

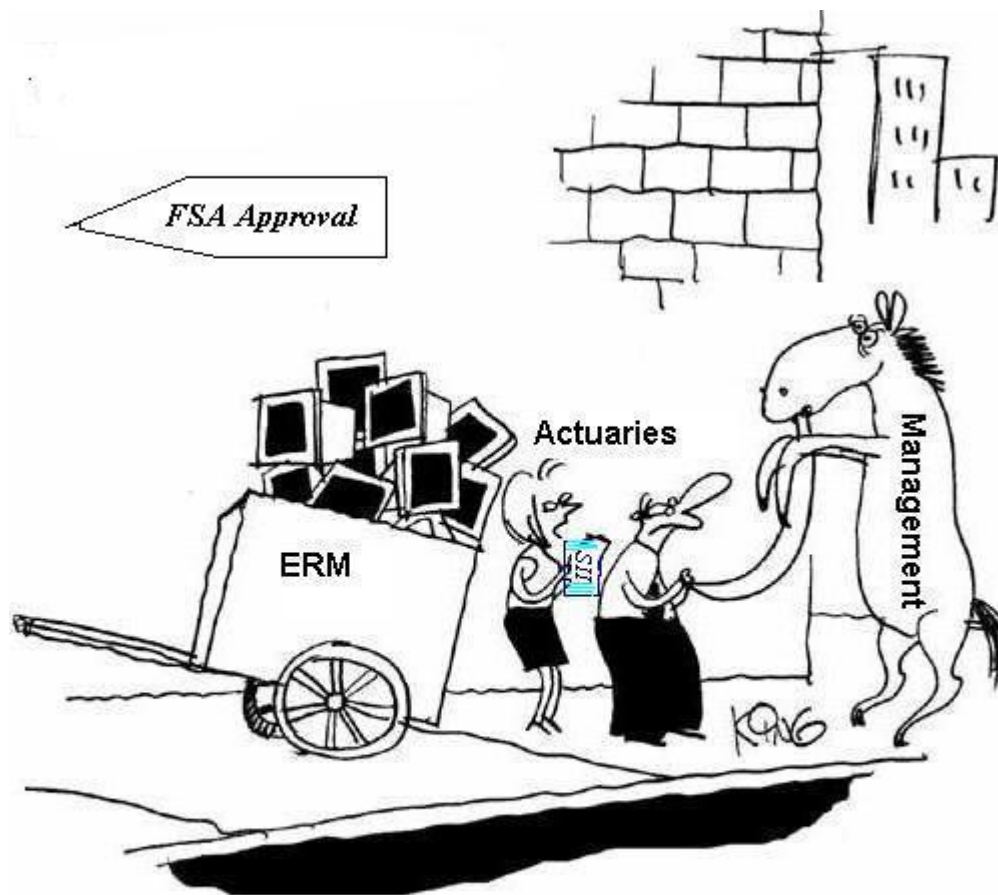
The Actuary's role in ORSA



GIRO 2010
Celtic Manor

12-15 October 2010

The role of the Actuary



*"It says here you can lead
a horse to solvency too"*

Purpose of the workshop

- **Introduction to the ORSA process**
- **Identify key areas of involvement for actuaries in the ORSA process**
- **Suggest a template for the ORSA report**
- **Consider challenges and opportunities for actuaries**

What is the ORSA?

The own risk and solvency assessment (ORSA) has a threefold nature:

1. **Expanded governance plus management and operational processes which articulate underlying assumptions and risks.**
2. **It is an internal assessment process within the company and is as such embedded in the strategic decisions of the company.**
3. **It is also a supervisory tool for regulators, who must be informed about the outcome of the company's ORSA.**

The ORSA does NOT require a company to develop a full or partial internal model. However, if the company already uses an approved full or partial internal model for the calculation of the SCR, the output of the model should be used in the ORSA.

The ORSA does NOT create a third solvency capital requirement.

The ORSA should not be overly burdensome on small or less complex companies.

The Real Article: 45 (with additions from CEIOPS' "ORSA Issues Paper")

1. As part of its risk-management system every insurance undertaking and reinsurance undertaking shall conduct its own risk and solvency assessment.
5. Insurance and reinsurance undertakings shall perform the assessment referred to in paragraph 1 **regularly** and **without any delay** following any **significant** change in their **risk profile**

1 (continued) That assessment shall include at least the following:

- (a) the overall **solvency needs** taking into account the specific risk profile, approved **risk tolerance limits** and the **business strategy** of the undertaking.

*CEIOPS recommends that the ORSA should be **forward-looking**, taking into account the undertaking's **business plans** and **projections**. ("Issues Paper" -55D)*

2. For the purposes of paragraph 1(a), the undertaking concerned shall have in place processes which are **proportionate** to the nature, scale and complexity of the risks inherent in its business and which enable it to properly **identify and assess the risks** it faces in the short and long term and to which it is or **could be exposed**. The undertaking shall **demonstrate** the methods used in that assessment.

