



CIRCULAR TO BANKING INSTITUTIONS: No. 5-2009/BSD:

**ADDENDUM TO THE RISK-BASED SUPERVISION
POLICY FRAMEWORK**

18 AUGUST 2009

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Introduction

- 1 This note amends the Reserve Bank's **Risk Assessment System (RAS)** as documented in *Guideline No. 2 - 2006/BSD: Risk-Based Supervision Policy Framework*, with particular reference to Chapter 9, Assessing the Institution's Risk, paragraphs 9.11 to 9.32 as well as Chapter 7, paragraphs 7.12 to 7.14 and Chapter 11, paragraph 11.4.
- 2 The note also amends the applicable sections of the Circular to Banking Institutions No. 01-2007/BSD: "Disclosure of On-Site Examination and External Credit Ratings" issued by the Reserve Bank on 23 October 2007
- 3 The amendments to the Reserve Bank's RAS methodologies have been motivated by significant developments in the international and domestic macroeconomic environment, as well as in the financial sector, which developments have a bearing on financial stability.

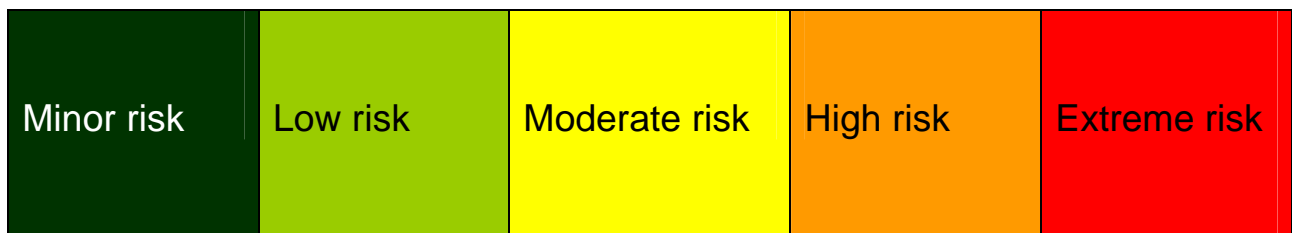
Granularity Issues

- 4 Notwithstanding the revered improvements in risk management following the adoption of Basel II, most well-known and widely used risk assessment systems have inadequate granularity.
- 5 The US Federal Reserve Bank **Risk Assessment System**, for instance, is a three tier assessment system wherein risk is rated

as either low, moderate or high. The UK Financial Services Authority's (2006, p10) **Advanced, Risk-Responsive Operating Framework (ARROW II)** employs a four-point rating system wherein risk is low, medium low, medium high, or high.

GLYOR Colour Coding System

- 6 We hereby adopt a recently developed five-tier **GLYOR colour coding system** in order to enhance the granularity of the Risk Assessment System.
- 7 The acronym GLYOR stands for **Green, Lime, Yellow, Orange and Red** wherein Green denotes Minor or Insignificant risk, Lime – Low risk, Yellow – Moderate risk, Orange – High risk, and Red – Extreme risk.
- 8 Schematically, the GLYOR colour coding system may be portrayed as follows:



- 9 The revised Risk Assessment System employs a five-tier rating scale wherein the quantity of risk, or **level of inherent risk**, for **each risk element** is determined by the **combination of impact / effect** (the potential harm that could be caused) and **probability** (the likelihood of the particular event [vulnerability] occurring [crystallising]), as illustrated below.

Rating of Risks to Financial Stability



Source: Financial Services Authority (2006, p10)

- 10 Various impact and probability factors are aggregated to give the **level of inherent risk** posed to the safety and soundness of the banking institution.

Risk Rating Scales

IMPACT / EFFECT		PROBABILITY / LIKELIHOOD	
Colour Code	Score & Rating	Colour Code	Score & Rating
Green	1 = No impact	Green	1 = Remote / Unlikely
Lime	2 = Low impact	Lime	2 = Low
Yellow	3 = Moderate impact	Yellow	3 = Moderate
Orange	4 = High Impact	Orange	4 = High
Red	5 = Catastrophic	Red	5 = Imminent

LEVEL OF INHERENT RISK [Impact X Likelihood]	
Colour Code	Score / Rating / Points
Green	1 = Minor risk [01 to 02] ¹
Lime	2 = Low risk [03 to 05]
Yellow	3 = Moderate risk [06 to 10]
Orange	4 = High risk [11 to 16]
Red	5 = Extreme risk [17 to 25]

¹ Inequalities may be used in place of discrete scales

- 11 For the avoidance of doubt, the generic *Risk Categories and Definitions* presented in Chapter 5 of the Risk-Based Supervision Framework, the general structure of the Risk Matrix and other key documents of the framework remain the same.

