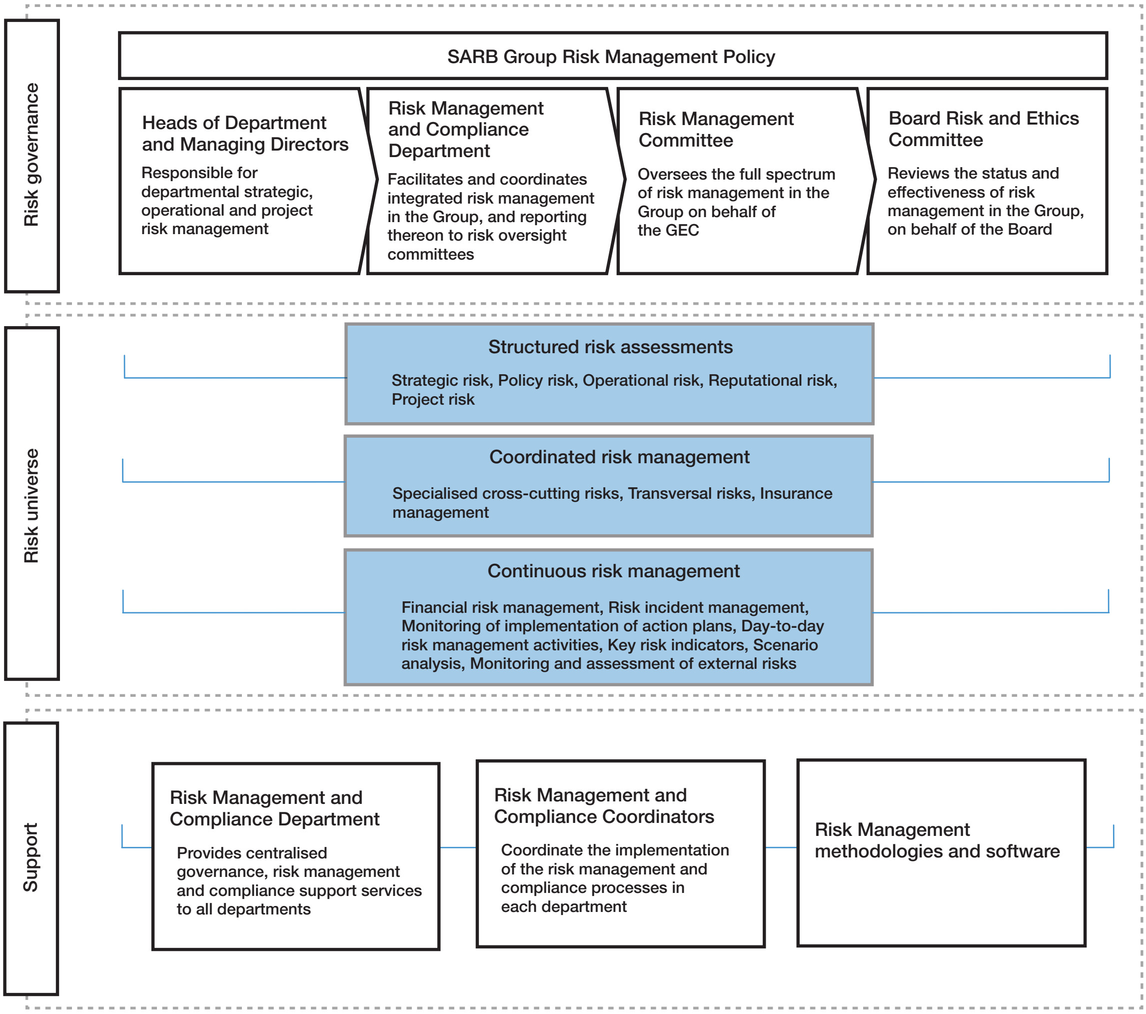
3. Key consideration 1: An FMI should have risk management policies, procedures and systems that enable it to identify, measure, monitor and manage the range of risks that arise in, or are borne by, the FMI. Risk management frameworks should be subject to periodic review.

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

3.2 The risk management processes and activities within the FMI operations are conducted in terms of the SARB Group Risk Management Policy.[34] This policy details the SARB Group's governance processes, risk management universe, and the support structures and processes.

34 http://www.resbank.co.za/AboutUs/RiskManagement/Pages/RiskManagementFramework.aspx

Figure 23: SARB Group Risk Management Policy Framework



3.3 RMCD performs a centralised, integrated risk management coordination function, and reports to the RMC and BREC on risk management activities as well as the status and effectiveness of risk management in the SARB Group. In addition, RMCD facilitates structured risk assessments conducted at SARB Group-wide strategic, company-wide strategic, and departmental strategic and departmental operational levels. Structured risk assessments are also conducted in respect of policy risk and reputational risk. The coordinating role of the RMCD extends to the management of specialised, cross-cutting risks which include compliance and business continuity management.

3.4 Specific efforts, applied to the whole SARB Group to ensure that the SARB Group meets its compliance obligations, include:

(a) developing and maintaining an appropriate policy and framework;

(b) identifying, assessing and monitoring compliance with applicable regulatory requirements;

(c) promoting a culture of compliance; and

(d) reporting on compliance risks to the RMC and BREC.

3.5 Business continuity management is supported by a policy and framework as well as centralised coordination services. RMCD facilitates business impact assessments and compiles BCPs for all departments. The SARB Group's resilience is strengthened through appropriate backup infrastructure and facilities, and RMCD liaises closely with the Cyber and Information Security Unit which is responsible for ensuring holistic governance and management of the SARB Group's cyber and information security programme.

3.6 RMCD also coordinates and facilitates continual risk management activities, which include the reporting of risk incidents, monitoring the implementation of action plans to mitigate identified residual risks, and implementing and monitoring key risk indicators.

3.7 Strategic and operational risk assessments are conducted on an annual basis to identify potential risks. Emerging risks are recorded as and when identified by the FMI. Strategic and operational risk matrices assist in recording, monitoring and reporting strategic and operational risks. These matrices are updated at least monthly to ensure that the action plans identified for implementation are reviewed for reporting.

3.8 Rigorous change management processes are implemented to assist with the management of risks. A crisis management procedure is in place to assist with managing any emergencies or operational disruptions. SLAs and MoUs are completed with relevant stakeholders to manage the risks emanating from their environment and in the FMI operations.

3.9 The SARB uses the CURA system to record risks and controls, including those of the FMI. The NPSD uses a call-logging system to record operational incidents reported that might affect the smooth functioning of FMI operations. SIRESS provides error log and control log reports that identify problems and controls in the system. This includes system alerts sent via email and the short message service (SMS) to the monitoring and support function. A monthly operational report outlining gaps, changes and solutions in the FMI environment is compiled to the attention of the management team.