(1 continued) That assessment shall include:

- (b) the **compliance, on a continuous basis, with the capital requirements**, as laid down in Chapter VI, Sections 4 and 5 a **and with the requirements regarding technical provisions**, as laid down in Chapter VI, Section 2;
- (c) the significance with which the risk profile of the undertaking concerned deviates from **the assumptions underlying the Solvency Capital Requirement** as laid down in Article 101(3), calculated with the standard formula in accordance with Chapter VI, Section 4, Subsection 2 or with its partial or full internal model in accordance with Chapter VI, Section 4, Subsection 3.

The Real Article Continued

3. In the case referred to in paragraph 1(c), when an internal model is used, the assessment shall be performed together with the **recalibration** that transforms the internal risk numbers into the Solvency Capital Requirement risk measure and calibration.
4. The own-risk and solvency assessment shall be an integral part of the business strategy and shall be taken into account on an ongoing basis in the **strategic decisions** of the undertaking.

*CEIOPS recommends the ORSA ... should be **regularly reviewed and approved** by the undertaking's administrative or management body. (IP 55A).*

*CEIOPS recommends the ORSA should be based on **adequate measurement and assessment processes** and form an integral part of the **management process** and **decision making framework** of the undertaking. (IP 55C).*

*CEIOPS recommends that the ORSA should encompass all material risks that may have an impact on the undertaking's ability to meet its **obligations under insurance contracts**. (Issues Paper-55A)*

6. The insurance and reinsurance undertakings shall inform the supervisory authorities of the **results of each own-risk and solvency assessment** as part of the information reported under Article 35.

*CEIOPS recommends the ORSA process and outcome should be **appropriately evidenced and internally documented** as well as **independently assessed**. (IP 55E).*

7. The own-risk and solvency assessment **shall not serve to calculate a capital requirement**. The Solvency Capital Requirement shall be adjusted only in accordance with Articles 37, 231-233 and 238

Management & Operational Process Enhancements

- business strategy
- business planning
- projections of capital, solvency and liquidity
- strategic decisions
- technical provisions
- investments
- operations

ORSA Analytic Elements

- risk profile
- risk appetite and tolerance limits
- identify and assess the risks
- (risks to which it) could be exposed
- demonstrate the methods used
- compliance, on a continuous basis, with the capital requirements
- the assumptions underlying the Solvency Capital Requirement
- recalibration that transforms the internal risk numbers
- adequate measurement and assessment processes
- obligations under insurance contracts
- results of each own risk and solvency assessment
- appropriately evidenced and internally documented

ORSA Governance Elements

- without any delay
- significant
- proportionate
- regularly reviewed and approved
- integral part of the management process
- decision making framework
- independently assessed
- regularly

Some Key Processes in Detail

Business model, strategy and planning

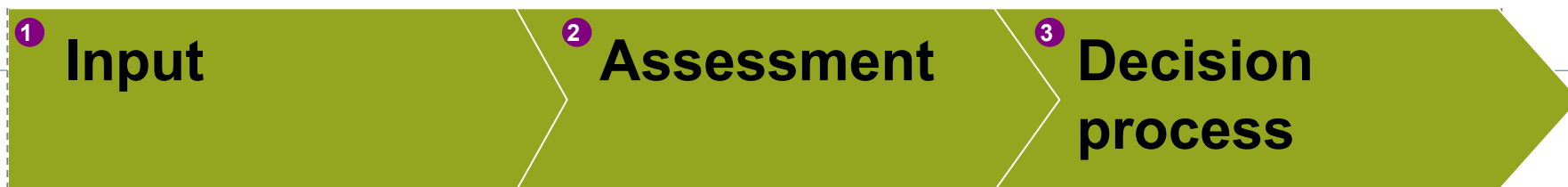
- Summary of intended: products, customers, value proposition, distribution channels, business configuration, strategic partners, cost structure, pricing and revenue, diversification etc (as examples) plus any associated strategies.
- Risk appetite and tolerances: profit volatility, required capital, return on capital, ratings, cat accumulation, pricing risk, investment risk etc.
- Business planning (segment production and loss ratios, investment returns, expenses, return on capital, ratings or capital levels, leverage, service level etc)
- An enumeration of key assumptions and risks relating to meeting the above.

Key Processes continued

Key financial and operational processes

- Summary of key processes and their dependencies in areas such as underwriting, claims, setting technical provisions, valuation of assets and accounting etc
- Consideration of appetite, tolerances and plans in respect to each of the above
- Capital and liquidity planning
- An enumeration of related key assumptions and risks.

