



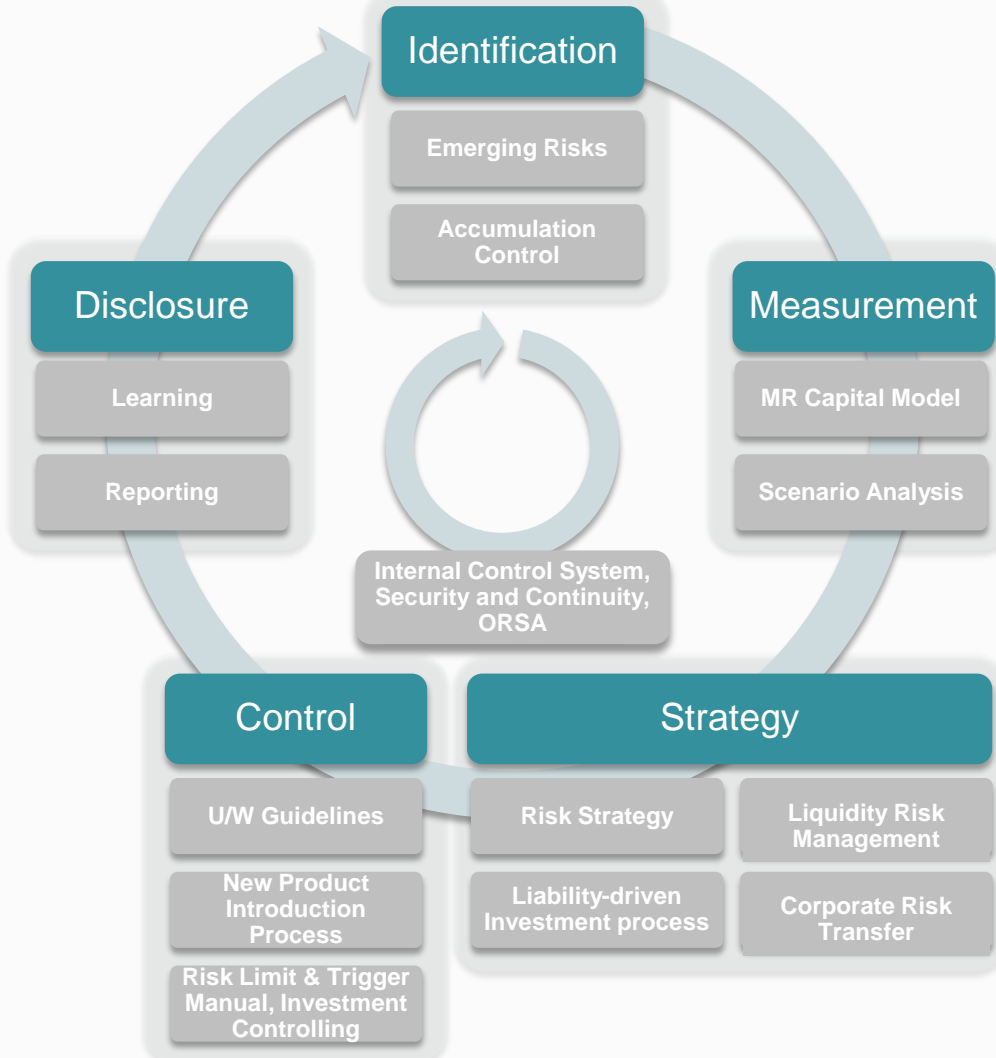
SOLVENCY II INSIGHTS FOR NORTH AMERICAN INSURERS

CAS Centennial Meeting

Melissa Salton 609-243-4424

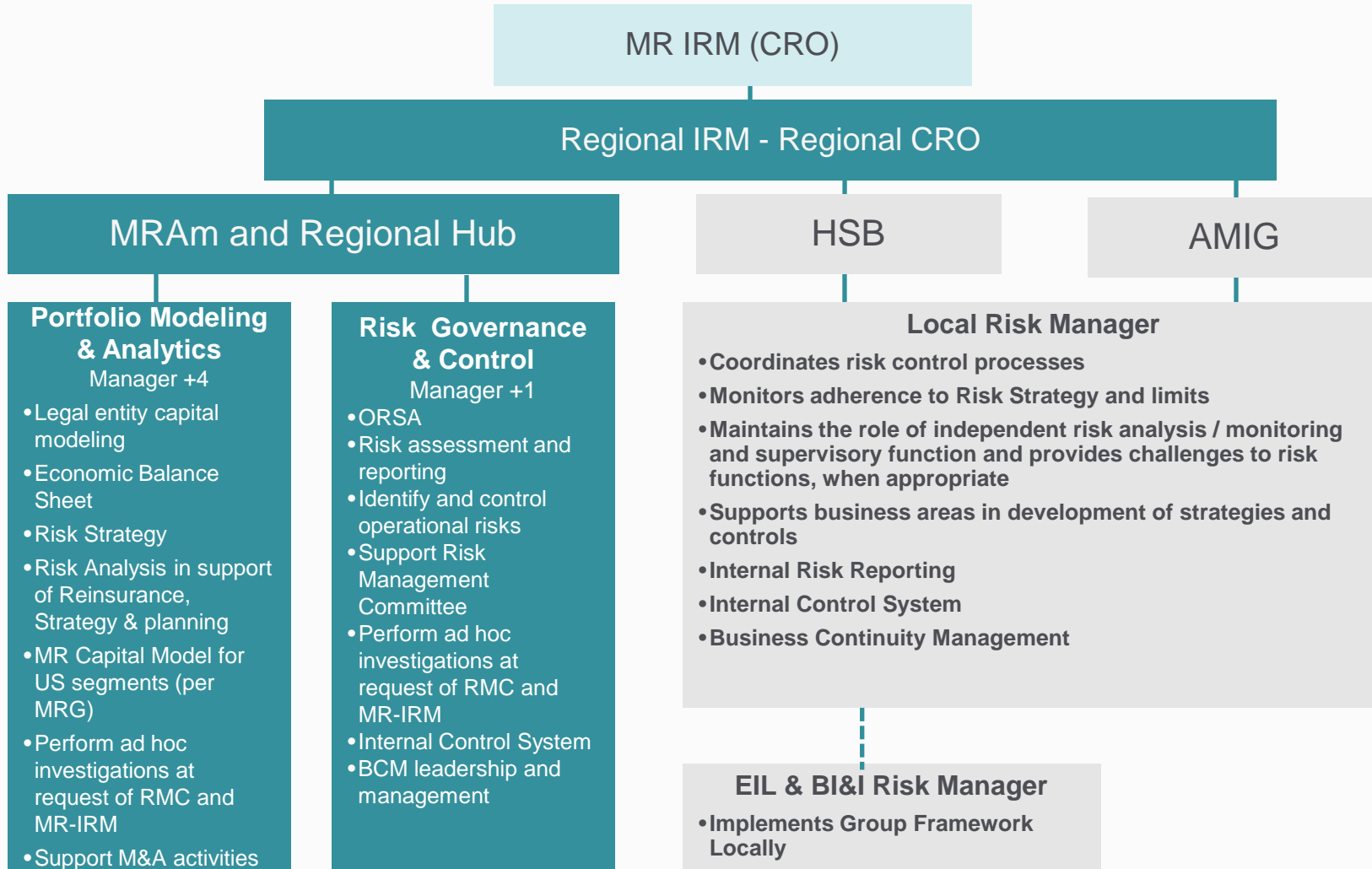
November 10, 2014

Risk Management Components at MRG provides a framework for all US entities



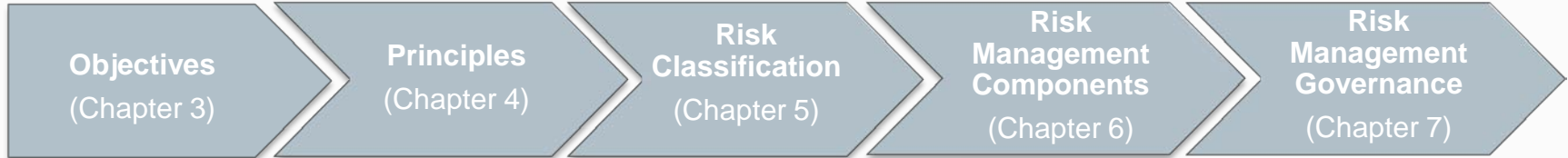
- All types of risks are explicitly addressed by risk management tools
- All regulatory requirements are explicitly addressed by Munich Re's risk management tools
- The various risk management components are consistent and build upon each other
- Tools take into account Munich Re's complex business, taking a group perspective