Adequacy of Risk Management

- 12 As in the previous RAS, the adequacy of risk management systems is still determined by balancing the respective risk management sub-ratings for the following key elements:
- a. board and senior management oversight;
 - b. adequate policies, procedures and limits for managing business activities;
 - c. adequate risk management, monitoring and management reporting systems; and
 - d. comprehensive internal controls including an effective internal audit function.
- 13 The quality and adequacy of risk management systems may be rated as “**very strong**”, “**strong**”, “**acceptable**”, “**weak**”, and “**poor**”, depending on the availability, completeness, suitability, and compliance with/of the risk management systems implemented in the banking institution.
- 14 The five tier GLYOR colour coding system is also employed.
- 15 As usual practice the Risk Assessment System, the **Overall Composite Risk** profile per each inherent risk is determined by balancing the observed quantity of **Aggregate Inherent Risk**

rating with the perceived strength of the related **Aggregate Risk Management Systems** rating for each inherent risk.

- 16 The Overall Composite Risk may also be characterized as Minor, Low, Moderate, High, or Extreme risk.

Overall Composite Risk

AGGREGATE INHERENT RISK [Impact X Likelihood]	
Colour Code	Score & Rating
Green	1 = Minor risk [01 to 02] ²
Lime	2 = Low risk [03 to 05]
Yellow	3 = Moderate risk [06 to 10]
Orange	4 = High risk [11 to 16]
Red	5 = Extreme risk [17 to 25]

AGGREGATE RISK MANAGEMENT SYSTEMS	
Colour Code	Score & Rating
Green	1 = Very Strong
Lime	2 = Strong
Yellow	3 = Acceptable
Orange	4 = Weak
Red	5 = Poor

OVERALL COMPOSITE RISK	
Colour Code	Score / Rating / Points
Green	1 = Minor risk [01 to 04]
Lime	2 = Low risk [05 to 12]
Yellow	3 = Moderate risk [13 to 33]
Orange	4 = High risk [34 to 64]
Red	5 = Extreme risk [65 to 125]

- 17 The three diagrams below illustrates the factors considered in the determination of the Risk Assessment Matrix, the Overall Composite Risk, and the Scope of examination, respectively.

² Inequalities may be used in place of discrete scales

**Illustrative Summary Risk Assessment Matrix as at
31 December 20XX**

Type of Risk / Vulnerability ⁱ	Indicator ⁱⁱ / Risk Element	Impact / Effect ⁱⁱⁱ	Probability / Likelihood ^{iv}	Level of Inherent Risk ^v	Adequacy of Risk Mgt Systems ^{vi}	Overall Composite Risk
• Credit Risk						
• Liquidity Risk						
• Interest Risk						
• Foreign Exchange						
• Operational Risk						
• Legal & Compliance						
• Strategic Risk						
• Reputation Risk						

Key

- i. Current major risks or threats to safety and soundness of banking institutions
- ii. The indicators are expressed in different formats such as absolute value, ratio, change a year, trend, deviation from trend, model generated parameters, etc
- iii. Assessed expected impact on safety and soundness of banking institution if a vulnerability or risk factor is triggered.
- iv. Assessed likelihood of a vulnerability crystallization at some point over the next year.
- v. A product of assessed impact and probability
- vi. Risk mitigation / adequacy of risk management systems in place

Determining the Overall Composite Risk

Aggregate Risk Management Systems	Aggregate Inherent Risk				
	Minor	Low	Moderate	High	Extreme
	Overall Composite Risk				
Poor	Moderate	Moderate or High	High	High or Extreme	Extreme
Weak	Low or Moderate	Moderate	Moderate or High	High	High or Extreme
Acceptable	Low	Low or Moderate	Moderate	Moderate or High	High
Strong	Minor or Low	Low	Low or Moderate	Moderate	Moderate or High
Very Strong	Minor	Minor or Low	Low	Low or Moderate	Moderate

Determining Scope of the Examination

Inherent Risk	Quality of Risk Management Systems				
	Very Strong Risk Controls	Strong Risk Controls	Acceptable Risk Controls	Weak Risk Controls	Poor Risk Controls
Extreme Risk	Moderate Aggregate risk Limited Review	Moderate to High Aggregate Risk Limited Review at a minimum	High Aggregate Risk Full Scope Review	High to Extreme Aggregate Risk Full Scope Review	Extreme Aggregate Risk Full Scope Review
High Risk	Low to Moderate Aggregate Risk Minimum review & broad testing on Target Areas	Moderate Aggregate risk Limited Review	Moderate to High Aggregate Risk Limited Review at a minimum	High Aggregate Risk Full Scope Review	High to Extreme Aggregate Risk Full Scope Review
Moderate Risk	Low Aggregate Risk No Review	Low to Moderate Aggregate Risk Minimum review & broad testing on Target Areas	Moderate Aggregate Risk Limited Review	Moderate to High Aggregate Risk Limited Review at a minimum	High Aggregate Risk Full Scope Review
Low Risk	Minor to Low Aggregate Risk No Review	Low Aggregate Risk No Review	Low to Moderate Aggregate Risk Minimum review & broad testing on Target Areas	Moderate Aggregate Risk Limited Review	Moderate to High Aggregate Risk Limited Review at a minimum
Minor Risk	Minor Aggregate Risk No Review	Minor to Low Aggregate Risk No Review	Low Aggregate Risk No Review	Low to Moderate Aggregate Risk Minimum review & broad testing on Target Areas	Moderate Aggregate Risk Limited Review



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