The ORSA Process – A three step process



Description

- Forward looking, based on business plans
- Iterative runs of the calculation kernel throughout the year
- Linked to the business planning cycle
- Gathering of Use Test elements
- B/S and P&L

Key Stakeholders

- Actuarial
- Finance
- Risk Management
- Key Business functions

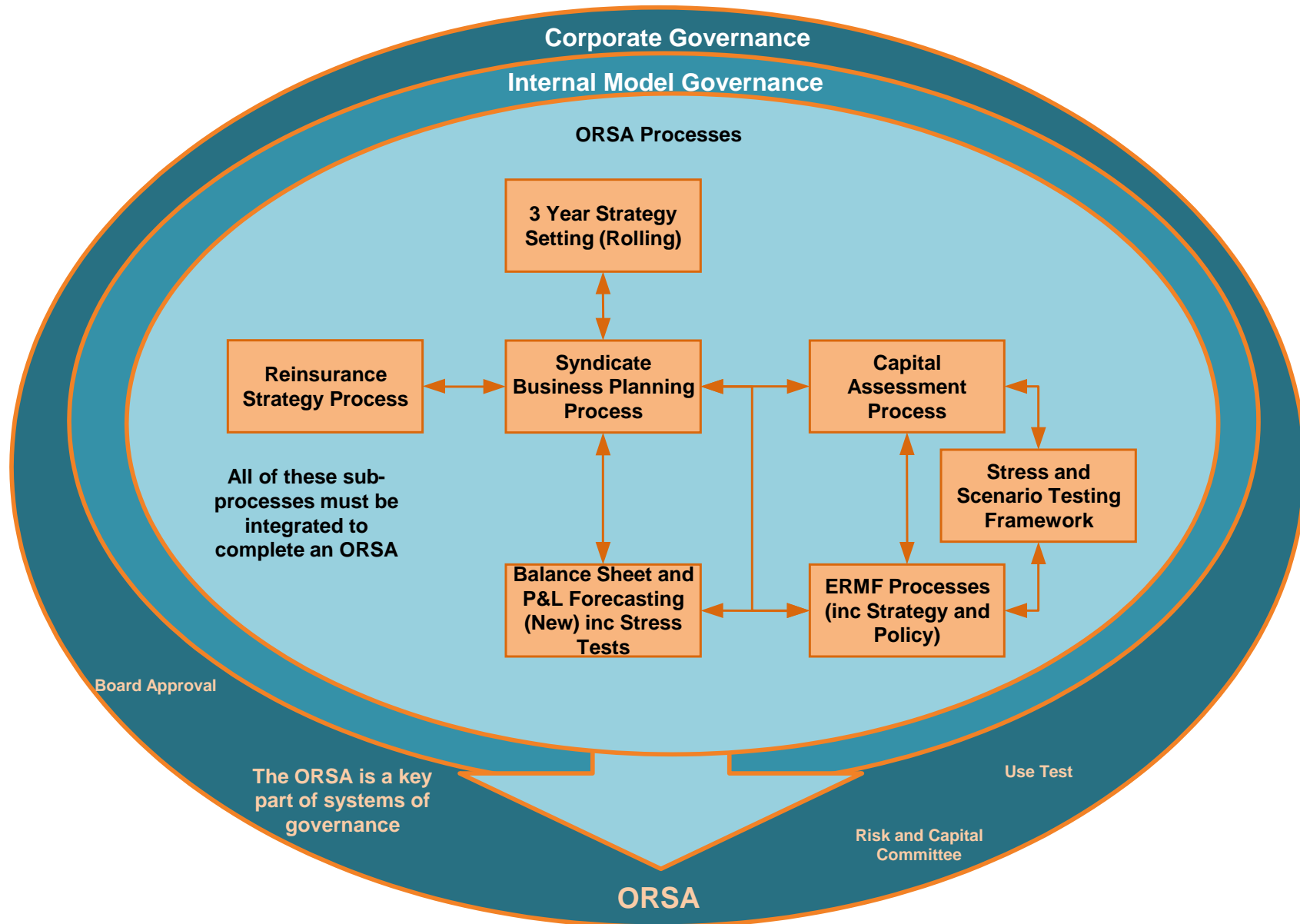
2 Assessment

- Integration of all ORSA input elements
- Internal review and discussion of all aspects of the ORSA
- Create ORSA outputs and results
- Potential external validation of the ORSA
- Documentation of ORSA
- Risk Management
- Actuarial
- Group Auditors
- External Auditors