Regional IRM Hub at MRAm – Leverages Munich Re group functions, creates efficiency for US structure



Head Count: Total 14 / Regional 9 / Local 5

The Risk Management Policy of Munich Re provides an overview of risk management



Munich RE 

Risk Management Policy of Munich Re Group

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Contact

IRM 1.5
Imgrid Schaefer
Tel: +49 (0) 3991-4233

IRM 1.5
Michael Skjott
Tel: +49 (0) 3991-4236

IRM 1.5
Alexandra von Bonke
Tel: +49 (0) 3991-5143

Scope of application
Group-wide
All organizational units

Valid from
25 June 2014

Version
3.0

Authorized by
Board of Munich Re

Authorized on
25.06.2014

Retention period
10 years

Classification
Policy

Level of obligation
Binding

1 Introduction

Munich Re is committed to turning risk into value. Risk management is an integral part of our corporate management with regard to achieving this goal. Therefore, it is a necessity to have a common understanding about the group wide risk management set-up, its key objectives, principles, tools and processes.

Risk management includes all strategies, methods and processes to identify, analyse, assess, control and monitor the short and long term risks Munich Re (Group) faces or may face in the future (also referred to as Risk Management System). Risk management is performed at all levels of Munich Re. Risk management is organized according to the three so-called "lines of defence," which are all equally important: risk takers (first line), Risk Management Function, Actuarial Function, Compliance Function (second line), and Internal Audit Function (third line). Based on Solvency II, the Risk Management Function, Compliance Function, Actuarial Function and the Internal Audit Function are also referred to as the **Key Functions**.

The document at hand focuses on the risk management tasks performed by the **Risk Management Function** as part of the system of governance according to Solvency II. The Risk Management Function is carried out by various divisions and departments across the group, which are further described in this Risk Management Policy.

The purpose of this Risk Management Policy is to give our employees and – as appropriate – external stakeholders a general overview of how risk management is implemented at Munich Re (Group) and MR AG.

 Overall Risk Management Umbrella - creates risk "language"

Group-Wide Policies influence internal control framework: Governance; Culture



Group-Wide Policies

Governance

Key Functions

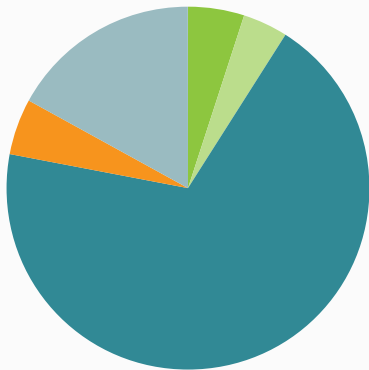
Risk Management

Risk Model

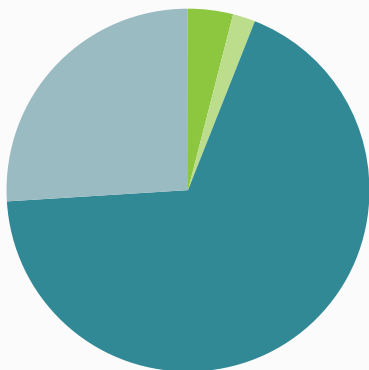
Fit & Proper	Remuneration	Outsourcing	ICS	Risk Mgmt	Actuarial	Risk Limits	Accumulation	Counterparty	Liquidity	Collateral	Mod. Data	Mod. Chg.
Capital Mgmt	ORSA	SII Reporting	Audit Directive / Charter	Compliance	Underwriting	Retro Security	Investment	ALM	BCM	Insurance	Mod. Valid.	