3.10 Due to the nature and design of SIRESS, the SARB does not need to aggregate exposures across the FMI and participants.

4. 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.

4.1 The SIRESS Operations Section monitors SIRESS 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.[35] This improves the overall risk management in the interbank settlement system and enables the SARB to improve settlement risk management and, therefore, reduce the potential for crises.

4.2 The SARB provides SIRESS participants with real-time information on the status of each individual payment instruction submitted by the participant as well as the SIRESS position monitor (i.e. a reflection of account balances and CPL positions). This real-time provision of information strengthens the crisis management capabilities implemented by participants. In addition to the position monitor, reports are made available to the participants. Information is retained to comply with the requirements for records retention prescribed in the NPS Act.

35 More information is available in the SIRESS settlement agreement.

4.3 Meetings are held with participants in order to identify new or emerging risks. Participants in SIRESS are required to follow a change management process. They must notify the FMI of any change that might impact on its settlement process. Procedures are in place where the FMI is notified of operational incidents experienced. The FMI follows up on each incident that was recorded, which requires a response from a participant (e.g. messages that are not formatted according to the rules that might pose a risk to the system).

4.4 The use of the payment and settlement service is preferable to the bilateral settlement because SIRESS eliminates principal risk. Participants are fully aware of the system validations that govern the settlement of their payment instructions (detailed in the settlement process under Principle 8) and of 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 met, then the payment instruction gets rejected in SIRESS. Under these circumstances, the decision on how to handle the settlement of the payment instructions is made by the payer.

4.5 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 valid settlement date elected by the payer. The charge structure in SIRESS also includes penalties for messages that are incorrectly formatted. Discounts on message processing costs are available to encourage participants to send instructions from early in the morning and throughout the day.

5. 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.

5.1 Material risks identified include liquidity and system availability. Reliance on SWIFT as the only message network carrier might pose a material risk to FMI operations.

5.2 NPSD participates in the review of strategic and operational risks, facilitated by RMCD, on an annual basis. Representatives of the FMI also participate in the PASA Business Continuity Policy Committee and the FSCF as well as its Operational Risk Subcommittee.

5.3 The CURA system and the NPSD call-logging system are used to log and manage any identified risks. Controls, action plans and changes to the processes and procedures are updated when new risks relating to FMI operations are identified. The system is monitored and supported throughout the business day. The FMI's BCP document is reviewed annually to ensure that risks are mitigated by processes and procedures. A contingency application is in place to determine participants' settlement balances when an incident occurs.

5.4 RMCD is the business owner of the CURA system and is responsible for the review of this risk management tool. The IAD conducts audits on the tools used by the NPSD for effectiveness and adequacy.

6. 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.

6.1 The FMI BCP details various scenarios that may prevent the FMI from providing its critical operations and services. The scenarios are identified as part of the business impact assessment conducted with the specialised operational risk function in RMCD. Among other things, the scenarios identified include the loss of the primary information and communication technology (ICT) infrastructure, the loss of facilities, and the unavailability of monitoring and support personnel.

6.2 The risks relating to these scenarios are managed in line with service agreements established between the FMI and related structures.

6.3 Recovery and an orderly wind-down do not apply to SIRESS.

PRINCIPLE 4: CREDIT RISK

1. Principle narrative

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.

2. Assessment of compliance

2.1 Principle 4 is not applicable to SIRESS as an FMI.

2.2 With regard to credit extensions to participants, SIRESS currently does not offer any collateral facilities and thus credit extension for participants. The participants' accounts must be prefunded prior to settlement. Liquidity is provided by transferring rands from the South African domestic RTGS system into SIRESS.

PRINCIPLE 5: COLLATERAL

1. Principle narrative

1.1 An FMI that requires 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.

2. Assessment of compliance

2.1 Principle 5 is not applicable to SIRESS as an FMI.

2.2 With regard to collateral arrangements, SIRESS currently does not offer any collateral facilities to participants. The participants' accounts must be prefunded prior to settlement. Liquidity is provided by transferring rands from the South African domestic RTGS system 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.

PRINCIPLE 6: MARGIN

1. Principle narrative

1.1 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.

2. Assessment of compliance

2.1 Principle 6 is not applicable to SIRESS as an FMI.

PRINCIPLE 7: LIQUIDITY RISK

1. Principle narrative

1.1 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.

2. Assessment of compliance

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

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

2.3 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 the settlement of low-value payment RCSO obligations.

3. 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.

3.1 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 SADC region have amended their regulatory frameworks to include the requirements of the Basel III liquidity framework.[36] The changes to the Basel III liquidity framework relate to the inclusion of two new ratios for measuring liquidity risk in banks, namely the liquidity coverage ratio (LCR) and the net stable funding ratio (NSFR). However, it also contains suggested liquidity risk monitoring tools for supervisors.

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

(a) All SIRESS participants should ensure that they manage their liquidity needs to ensure prompt settlement.
(b) 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 rand equivalent in SIRESS.
(c) SIRESS participants are also encouraged to sell their assets or other currency holdings in the market and buy rands in order to have more liquidity in SIRESS.

36 The Basel III liquidity framework specifically refers to the Basel Committee for Banking Supervision document titled *Basel III: International framework for liquidity risk measurement, standards and monitoring*.

4. **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.**

4.1 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.[37] This improves the overall risk management in the interbank settlement system and enables the SARB to improve settlement risk management and, therefore, reduce the potential for crises.

5. **Key consideration 3: A payment system or SSS, including one employing a DNS mechanism, should maintain sufficient liquid resources in all relevant currencies to effect same-day settlement, and where appropriate intraday or multiday settlement, of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation in extreme but plausible market conditions.**

5.1 SIRESS as an FMI does not have liquidity stress-test scenarios. Participants need to plan these liquidity stress scenarios, coordinated between themselves and the banking regulator. SIRESS is a single-currency system trading in South African rand. 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.

6. **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.**

6.1 Key consideration 4 is not applicable to SIRESS as an FMI.

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

7. 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.

7.1 SIRESS as an FMI does not have liquidity needs.

8. 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.

8.1 Key consideration 6 is not applicable to SIRESS as an FMI.

9. 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.

9.1 Key consideration 7 is not applicable to SIRESS as an FMI.

10. 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.