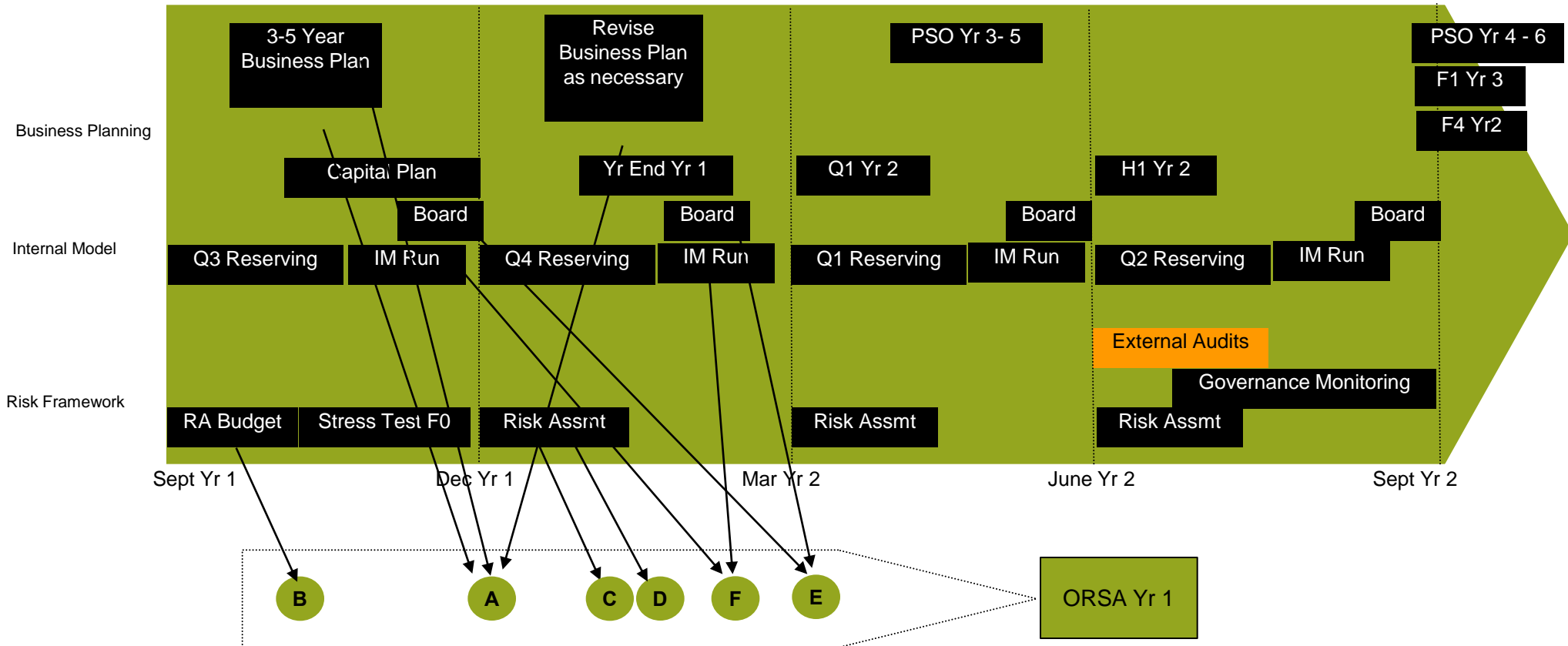
3 Decision process

- Using ORSA process in:
 - Setting strategy
 - Testing the Risk Appetite and Risk Profile
 - Business planning
 - Capital Management
- Board
- Executive Committee
- Risk Management
- Actuarial
- Finance

ORSA Core Sub-Processes



1 ORSA input gathering and modelling process - Integrated in the business planning, financial reporting, internal model and risk framework processes



So where do the actuaries fit into this process?