Financial Strength viewed through different lenses – risk profile differs significantly by capital measure

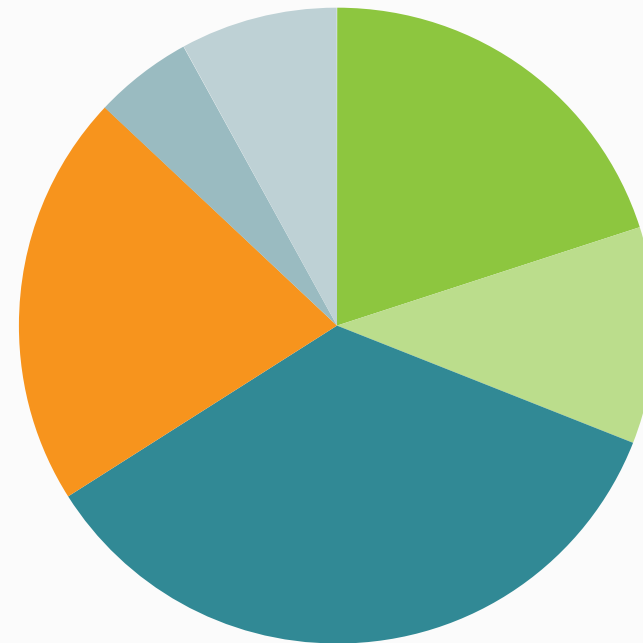
Rating agency



Regulator



Internal

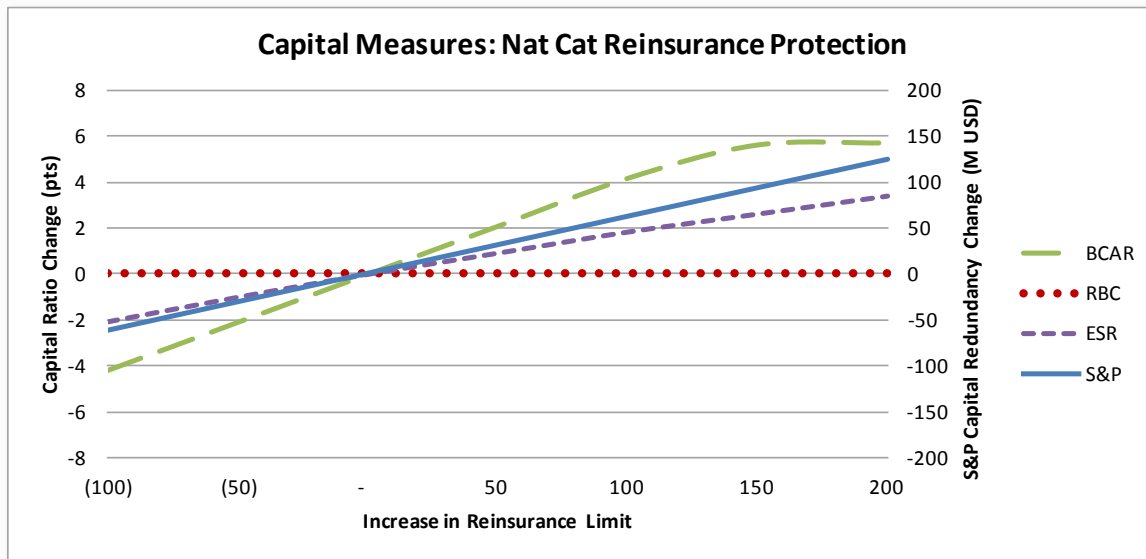


- Market Risk
- Premium & Reserve Risks
- Credit Risk (Counterparty)
- Credit Risk (Bonds)
- Nat Cat Risk
- Operational Risk