10.1 Key consideration 8 is not applicable to SIRESS as an FMI.

11. **Key consideration 9: An FMI should determine the amount and regularly test the sufficiency of its liquid resources through rigorous stress testing. An FMI should have clear procedures to report the results of its stress tests to appropriate decision makers at the FMI and to use these results to evaluate the adequacy of and adjust its liquidity risk management framework. In conducting stress testing, an FMI should consider a wide range of relevant scenarios. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions. Scenarios should also take into account the design and operation of the FMI, include all entities that might pose material liquidity risks to the FMI (such as settlement banks, nostro agents, custodian banks, liquidity providers, and linked FMIs) and, where appropriate, cover a multiday period. In all cases, an FMI should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount and form of total liquid resources it maintains.**

11.1 Key consideration 9 is not applicable to SIRESS as an FMI.

12. **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.**

12.1 SIRESS currently does not offer any collateral facilities to participants.

12.2 Settlement in SIRESS is based on the prefunding principle, in terms of which any interbank fund transfer will be effected 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 participants as a result of normal payment transactions between banks, or through funding from the SAMOS system via SAMOS–SIRESS participant banks, or as a result of a loan/credit arrangement between the SIRESS participant banks.

PRINCIPLE 8: SETTLEMENT FINALITY

1. Principle narrative

1.1 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.

2. Assessment of compliance

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

2.2 Payments are settled in SIRESS in central bank money. The settlement of payment instructions across the books of the SARB as well as the 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:

(a) The settlement is effected in money or by means of entries passed through the SARB settlement system or a designated settlement system.

(b) A settlement that has been effected in money or by means of 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.

(c) Entry to, or payment out of, the account of a designated settlement system participant to settle a payment or a 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.

2.3 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.[38]

2.4 As discussed under Principle 1, the 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. Key consideration 1: An FMI's rules and procedures should clearly define the point at which settlement is final.

3.1 Point of settlement finality

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

(b) SIRESS settles single as well as batched settlement instructions between banks for obligations arising out of, among other things, retail payment.

38 Clause 15.3 of the SIRESS settlement agreement

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.

(i) The RTL is a facility for settling single or batched settlement instructions immediately on a gross basis.

(ii) The CPL is a settlement facility developed to settle single or batched settlement instructions on a gross basis utilising net liquidity or, if no liquidity is available, the settlement instructions will be queued. The CPL account is funded from the settlement account.

3.2 SIRESS settles on a prefunded basis. The Regulations relating to Banks specify that a settlement instruction is an instruction given to the SARB (as the central bank) by a participant, or by an RCSO 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.

3.3 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 by explicit reference in the SIRESS service agreement and SIRESS settlement agreement.

3.4 In order for a bank 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.

3.5 Finality in the case of links

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

4. Key consideration 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. An LVPS or SSS should consider adopting RTGS or multiple-batch processing during the settlement day.

4.1 Final settlement on the value date

(a) 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 Monday to Friday from 9:00 to 15:00, and the system is closed on South African holidays.

(b) As indicated in key consideration 8.1, SIRESS provides the settlement of payments in 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. If a settlement instruction on the CPL has not been funded at the start of the 'Finalise' window, it is automatically discarded.

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

(d) Only scheduled transactions and transactions in the queue on the CPL may be removed, and only by the originator of that transaction.

(e) The facility for batch processing was implemented in September 2014.

5. 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.

5.1 As provided in the NPS Act, any credit payment that settles in SIRESS is final and 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.

5.2 Only scheduled transactions and 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.

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

PRINCIPLE 9: MONEY SETTLEMENTS

1. Principle narrative

1.1 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.

2. Assessment of compliance

2.1 The SARB observes Principle 9.

2.2 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 in the South African rand is done from the SAMOS system by the 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 which the SARB has allocated to each participating settlement participant.

3. Key consideration 1: An FMI should conduct its money settlements in central bank money, where practical and available, to avoid credit and liquidity risks.

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

4. 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.

4.1 Key consideration 2 is not applicable to SIRESS as an FMI.

5. 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.

5.1 Key consideration 3 is not applicable to SIRESS as an FMI.

6. Key consideration 4: If an FMI conducts money settlements on its own books, it should minimise and strictly control its credit and liquidity risks.

6.1 Settlement instructions are settled across prefunded SIRESS accounts. The FMI is not exposed to credit or liquidity risks.

7. Key consideration 5: An FMI's legal agreements with any settlement banks should state clearly 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.

7.1 The settlement agreement among the banks as well as 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.

PRINCIPLE 10: PHYSICAL DELIVERIES

1. Principle narrative

1.1 An FMI should clearly state its obligations with respect to the delivery of physical instruments or commodities, and should identify, monitor and manage the associated risks with such physical deliveries.

2. Assessment of compliance

2.1 Principle 10 is not applicable to SIRESS as an FMI.

PRINCIPLE 11: CENTRAL SECURITIES DEPOSITORIES

1. Principle narrative

1.1 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.

2. Assessment of compliance

2.1 Principle 11 is not applicable to SIRESS as an FMI.

PRINCIPLE 12: EXCHANGE OF VALUE SETTLEMENT SYSTEMS

1. Principle narrative

1.1 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.

2. Assessment of compliance

2.1 Principle 12 is not applicable to SIRESS as an FMI.

PRINCIPLE 13: PARTICIPANT-DEFAULT RULES AND PROCEDURES

1. Principle narrative

1.1 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.

2. Assessment of compliance

2.1 SIRESS partly observes Principle 13. Key consideration 3 is not observed in line with the mandates of the SARB and PSOC. Key consideration 4 has not been tested yet, and its appropriateness must still be discussed with the PSOC.

2.2 The NPS Act and the SIRESS settlement agreement provide for processes and procedures to be followed in the event of a participant's 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 the actions or omissions of the participant negatively impact on SIRESS.[39]

2.3 The settlement agreement defines the rights and responsibilities of the participant and the SIRESS operator as well as the actions that the SIRESS operator may take in the event of a settlement failure, default or insolvency proceeding against a participant.[40]

2.4 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 the 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.[41]

3. 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.

3.1 Participant default rules and procedures

(a) 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.

(b) 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 a payment obligation is delivered promptly to the SARB (as the central bank) for settlement.

39 Clause 9.3 of the SIRESS service agreement
40 Section 7 of the SIRESS settlement agreement
41 Clause 5.4 of the SIRESS settlement agreement

(c) 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.

(d) The beneficiary system participant is obliged to ensure, upon receipt of a settlement notification from the SARB, that funds so received are for its account pursuant to the clearing of one or more 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 agreed in terms of the settlement rules.

3.2 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 dispatch a confirmation message to the originator of the settlement instruction to notify whether the settlement was successful or had failed.