Assessment, potential validation, documentation and conclusions

Internal Assessment

Integration of all ORSA inputs into initial ORSA document

Internal workshops to discuss:-

- Output from Calculation Kernel
- ORSA result

- Comparison with SCR

- Sensitivity/stress tests

- Governance monitoring

- Risk management framework

Complete ORSA report

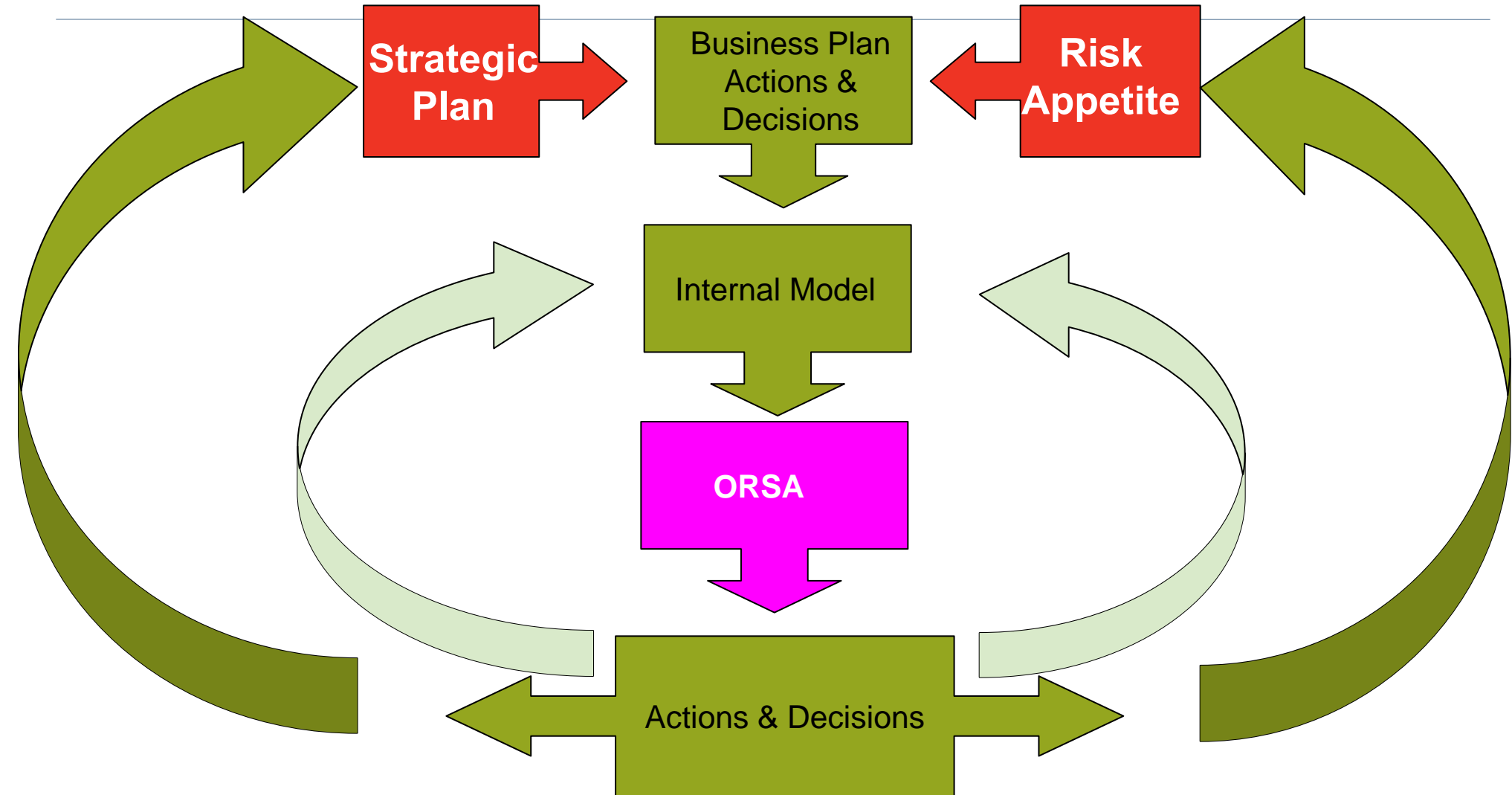
Potential External Assessment

Group ORSA process

Independent Reviewers

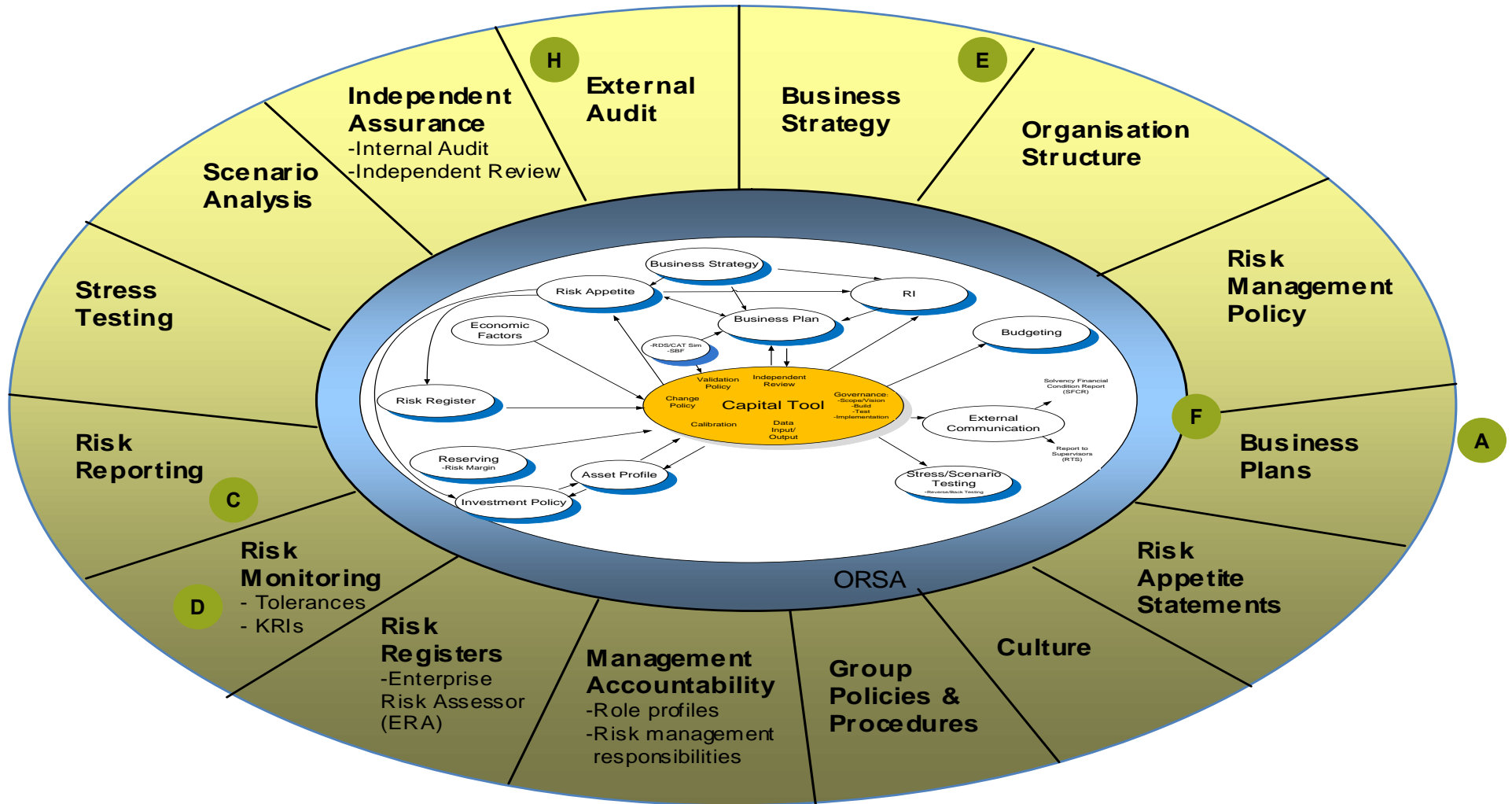
Internal Model Approval Process

3 ORSA – A Governance and Decision Process



ORSA and Internal Model Scope

Risk Management System



Actuarial Involvement - Elements of the ORSA Process

	Section within Report	Internal timeline	Roles & Responsibilities
A	Business and Capital plan & projections	<ul style="list-style-type: none"> • Every 3 years – updated annually • Quarterly reforecasts • Annual review of policy • ?? 	<ul style="list-style-type: none"> • PSO – Senior Exec/Board • Business plan – Finance/Business/Actuarial • Capital plan – Finance/Actuarial
B	Risk appetite and tolerances	<ul style="list-style-type: none"> • Reviewed every 2 years? • Reviewed annually • Reviewed annually as part of business planning 	<ul style="list-style-type: none"> • Risk Management • Actuarial (Quantitative support)
C	Risk profile including all material risks	<ul style="list-style-type: none"> • Updated quarterly • Updated quarterly • Produced quarterly 	<ul style="list-style-type: none"> • Risk Management • Board • Actuaries • Business managers
D	Risk measurement and assessment processes	<ul style="list-style-type: none"> • Reviewed annually • Reviewed annually 	<ul style="list-style-type: none"> • Risk Management • Board • Actuaries • Business managers