Internal Economic Capital Model most closely measures Legal Entity Risk

Internal Model improves risk analysis

Scenario: Increasing reinsurance coverage for Nat Cats



For illustration

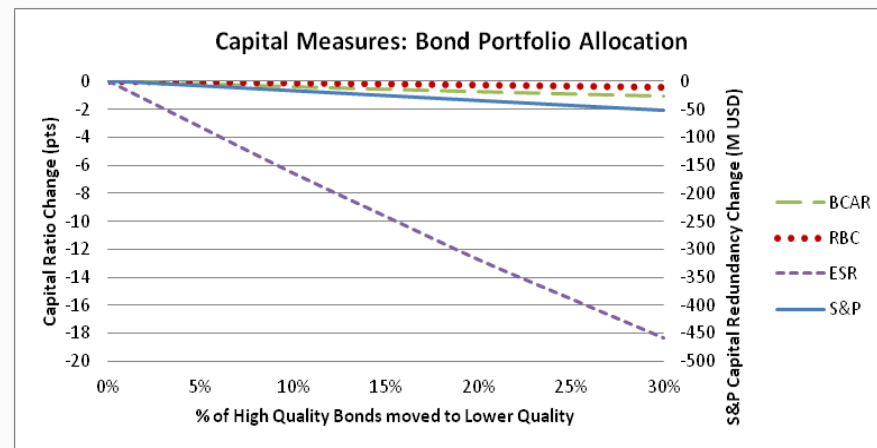
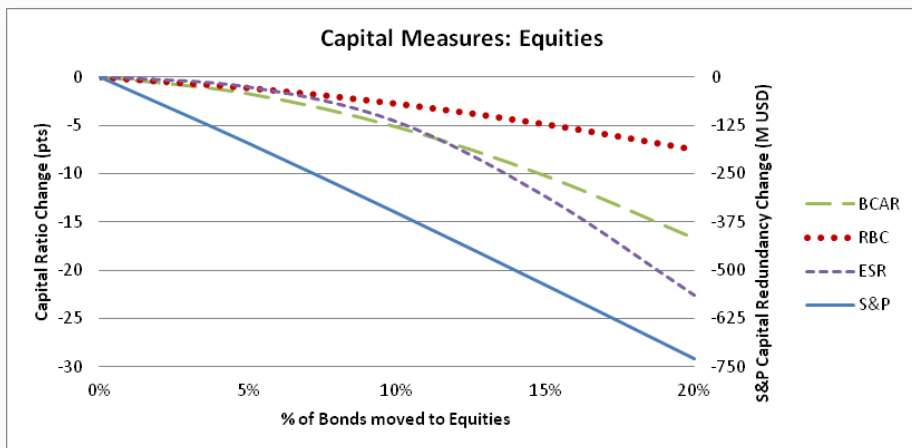
- Decreased benefit where limit exceeds the PML measured in BCAR.
- No benefit in RBC – nat cat risk is not yet considered.
- Benefit at higher limits in ESR and S&P - risk measured at higher return periods
- Benefit of multiple reinstatements only measured in ESR

Full benefit of nat cat coverage reflected only in the internal model

Internal Model improves Risk Analysis

Scenario: Investment allocations

For illustration



- Increasing the equity allocation significantly reduces all financial strength measures.
- Small increases in equity holdings are compensated by diversification.

- Increasing the allocation to lower credit quality bonds reduces the financial strength significantly using the internal measure.

Stocks are seen as risky. Corporate bonds only in an economic context.

Internal Risk Reporting – creates discipline and transparency – linked to Risk Strategy

1. Market trends
2. Economic risk capital (ERC)
 - ERC & trends
 - Scenario analysis
3. Multiple capital adequacy indicators
4. Investment risks
 - Asset allocation trends
 - Market risk
 - Credit risk
 - Major exposures
5. ALM
 - AL mismatch risk
 - ALM strategy

6. Insurance risks
 - Reserve risk
 - Insurance risk exposure (capital allocation)
 - Accumulation exposures
 - Very large risks & emerging risks
7. Other Risks
 - Operational risks
 - Reputational risks
 - Strategic risks
 - Legal & compliance risks
 - Internal audit

“One” Risk Report improves overall risk management

Risk strategy leads to consistent view of objectives for risk management

1. Overview of risk strategy

2. Risks arising from the business portfolio

- Underwriting risk
- Investment risk and their management
 - Market risk
 - Credit risk
 - Liquidity
- Operational risk and its management
- Reputational risk and its management
- Strategic risk

3. Significant risk criteria and their tolerances

- Financial strength
 - Economic risk capital requirements
 - Regulatory requirements
 - Rating agency requirements
- Financial distress
- Asset-liability mismatch limits
- Underwriting limits
- Investment/counterparty limits
 - Maximum investment limits
 - Counterparty limits
 - Special investment limits
- Other limits
 - Regulatory requirements for investments