3.3 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 the 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.[42]

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

(a) in instances 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 considered to be in the best interest of the system or SIRESS participants, or when there has been a material adverse change with respect to the participant; and/or

(b) upon confirmation that an insolvency event has occurred with respect to the participant and, if necessary, for the protection of the SARB and/or SIRESS participants.

3.5 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; scheduled instructions will be rejected at an applicable scheduled settlement date and time identified in the payment instructions.

3.6 All settlement members who have unsettled payment instructions with the suspended participant are made aware of the suspended payment instructions. The 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.

42 Clause 5.4 of the SIRESS settlement agreement

3.7 Use of financial resources

(a) Since SIRESS is a prefunded settlement system managed by the SARB, there can be no losses.

4. 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.

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

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

5.1 In line with the mandate of the SARB, the default rules and procedures are not publicly available. The default rules and procedures are disclosed to the SADC PSOC and the SADC PSMB in the settlement agreement schedules. The processes are 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.

6. 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.

6.1 SIRESS went live in July 2013. Since then, 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.

PRINCIPLE 14: SEGREGATION AND PORTABILITY

1. Principle narrative

1.1 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.

2. Assessment of compliance

2.1 Principle 14 is not applicable to SIRESS as an FMI.

PRINCIPLE 15: GENERAL BUSINESS RISK

1. Principle narrative

1.1 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.

2. Assessment of compliance

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

2.2 Since the services are provided by a 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 a 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. Key consideration 1: An FMI should have robust management and control systems to identify, monitor and manage general business risks, including losses from poor execution of business strategy, negative cash flows, or unexpected and excessively large operating expenses.

3.1 As discussed in Principle 3, the SARB has a robust framework in place 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 the Financial Market Department of the SARB.

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

3.3 The cost and revenue are 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 of the SARB and is used as input to determine the charge structure for the following year.

4. 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.

4.1 Key consideration 2 is not applicable to SIRESS as an FMI.

5. 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.

5.1 Key consideration 3 is not applicable to SIRESS as an FMI.

6. Key consideration 4: Assets held to cover general business risk should be of high quality and sufficiently liquid in order to allow the FMI to meet its current and projected operating expenses under a range of scenarios, including in adverse market conditions

6.1 Key consideration 4 is not applicable to SIRESS as an FMI.

7. Key consideration 5: An FMI should maintain a viable plan for raising additional equity should its equity fall close to or below the amount needed. This plan should be approved by the board of directors and updated regularly.

7.1 Key consideration 5 is not applicable to SIRESS as an FMI.

PRINCIPLE 16: CUSTODY AND INVESTMENT RISKS

1. Principle narrative

1.1 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.

2. Assessment of compliance

2.1 Principle 16 is not applicable to SIRESS as an FMI.

PRINCIPLE 17: OPERATIONAL RISK

1. Principle narrative

1.1 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.

2. Assessment of compliance

2.1 The SARB observes Principle 17.

2.2 As part of key consideration 1, an operational risk function is in place which provides for a systematic, structured and transparent approach to managing operational risks in the FMI.

2.3 Operational risk in the FMI is mitigated through the design and architecture of the system and processes, which provides for system integrity and security as well as the availability of FMI operations. SIRESS has a high degree of operational reliability due to the resilience of its technical architecture and infrastructure, which enables the FMI to render settlement services to participating institutions.

3. 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.

3.1 The SARB Group Risk Management Policy[43] forms the basis for governing and integrating risk management in the SARB. This policy is endorsed by the SARB Board. It provides a framework for managing ORM at the organisational level. The policy is underpinned by the principles of the Integrated Control Framework of the Committee of Sponsoring Organizations of the Treadway Commission.

3.2 The framework provides the FMI with a framework to identify core processes and implement controls to mitigate potential residual risks. All the risks identified are recorded in risk matrices to allow the NPSD and RMCD to monitor the risks. The results of these processes are reported by the RMCD to the relevant risk oversight committees of the SARB and monitored through the risk management process of the SARB.

3.3 Since the inception of SIRESS, the SARB has put policies, processes and controls in place to manage or mitigate any potential operational risks. These arrangements include a service standard agreement with BSTD to manage the systems, processes and risks by ensuring that the FMI's operational reliability objectives – namely availability, recovery time and recovery point objectives – are met. Redundancy and disaster recovery systems and processes, including business continuity arrangements, have been established to ensure that the FMI is robust and resilient.

3.4 The ORM function allows the FMI to proactively manage operational risk by monitoring day-to-day operations and introducing new controls or mitigation

43 SARB Group Risk Management Policy (version 3)

strategies. ORM is, therefore, a continual process embedded in the daily FMI operations.

3.5 The FMI has identified telecommunications (international and domestic), the loss of SWIFT (international and domestic), the loss of infrastructure, power failures, water shortages, processing system failures, and the loss of key human resources as the key sources of operational risks.

3.6 Two single points of failure have been identified, namely SWIFT (in relation to the general unavailability of SWIFT on a national and international basis) and 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 risk is managed.

3.7 The identified risks are recorded in the FMI operational matrix which is maintained by the FMI. The matrix is updated continually with follow-up actions and any new developments in managing operational risks. The FMI is accountable to BREC and related structures to provide follow-up actions identified for implementation to manage residual risks.

3.8 FMI operations are monitored and supported as per the service standard agreement with BSTD, which is also used for measuring any deviations from 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 operational issues affecting the FMI.

3.9 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.

3.10 The internal and external audit functions conduct independent reviews of the FMI's systems, processes and controls. The FMI is also overseen internally by the NPSD oversight function. A SIRESS service agreement is in place to ensure that participants adhere to agreed business and technical requirements.

3.11 All system participants are required to, among other things, test all the changes implemented in their payment and settlement environments as well as during implementation to provide the FMI with implementation, fall-back and back-out plans.

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

3.13 The FMI subscribes to the BIS/Committee on Payment and Settlement Systems (CPSS) principles. Its systems, processes and controls are therefore designed to conform to the standards espoused by the BIS/CPSS principles.

3.14 The FMI participates in the FSCF and its Operational Risk Subcommittee to align ORM with national standards and best practices.

3.15 The FMI also participates in various national and international initiatives, which allows for new standards and best practices to be adopted or implemented to enhance ORM.

3.16 The FMI's human resources policies are embedded in the SARB Group'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 required for different positions as well as a security vetting process for selected candidates that is conducted by the security function of the SARB, ensuring that each staff member appointed is of impeccable integrity to minimise the chances of unwarranted behaviour.