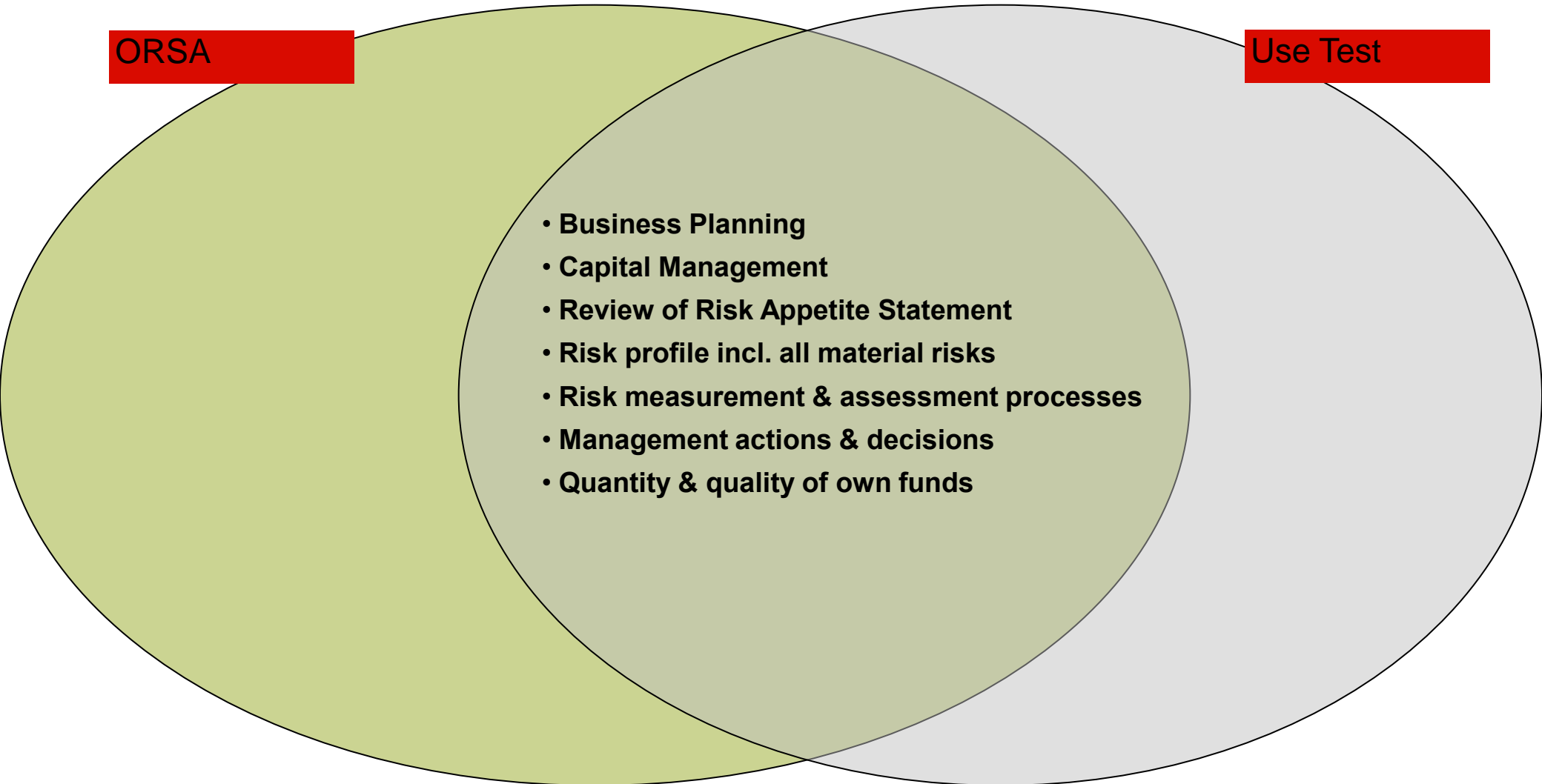
Actuarial Involvement - Elements of the ORSA Process

	Section within Report	Internal timeline	Roles & Responsibilities
E	Management actions and decisions	<ul style="list-style-type: none"> • Use Test • Quarterly Board meetings / Fortnightly Exec / Bi-monthly RMC / Quarterly sub-committees 	<ul style="list-style-type: none"> • Exec • Underwriting Directors • Actuarial • Risk Management
F	Quantity and quality of own funds	<ul style="list-style-type: none"> • Capital and liquidity planning • Reviewed annually • Produced quarterly 	<ul style="list-style-type: none"> • Finance • Actuarial
G	ORSA Policy	<ul style="list-style-type: none"> • Overview of ORSA process 	<ul style="list-style-type: none"> •-Exec Management • Risk Management •-Actuaries
H	Independent assessment	<ul style="list-style-type: none"> • Results of independent review 	<ul style="list-style-type: none"> • Actuarial • Risk Management • Internal Audit • Group

Actuarial Involvement - Elements of the ORSA Process

	Section within Report	Internal timeline	Roles & Responsibilities
I	ORSA Result	<ul style="list-style-type: none"> • ORSA position through reporting period 	<ul style="list-style-type: none"> • Actuarial – stochastic model outputs
J	Comparison with SCR	<ul style="list-style-type: none"> • Reporting date capital and solvency position 	<ul style="list-style-type: none"> • Actuarial – stochastic model outputs
K	Sensitivity Tests	<ul style="list-style-type: none"> • Stress and scenario testing 	<ul style="list-style-type: none"> • Risk Management – define scenarios • Actuarial – run scenarios through model
L	Assessment of governance system	<ul style="list-style-type: none"> • Risk governance 	<ul style="list-style-type: none"> • Risk Management
M	Documentary evidence of process & result	<ul style="list-style-type: none"> • Reviewed annually • Reviewed annually • Reviewed annually • Reviewed annually • Timetable? 	<ul style="list-style-type: none"> • Risk Management – versions of ORSA ‘living’ document • Actuarial – ORSA results from stochastic model
		<ul style="list-style-type: none"> • Updated quarterly in line with business plan reforecasts 	

The overlap between the ORSA and the Use Test



ORSA Report - Caveats

- The following slides set out a template for the structure and content of the ORSA report, but:
 - This is only a suggested template – the ORSA needs to be tailored to the specificities of the company
 - The ORSA report should be a management-style living document, evidencing the embedding in decision making
 - Detailed actuarial analysis and risk reporting could be referenced or included as appendices
 - Level of detail in each area should be proportionate to the scale, nature and complexity of the underlying risks
 - Proportionality works both ways!