4. Decision

Passing “use test” furthers risk management integration

Management applications

- | | | |
|---|--------------------------------|--|
| ✓ | A/L management | Liability-driven investments |
| ✓ | Risk steering | Actively managing the company’s risk profile |
| ✓ | Pricing / Underwriting | Risk capital loading derived from internal model |
| ✓ | Performance measurement | RoRaC as business objective |
| ✓ | Risk mitigation and evaluation | Retrocessions, Cat Bonds, M&As |
| ✓ | Regulatory purposes | Solvency II and US ORSA |
| ✓ | Disclosure | Internal and external risk reporting |
| ✓ | Management compensation | Annual bonuses depend on RoRaC |

ERM is fully integrated into our business strategy and daily business

US ORSA requirements are well aligned with Solvency II framework

- Developed pilot ORSA report for “Munich Re US P&C Companies” (American Modern, HSB Group, MRAC and all subsidiaries)
 - Draft reviewed by Risk Committee in 4Q 2013
 - Established feasibility and process
 - Identified areas for further improvement
- Participating in 2014 NAIC Pilot
- Canadian ORSA

Table of Contents

1 Executive Summary	4
1.1 Solvency and Financial Strength Assessment.....	4
1.2 Material Changes from Prior Year.....	5
2 Introduction	5
2.1 Legal Entities Included in the Scope of this ORSA.....	5
2.2 Basis of Accounting.....	6
3 Risk Management Framework	6
3.1 Risk Culture and Governance.....	6
3.1.1 Risk Management Objectives.....	6
3.1.2 Risk Management Principles.....	6
3.1.3 Roles and Responsibilities.....	7
3.2 Risk Management Process.....	10
3.2.1 Risk Identification and Prioritization.....	10
3.2.2 Risk Measurement.....	11
3.2.3 Risk Strategy.....	12
3.2.4 Risk Management and Controls.....	12
3.2.5 Risk Reporting and Communication.....	14
4 Assessment of Risk Exposures	14
4.1 Risk Profile.....	14
4.1.1 Quantified Risks.....	14
4.1.2 Unquantified Risks.....	14
4.2 Available Financial Resources.....	14
5 Risk Appetite, Tolerances, and Limits	14
5.1 Whole Portfolio Risk.....	14
5.1.1 Financial Strength.....	14
5.1.2 Financial Distress.....	14
5.2 Supplementary Criteria.....	14
5.2.1 Underwriting Limits.....	14
5.2.2 Investment/Counterparty Limits.....	14
5.2.3 Asset-Liability Mismatch Limits.....	14
6 Prospective Risk and Solvency Assessment	32
6.1 Prospective Risk Assessment.....	33
6.1.1 Risk Profile.....	33
6.1.2 Reinsurance/Retrocession.....	35
6.2 Prospective Available Financial Resources.....	36
6.3 Prospective Solvency Assessment.....	36
7 ORSA Process	37
8 Decisions	38
Appendix A. Referenced Documents	39
Appendix B. Legal Entity Descriptions	40
Appendix C. Economic Risk Capital Model	46
Appendix D. Glossary	48

Solvency II alignment accelerated US ORSA preparedness for US Entities



Group Perspective

Section	Most Important Criteria	How addressed in the draft
Risk Management Framework	Risk Management Oversight	Boards, Risk Management Committee, CRO
	Risk Management Functions	3 Lines of Defense, Risk Owners
	Risk Decision Making	Risk Appetite, Delegated Authorities
	Risk Incentives	Steering by Risk-Adjusted Results
	Risk Controls	Risk Limits, ICS, Functional Guidelines
	Risk Communication	Internal Risk Reports, Ad-Hoc Reports
Risk Assessment	Risk Identification	Risk Categories, Accumulation Management
	Risk Measurement	Economic Capital Model, Risk Aggregation
	Risk Metrics	Economic/Regulatory/Rating Agency Capital
	Scenario Analysis	Interest Rates, Nat Cat, Liquidity
Prospective Solvency Assessment	Alignment with Business	Joint Annual Planning Process
	Multi-year Perspective	Projected Capital Planning



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