3.17 For the monitoring and support function, all appointees are subjected to on-the-job training which lasts for at least a period of six months and covers all FMI operations, including procedures. There is a sufficient number of employees in place to monitor and support FMI operations to ensure that any disruptions relating to staff availability do not impact on the smooth functioning of FMI operations.

3.18 The skills set, knowledge and capacity of the FMI staff is designed in such a way that the risk of key-person dependencies is mitigated. Staff members are afforded the opportunity for personal development and capacity building in areas relevant to FMI activities. FMI operations' staff members are expected to conform to the code of ethics practised within the SARB. A whistle-blowing policy is also in place for staff to report any unbecoming behaviour by their colleagues.

3.19 All changes impacting on FMI operations, directly and indirectly, must follow the change management processes outlined in the change management procedures. 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 for authorisation to the relevant change manager before the meeting.

3.20 All notices require the change requester to specify the impact of the change, the type of testing conducted, implementation of the change as well as back-out plans in order to mitigate operational risks. A report of mainframe-related changes that took effect is produced on a monthly basis by the system in BSTD. This report is reconciled by the NPSD against all authorised changes that were submitted.

3.21 All projects are subjected to the project management methodology followed in 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 separately.

4. Key consideration 2: An FMI's board of directors should clearly define the roles and responsibilities for addressing operational risk and should endorse the FMI's operational risk management framework. Systems, operational policies, procedures and controls should be reviewed, audited and tested periodically and after significant changes.

4.1 The roles and responsibilities for ORM are clearly defined in the SARB Group Risk Management Policy.[44] According to this policy, the Head of NPSD and the management team in the department are responsible for the following:

(a) assuming full responsibility for risk management within the FMI;

(b) ensuring the implementation and maintenance of, and reporting on, the risk management processes of the FMI;

(c) ensuring that operational risk assessments are conducted within the FMI; and

44 SARB Group Risk Management Policy (p.11)

(d) ensuring that the FMI complies with the risk management process outlined in the policy.

4.2 The SARB is a central bank and, as such, the FMI operation is not its only, or even its main, business. The ORM, as outlined in the SARB Group Risk Management Policy, provides for a high-level framework that is approved by the GEC and endorsed by BREC. According to this 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.

4.3 The GEC approves any changes made to the SARB Group Risk Management Policy. RMCD coordinates the entire risk management process in the SARB Group for reporting to the GEC and relevant risk oversight structures. The FMI's ORM function provides a proactive risk management process established specifically for FMI operations. The SARB Group Risk Management Policy is reviewed biennially by RMCD and is also presented for consideration to the RMC, the GEC and BREC.

4.4 FMI operations are audited annually or as and when required by the internal audit function of the SARB. This audit also covers the arrangements that the FMI has with participants. All the critical business processes of the FMI are tested on a quarterly basis with participants and system operators. Participants are required to conduct a disaster recovery test to test their systems and critical business operations with the FMI at least annually.[45]

4.5 To date, no formal external audit has been conducted on the ORM framework. The SARB Group follows a combined assurance approach to risk management and control. This approach aims to integrate, coordinate and align the assurance processes within the SARB Group and to optimise the level of risk, governance and control oversight.

5. 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.

5.1 The FMI's quantitative and qualitative operational reliability objectives include the availability of the system, the recovery time objective (RTO), and the recovery point objective.

5.2 The availability of the system is set for 99.50% during the FMI operations' primary time (between 12:00 and 16:30) and 98.86% during the secondary time (between 08:30 and 11:59). No specific objective is set for the tertiary time (between 16:31 and 08:29 in the next SCD).

5.3 The operational reliability objectives are documented and agreed to with BSTD in the service standard agreement and the BCP, which indicate that the critical business processes should be recovered within two hours after an operational disruption has occurred. The service standard also provides for an incident management procedure followed by the FMI and BSTD in managing an incident and ensuring that the agreed service levels and RTO are maintained.

This procedure also allows for a multidisciplinary approach to managing incidents that negatively impact on other processes or functions in the SARB that interface or are integrated with the FMI operations.

5.4 All incidents are logged on the FMI's call-logging application, analysed for root causes, and reported to the relevant internal and external stakeholders. Major

45 SIRESS Operational and Service Level Manual, 'Disaster recovery procedures'

incidents that disrupted FMI operations and/or impacted on the agreed service levels are also recorded on the CURA application, and analysed and reported to the internal risk oversight structures. The service standard is reviewed annually.

6. 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.

6.1 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's usage and capacity. Stress testing of the system 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 is required (e.g. storage, memory or central processing units), capacity is added to address borderline system requirements.

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

7. Key consideration 5: An FMI should have comprehensive physical and information security policies that address all potential vulnerabilities and threats.

7.1 The SARB Group Security Policy and related framework provide a framework for managing the physical and information security risks in the FMI. These frameworks allow for the management of physical security (i.e. facilities, which include assets and processes), information security in any form (i.e. written, spoken and electronic), as well as the security of staff, contractors and visitors.

7.2 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.

7.3 The SARB Group Security Management Department establishes processes, structures and technologies to provide continuous situational awareness in terms of the threats to all its assets; it also liaises closely with external stakeholders to identify and address new or emerging threats.

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

7.5 The SARB Group Security Policy is in place to ensure that assets belonging to the SARB Group are protected and secured. According to this policy, the definition of assets includes, among other things, information, applications, networks and systems. The SARB Group Security Policy mainly provides for information security management principles as well as the roles and responsibilities of various stakeholders, including the risk management process to be followed to secure and protect assets in the SARB Group.

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

7.7 A specialised cyber and information security risk function has been established within the SARB Group Security Management Department. This function is mainly responsible for managing cybersecurity risks in the SARB Group. A process is underway to embed new processes and procedures to enhance the management of cyber and information security risks.

7.8 The SARB Group Security Policy is informed by various industry standards, including ISO 270001, the United States National Institute of Standards and Technology, and the *Standard of Good Practice for Information Security* published by the Information Security Forum.

7.9 The FMI also follows other international and industry-level standards, including the *King IV Report on Corporate Governance for South Africa* (2016), the Control Objectives for Information and Related Technologies (COBIT), and the Information Technology Infrastructure Library (ITIL) for the design, development and implementation of policies, procedures, processes and controls in the information security environment.

7.10 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 it is implemented in production. The vulnerabilities identified during this security test are addressed before the solution is implemented.

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

8. Key consideration 6: An FMI should have a business continuity plan that addresses events posing a significant risk of disrupting operations, including events that could cause a wide-scale or major disruption. The plan should incorporate the use of a secondary site and should be designed to ensure that critical information technology (IT) systems can resume operations within two hours following disruptive events. The plan should be designed to enable the FMI to complete settlement by the end of the day of the disruption, even in case of extreme circumstances. The FMI should regularly test these arrangements.