ORSA – The end product

Template for ORSA Report

Section	Section Heading
1	Overview of ORSA process
2	Business model, strategy and planning
3	Risk appetite & tolerance
4	Risk governance
5	Risk identification and assessment
6	Reporting date capital and solvency position
7	Projections of capital and solvency position
8	Stress and scenario testing
9	Capital and liquidity planning
10	Decision-making
11	Risk profile monitoring
12	Results of independent review

ORSA Report

1. Overview of ORSA process

- 1.1.1. Introduction
- 1.1.2. Key issues
- 1.1.3. High level summary
- 1.1.4. Housekeeping items

2. Business Model, Strategy and Planning

- 2.1.1. Legal and organisational structure
- 2.1.2. Company history
- 2.1.3. Business model and Strategy
- 2.1.4. Target market
- 2.1.5. Current business plan
- 2.1.6. Business plan and business model monitoring

ORSA Report (continued)

3. Risk appetite and tolerance

- 3.1.1. Summary of risk appetite setting process
- 3.1.2. Risk appetite statement
- 3.1.3. Framework for management of risk measures and limits

4. Risk Governance

- 4.1.1. Outline of the firm's risk management framework
- 4.1.2. Integration of ORSA into the management process and decision-making framework of the undertaking
- 4.1.3. Frameworks for governance processes
- 4.1.4. Assessment of remaining weaknesses in company's risk management procedures, systems and controls
- 4.1.5. Assessment of governance of outsourcing

ORSA Report (continued)

5. Risk identification and assessment

- 5.1.1. Overview of risk identification, assessment, management and mitigation process
- 5.1.2. Description of the major/material risks faced within each risk category and why it is acceptable (also planned mitigating actions)
- 5.1.3. Quantitative assessment of risks
- 5.1.4. Qualitative assessment of risks
- 5.1.5. Explanation of methods other than capital used to mitigate risks

6. Reporting date capital and solvency position

- 6.1.1. Quantification of capital requirements at the reporting date
- 6.1.2. Ensuring capital and solvency calculations are up-to-date
- 6.1.3. Benchmarking of capital requirements
- 6.1.4. Quality assurance and review of capital and solvency position
- 6.1.5. Solvency assessment through reporting period
- 6.1.6. Assessment of remaining uncertainty with use of models

ORSA Report (continued)

7. Projections of capital and solvency position

- 7.1.1. Projections of capital and solvency position on a regulatory basis
- 7.1.2. Projections of capital and solvency position on an economic (business) basis
- 7.1.3. Projection approach and validation

8. Stress and scenario testing

- 8.1.1. Stress and scenario test methodology
- 8.1.2. Identification and evaluation of scenarios and stress tests
- 8.1.3. Use of scenarios and stress tests
- 8.1.4. Quality assurance and review

ORSA Report (continued)

9. Capital and liquidity planning

- 9.1.1. Quantification of future cash flows and capital requirements
- 9.1.2. Use of capital and liquidity planning in business decisions
- 9.1.3. Quality assurance and review

10. Decision-making

- 10.1.1. Embedding of ORSA in operational processes, risk management and strategic decision making
- 10.1.2. Management buy-in
- 10.1.3. Ensuring ongoing appropriateness of ORSA

ORSA Report (continued)

- **11. Risk profile monitoring**
 - 11.1.1. Risk and solvency profile elements
 - 11.1.2. Risk and solvency profile monitoring process
 - 11.1.3. Risk and solvency profile through reporting period
- **12. Results of independent review**
 - 12.1.1. Independent assessment process
 - 12.1.2. Results of independent assessment

Challenges for actuaries

- **Complex modelling**
 - Multi-year projections
 - Management actions
 - Aligning with own risk metrics
- Ensuring ongoing appropriateness
 - Real-time results
 - Risk profile monitoring
 - Stronger feedback mechanisms
- Embedding and management buy-in
- Clarifying and validating data, processes and assumption
- Capital allocation

....**Building on traditional actuarial skills**

Opportunities for actuaries

- Involvement in risk management
 - Risk appetite setting / allocation
 - Is the risk appetite specified by management correct?
- Involvement in wider business processes
 - Business planning
 - Strategic decision making
- Bridging technical elements of business and risk mgmt
- Role in explaining the capital impact of diverse risk events

...Developing non-traditional actuarial skills