8.1 The SARB has a Business Continuity Policy (BCP) in place which aims to provide a framework for the effective management of a business continuity management programme. This policy allows each department to establish a BCP which is specific and appropriate to its own operations.

8.2 The FMI's BCP is specific on all the critical business processes of the FMI, the ICT applications used, the critical time period during which these processes are required, all the 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 or worst-case impact on the continuity of the identified critical business processes and reputation of the FMI. The BCP defines the roles and responsibilities of the recovery team, including the governance arrangements, to clarify the level of authority required to invoke the plan. Operational procedures are documented to support the recovery of the FMI's critical business processes.

8.3 The RTO for the FMI's critical business processes is set for two hours during the primary and secondary time.

8.4 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 continual improvement has allowed RTOs to be reduced significantly. The network components supporting the FMI operations are implemented in a redundant configuration, with key switches, routers and firewalls duplicated at both the primary and the alternate site.

8.5 The peripheral systems use a combination of asynchronous replication. In some cases, active stand-alone systems are used. The failover of server, storage and application components requires interventions to confirm failover locally at the primary site or at the alternate site at any point in time. Failover mechanisms protect against hardware and telecommunications failures.

8.6 The FMI has identified the need for a third-level contingency solution in a geographically remote facility, with a reduced reliance on local staff, and which provides for technical and software diversity and independent data storage. The investigation is underway to implement a suitable third-level contingency solution that meets the stated business continuity requirements.

8.7 The core server, mainframe, applications and data are replicated synchronously from the primary site to the alternate site, using enterprise class storage subsystems. Software, database and operating system corruptions are protected using backup/restore and database tools.

8.8 The replication and mirroring between the ICT infrastructure at the primary and secondary sites allow data to be synchronised. This allows BSTD to switch between the primary and secondary ICT 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.

8.9 The FMI's crisis management procedures prescribe that its operations management must, within five minutes of the occurrence of the disruptive incident, invoke crisis management after escalating the incident to the relevant support function as well as 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, the Business Continuity Management Committee (BCMC) of the SARB must decide whether to switch operations to the secondary (disaster recovery) site.

8.10 The business continuity arrangements in place provide for the monitoring and support function for the FMI operations to take place at dual sites (i.e. the primary and secondary sites). The critical teams for FMI operations are located at each site on a daily basis to monitor RTGS operations and provide support to the participating institutions. This would allow for the immediate availability of FMI operations staff and for access to the system within the agreed recovery time if the FMI were to switch production to the ICT infrastructure at the secondary site. 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 electricity grid and telecommunications lines.

8.11 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 of the secondary site, which is less than 15 km from the primary site, allows members of the recovery team to reach the secondary site within a reasonable period of time. However, BSTD has remote support capability to switch these critical business processes within the agreed service levels.

8.12 In extreme circumstances, the FMI can use the SARB's general ledger to book critical payments and achieve settlement finality and irrevocability.

8.13 The BCP arrangements are tested at least three times a year. Any anomalies, weaknesses and malfunctions encountered are viewed as an opportunity to review the business continuity arrangements. Based on the outcomes of these tests and the reports submitted to the executive management, the arrangements are deemed to have been reviewed. The business continuity arrangements are also audited by the SARB's IAD. In line with the FMI's BCP, a walk-through exercise is conducted to identify gaps or risks and to provide solutions or alternatives to manage or mitigate the risks.

8.14 The BCMC governing the FMI is responsible for other reviews to improve the business continuity arrangements in the organisation. Any changes, improvements or requirements are discussed and agreed to with the FMI.

8.15 The SIRESS service agreement between the FMI and participants requires each participant to implement business continuity arrangements for their respective payment and settlement systems and to test these systems on an annual basis.

8.16 For any major changes implemented in the FMI operations, participants are required to test their systems within one month of implementation of these changes.[46]

9. 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.

9.1 Telecommunications (international and domestic), the loss of SWIFT (international and domestic), the loss of infrastructure, power failures, water shortages, payment processing system failures, and the loss of key human resources have been identified as sources of operational risks in the FMI operations. Participants are required to log any new changes relating to their payment and settlement systems with the FMI. Testing is required for these changes, and progress is monitored by the FMI.

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

9.3 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

46 Annexure A, titled 'SIRESS change management procedures', of the SIRESS Operational and Service Level Manual

patterns and the types of risk that they pose to other FMIs. The risks identified are managed through the SLA entered into with each interdependent FMI. Service level meetings are held at least on a quarterly basis. Changes to the FMI processes and systems are also discussed with interdependent FMIs. These changes are tested with the interdependent FMIs before being implemented in the live environment.

9.4 The FSCF coordinates the efforts by other participants in the financial system to agree on industry-wide business continuity arrangements and to arrange for industry-wide simulation exercises.

PRINCIPLE 18: ACCESS AND PARTICIPATION REQUIREMENTS RISK

1. Principle narrative

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

2. Assessment of compliance

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

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

3. 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.

3.1 Participation criteria and requirements

(a) Participation in SIRESS falls into three categories, namely
- (i) country participation,
- (ii) SIRESS participants, and
- (iii) clearing and settlement service providers.

3.2 Country participation

(a) Before a financial institution (i.e. a SIRESS participant bank) 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 the jurisdiction of the SADC central banks, the domestic central bank must give permission to banks to join SIRESS.

(b) Participant central banks must be SADC member state central banks, and the country in question should be in good standing in SADC (i.e. the member state should not be suspended from SADC).

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

3.3 Financial institutions participation

(a) Banks that would like to participate in SIRESS need approval from their respective central bank. Operationally, all SIRESS participants are required to comply with the technical and business functional requirements.[47] Business rules and models developed by the SADC Banking Association and/or the SADC PSMB should also be adhered to. Participants are required to complete market testing and error-free testing on SIRESS. Additional conditions are applicable to all participants, including central banks participating as participants in the settlement services.

(b) 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:

47 Refer to the SIRESS functional specifications, the SADC Banking Association's business process models, and the SIRESS service level and operational manuals.

(i) The prospective participant is legally constituted and has complied with all the applicable laws in its country of jurisdiction.
(ii) The prospective participant is a regulated and supervised financial institution that is currently a member of the country's RTGS system or domestic settlement system.
(iii) The prospective participant is a foreign bank with branches operating in the SADC region.
(iv) The prospective participant has the required infrastructure to support and enable smooth participation in the system.
(v) The prospective participant is able to demonstrate to the local central bank evidence of having tested the system, including that adequate communication links are in place (among other technical requirements).
(vi) The prospective participant has established and implemented policies and procedures to ensure compliance with international laws, regulations and rules such as those pertaining to anti-money laundering requirements, among others.
(vii) The prospective participant has assured the local central bank that it will comply with all the rules of the regional system and has agreed to sign SLAs with the SIRESS operator in this regard.

(c) The participant central bank reserves the right to impose additional operational and/or other requirements on prospective SIRESS participants in order to approve their commercial banks' participation in the system. The FSCF coordinates the efforts by other participants in the financial system to agree on industry-wide business continuity arrangements and to arrange for industry-wide simulation exercises.

3.4 Access criteria for the clearing and settlement system operator

(a) 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 (i.e. regional clearing and settlement (RCS) system operators) would like to provide their services to the participant bank in the clearing of regional cross-border transactions.[48]

(b) The RCSO criteria document sets out the requirements that the RCSO must fulfil in order to participate in SIRESS as an RCSO.

(c) The RCSO is evaluated on the following criteria:

(i) general business risk;
(ii) service;
(iii) legal and contractual criteria;
(iv) governance;
(v) risk management;
(vi) participant default rules and procedures;
(vii) operational and technical criteria; and
(viii) access and participation.

3.5 Participant fees and charges

(a) 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 and approval by the SADC PSOC. Fees and other 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.

48 Clause 2.1. of the 'Criteria for authorization to act as a SADC regional clearing and settlement system operator (RCSO) for cross-border payments within SADC'

3.6 Access to trade repositories

(a) Key element is not applicable to SIRESS as an FMI.

4. 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.

4.1 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.

4.2 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 the 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.

4.3 SIRESS participant banks are required to participate in their respective domestic RTGS systems or domestic central bank settlement arrangements where the RTGS is not functional. Prior to participation in SIRESS, the prospective participant should 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 the ongoing participation of its commercial banks in SIRESS.

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

5. 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.

5.1 The SIRESS stakeholders' agreement provides that a country may terminate its agreement to appoint the SARB as the SIRESS operator.[49] The implication of a central bank terminating its participation in SIRESS is that its commercial banks'

49 Section 16 of the SIRESS stakeholders agreement

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

5.2 Monitoring compliance

(a) The SIRESS operator monitors participants' 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.

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

(c) Suspension and orderly exit
   (i) If the SADC PSMB is of the opinion that the RCSO does not meet or comply with the criteria and/or rules to qualify as an RCSO, the authorisation will not be renewed and all the relevant RPS agreements will be terminated. Section 20 of the SLA between the SIRESS operator and the RCSOs provides for conditions under which either party may terminate the agreement.

PRINCIPLE 19: TIERED PARTICIPATION ARRANGEMENTS

1. Principle narrative

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

2. Assessment of compliance

2.1 Principle 19 is not applicable to SIRESS as an FMI. Tiered participation is not allowed in SIRESS.

PRINCIPLE 20: FMI LINKS

1. Principle narrative

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

2. Assessment of compliance

2.1 Principle 20 is not applicable to SIRESS as an FMI.

PRINCIPLE 21: EFFICIENCY AND EFFECTIVENESS

1. Principle narrative

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

2. Assessment of compliance

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

2.2 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, other participants and interested parties.

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

2.4 The SIRESS User Group was constituted and established in July 2017. The inaugural meeting was held that same month.[50]

2.5 The objective of the User Group is for the SIRESS operator to meet with the participants in order to discuss the SIRESS operator's performance, level of customer service, the efficiency of SIRESS services, cost recovery policy matters, the effectiveness of system implementation and upgrades, offered products and services, and other relevant matters.

2.6 The outcomes of the User Group's meetings are shared with the SADC PSOC, the SADC PSMB and other interested parties (where relevant). The information is taken into account when planning strategic initiatives.

3. 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.

3.1 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 (specifically the NPSD) has been appointed by the CCBG as the operator of SIRESS. Besides 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 has also been to significantly reduce the number of post-settlement workflows as the validations required and the algorithms used to reduce duplicates, failed payments and unaccountable claims. As a result, participation

50 In the SIRESS settlement agreement, definition 2.2.35 of the 'Settlement System Participant Group' (SSPG) means the SIRESS participants in the cross-border clearing and settlement arena when acting as a body with a common interest or a consultative forum for the purpose of recommending and, once approved by the SADC PSOC and the SADC PSMB, implementing rules for settlement as well as liaising and consulting with the SADC PSOC, the SADC PSMB, the 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 matters, relating to the settlement of payment obligations in the cross-border clearing and settlement arena.

in SIRESS provides potential financial savings, reduced settlement periods, reduced unnecessary interbank charges, fewer currency conversions, and fewer resources required to investigate missing payments and interest claims.

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

4. 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.

4.1 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.

4.2 In terms of overseeing the payment system, the SARB always acts in the best interest of the system as a whole and not in the best interest 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 follows innovation. However, as a 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 the sound management of the risks that SIRESS is exposed to in production and during the testing or implementation of new changes to its current functionality or infrastructure. This includes the risks that the SIRESS participants or RCSOs may expose the system to when they implement changes on their back-office and internal systems, interface applications and infrastructures that link into SIRESS.

4.3 To provide the industry with the best service, the availability of SIRESS is of paramount importance, and it is stipulated in the service standard agreement with BSTD as follows:

(a) The primary time is Monday to Friday from 12:00 to 16:30.

(b) The tertiary time is from 16:31 to 8:29 on business days or in alignment with scheduled maintenance weekends.

(c) SIRESS should be available at least 99.5% of the time. A maximum of one hour (60 minutes) downtime per month is allowed, where a single downtime incident should not last more than 30 minutes.

(d) Regardless of whether a downtime incident is being experienced, the service level shall be deemed as having been met for as long as all the batches sent for settlement during this time settle before midnight or before the scheduled commencement of the next SCD.

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

5. Key consideration 3: An FMI should have established mechanisms for the regular review of its efficiency and effectiveness.

5.1 As at December 2017, the SIRESS FMI was in operation[51] for over four years. There has not been any annual or periodic review of the functionality of the FMI yet. The SIRESS operator's staff performance contracts are reviewed on an annual basis to ensure that the correct service is offered in response to the demands of the SADC region. The SIRESS operator's 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 could better meet the needs of its participating members and the industry as a whole.

5.2 Operational statistical reports are provided to the NPSD management and the SADC PSOC members per country. Settlement statistics relevant to the requesting participant are provided upon request. The statistics on volumes and values are provided to a broader audience, which includes the SADC Banking Association, the SADC Secretariat, the CCBG Secretariat, and non-participating central banks' country 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 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.

5.3 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; it is thus 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.

51 According to the SIRESS road map, a process is currently underway to review, among other things, the functionality of the FMI (including business needs and requirements).

PRINCIPLE 22: COMMUNICATION PROCEDURES AND STANDARDS

1. Principle narrative

1.1 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.

2. Assessment of compliance

2.1 The SARB observes Principle 22.

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

3. Key consideration 1: An FMI should use, or at a minimum accommodate, internationally accepted communication procedures and standards.

3.1 Communication procedures and standards

(a) 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 MT103, MT202, MT298, MT598, MT900, MT910, MT920, MT950 and MT998.

(b) SWIFT is used as the network provider for communication purposes. The SWIFT FIN service is utilised for the messaging.

PRINCIPLE 23: DISCLOSURE OF RULES, KEY PROCEDURES AND MARKET DATA

1. Principle narrative

1.1 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.

2. Assessment of compliance

2.1 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.

2.2 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 which are made available to the SARB's members and, where appropriate, to the public.

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

2.4 On its website,[52] the SARB makes public (in English) a significant amount of information about itself and its subsidiaries, bank supervision services and regulations, certain market data, regulatory and oversight information (including details on the NPS oversight framework[53]), and speeches delivered by the Governor of the SARB and other counterparties to the South African NPS. The SARB also publishes all relevant regulatory consultation documents, governance information, annual reports, risk frameworks, best practices and press releases.

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

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

3. 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.

3.1 Rules and procedures

(a) The published documents that contain the rules and procedures include the following:

52 http://www.resbank.co.za

53 http://www.resbank.co.za/RegulationAndSupervision/NationalPaymentSystem(NPS)/Documents/Oversight/Oversight.pdf

(i) the SIRESS Operational Procedure and Service Level Manual (as an addendum to the SIRESS service agreement);
(ii) position papers (e.g. on cost recovery);
(iii) BCP documents; and
(iv) the SADC Payment System Business Processes and Related Documents Manual (known as the SADC BA Beige Book) maintained by the SADC Banking Association and the SADC PSMB.

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

3.3 Disclosure

(a) The SARB has clear and comprehensive rules and procedures that are fully disclosed to the SIRESS participants. The key rules and procedures for payment and settlement services are set forth in the settlement agreement, the service agreement and the Beige Book of the SADC Banking Association.

(b) The SARB complies with the Promotion of Access to Information Act 2 of 2000. In response to this piece of legislation, the Promotion of Access to Information Manual[54] was published on 15 November 2011 and subsequently made available to the public. The objective of this manual is to comply with all the provisions of the Promotion of Access to Information Act 2 of 2000 in order to promote the constitutional right of access to information. In addition to the manual, the SARB holds different forums that are used as platforms to disclose major decisions to its stakeholders:

(i) The mandate, mission, objectives and functions of the SARB and its Board are published on the SARB website.
(ii) The role of the South African NPS as well as the role and responsibilities of the SARB through the NPSD are published on the SARB website.
(iii) The SARB maintains the confidentiality of its FMI members; member information is thus published on a secure site under the SARB or CCBG website.
(iv) All the relevant legislation and regulatory framework are published on the SARB website, including position papers, information papers, directives and strategic documents.
(v) The SADC CCBG Payment System Subcommittee is required, in terms of Annex 2 of Article 6, to meet at least once a year. To date, the subcommittee has been holding an annual conference with the SADC PSMB and other stakeholders.
(vi) The SARB, as the SIRESS operator, holds meetings with the SADC Banking Association, the SADC PSMB, regional operators and participants' formations.
(vii) Communication to regional commercial banks and SIRESS participant banks is done through the SADC Banking Association's website.
(viii) Additional communication is done during the country-specific implementation visits and the roadshows to the countries joining SIRESS.

54 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/News%20and%20Publications/Attachments/4882/South%20AFrican%20Reserve%20Bank%20Manual.pdf.

4. 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.

4.1 The SIRESS functional specifications provided in the SADC Banking Association's Payment System Business Processes and Related Documents Manual[55] detail the design and message layout of SIRESS. Any information and/or decisions are shared with participants through the SADC PSMB and the SADC Banking Association. All participants' rights, obligations and risks are documented in the SIRESS service agreement and settlement agreement.

5. 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.

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

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

5.3 Participants are also offered business and technical assistance from the CSC and SIRESS payment system analysts.

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

6. 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.

6.1 The SIRESS cost recovery document is shared with the SADC PSOC. The actual fees levied (i.e. the 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 through SIRESS Operational Notices and emails sent to each individual participant.

7. Key consideration 5: An FMI should complete regularly and disclose publicly responses to the CPSS–IOSCO disclosure framework for financial market infrastructures. An FMI also should, at a minimum, disclose basic data on transaction volumes and values.

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

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55 SADC Banking Association's Beige Book

PRINCIPLE 24: DISCLOSURE OF MARKET DATA BY TRADE REPOSITORIES

1. Principle narrative

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

2. Assessment of compliance

2.1 Principle 24 is not applicable to SIRESS as an FMI.

CHAPTER IV

LIST OF PUBLICLY AVAILABLE RESOURCES

1. List of publicly available resources, including those referenced in this disclosure

1.1 Banks Act 94 of 1990

1.2 *Government Gazette* No. 35950 (published on 12 December 2012)

1.3 Memorandum of Understanding for Cooperative Oversight of SIRESS

1.4 Mutual Banks Act 124 of 1993

1.5 National Payment System Act 78 of 1998

1.6 Operational Procedures and Service Level Manual for SIRESS

1.7 Payment Clearing House Payment Group for Immediate Settlement: Payment Compensation Rules

1.8 SADC Banking Association Business Process Manual

1.9 SADC Protocol on Finance and Investment

1.10 SADC PSMB Assent Agreements

1.11 SADC PSMB Roles and Responsibilities

1.12 SADC RCSO Service Level Agreement

1.13 SADC RCSO criteria for the authorisation to act as a regional clearing and settlement system operator for cross-border payments within SADC

1.14 SARB Notice 749 of 2013 – SIRESS Designation

1.15 SIRESS Service Agreement

1.16 SIRESS Procedure Manual

1.17 SIRESS Settlement Agreement and Schedules

1.18 South African Reserve Bank Act 90 of 1989, as amended

1.19 Stakeholders Agreement for SADC Regional Cross-Border System

1.20 SWIFT User Handbook