



National Association of Insurance Commissioners

# NAIC OWN RISK AND SOLVENCY ASSESSMENT (ORSA) GUIDANCE MANUAL

As of July 2014





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National Association of Insurance Commissioners

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# **NAIC OWN RISK AND SOLVENCY ASSESSMENT (ORSA) GUIDANCE MANUAL**

**Maintained by the  
Own Risk and Solvency Assessment (ORSA) (E) Subgroup  
of the Financial Condition (E) Committee**

As of July 2014

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Not for reprint

**Date:** July 14, 2014

**To:** Users of the *NAIC Own Risk and Solvency Assessment (ORSA) Guidance Manual*

**From:** Own Risk and Solvency Assessment (ORSA) (E) Subgroup

This edition of the *NAIC Own Risk and Solvency Assessment (ORSA) Guidance Manual* has been revised from the previous edition. The following summarizes the most significant changes since the March 2013 edition:

1. Added to the General Guidance section clarification that the foundation of the ORSA Summary Report should be tied to the insurer's reporting to the board of directors.
2. Added to the General Guidance section clarification regarding ORSAs encompassing only U.S. insurance operations.
3. Added to Section III clarification of prospective solvency assessment related to projected changes in risk exposures.

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## TABLE OF CONTENTS

	<b>PAGE</b>
I. INTRODUCTION	1
A. EXEMPTION	1
B. APPLICATION FOR WAIVER	3
C. GENERAL GUIDANCE	3
II. SECTION 1 – DESCRIPTION OF THE INSURER'S RISK MANAGEMENT FRAMEWORK	6
III. SECTION 2 – INSURER'S ASSESSMENT OF RISK EXPOSURES	7
IV. SECTION 3 – GROUP ASSESSMENT OF RISK CAPITAL AND PROSPECTIVE SOLVENCY ASSESSMENT	8
A. GROUP ASSESSMENT OF RISK CAPITAL	8
B. PROSPECTIVE SOLVENCY ASSESSMENT	10
V. APPENDIX – GLOSSARY	12

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**The requirements outlined in this Manual are based on the requirements of the *Risk Management and Own Risk and Solvency Assessment Model Act* (#505). An insurer using this Manual should refer to the laws adopted by the insurer's state of domicile when determining its requirements for risk management, its Own Risk and Solvency Assessment (ORSA) and for preparing its ORSA Summary Report.**

## **I. INTRODUCTION**

The purpose of this Manual is to provide guidance to an insurer and/or an insurance group of which the insurer is a member (hereinafter referred to as "insurer" or "insurers") with regard to reporting on its Own Risk and Solvency Assessment (ORSA) [as required by the domestic state's version of the *Risk Management and Own Risk and Solvency Assessment Model Act* (#505)].

The ORSA, which is a component of an insurer's enterprise risk management (ERM) framework, is a confidential internal assessment appropriate to the nature, scale and complexity of an insurer conducted by that insurer of the material and relevant risks identified by the insurer associated with an insurer's current business plan and the sufficiency of capital resources to support those risks. As described below, an insurer that is subject to the ORSA requirements will be expected to:

- (1) Regularly, no less than annually, conduct an ORSA to assess the adequacy of its risk management framework, and current and estimated projected future solvency position;
- (2) Internally document the process and results of the assessment; and
- (3) Provide a confidential high-level ORSA Summary Report annually to the lead state commissioner if the insurer is a member of an insurance group and, upon request, to the domiciliary state regulator.

The ORSA has two primary goals:

1. To foster an effective level of ERM at all insurers, through which each insurer identifies, assesses, monitors, prioritizes and reports on its material and relevant risks identified by the insurer, using techniques that are appropriate to the nature, scale and complexity of the insurer's risks, in a manner that is adequate to support risk and capital decisions; and
2. To provide a group-level perspective on risk and capital, as a supplement to the existing legal entity view.

An insurer that is subject to the ORSA requirement should consider the guidance provided in this Manual when conducting its ORSA and compiling its ORSA Summary Report. As the process and results are likely to include proprietary and forward-looking information, any ORSA Summary Report submitted to the commissioner shall be confidential by state law.

## **A. Exemption**

An insurer shall be exempt from maintaining a risk management framework, conducting an ORSA and filing an ORSA Summary Report, if:

- a. The individual insurer's annual direct written and unaffiliated assumed premium, including international direct and assumed premium but excluding premiums reinsured with the Federal Crop Insurance Corporation and the National Flood Insurance Program, is less than \$500 million; and
- b. If the insurer is a member of an insurance group and the insurance group's (all insurance legal entities within the group) annual direct written and unaffiliated assumed premium, including international direct and assumed premium but excluding premiums reinsured with the Federal Crop Insurance Corporation and the National Flood Insurance Program, is less than \$1 billion.

If the insurer does not qualify for exemption, upon the commissioner's request, and no more than once each year, an insurer shall submit to the commissioner an ORSA Summary Report or any combination of reports that together contain the information described in this Manual. For example, the property/casualty insurers within a group could be included in one ORSA Summary Report or combination of reports, and the life insurers within the same group could be included in another ORSA Summary Report or combination of reports, if those groups operate under different ERM frameworks. Notwithstanding any request from the commissioner, if the insurer is a member of an insurance group, the insurer shall submit the ORSA Summary Report(s) required by this Manual to the lead state commissioner of the insurance group. The lead state is determined by the procedures within the *Financial Analysis Handbook*.

If an insurer qualifies for exemption pursuant to paragraph a., but the insurance group of which the insurer is a member does not qualify for exemption pursuant to paragraph b., then the insurer may supply an ORSA Summary Report in any combination, as long as every insurer within the group is covered by the ORSA Summary Report(s).

If an insurer does not qualify for exemption pursuant to paragraph a., but the insurance group of which it is a member qualifies for exemption under paragraph b., then the only ORSA Summary Report that may be required is the report of that insurer. However, such exemption does not eliminate the requirement for any insurer that is subject to Model #505 to complete Section III – Group Assessment of Risk Capital and Prospective Solvency Assessment.

Notwithstanding the above exemptions, the commissioner may require the insurer to maintain a risk management framework, conduct an ORSA and file an ORSA Summary Report based on unique circumstances including, but not limited to, the type of business written, ownership and organizational structure, federal agency requests, international supervisor requests, regulatory concerns about rapidly growing concentration of risk or risk exposure.

A commissioner also may require the insurer to maintain a risk management framework, conduct an ORSA and file an ORSA Summary Report if the insurer has triggered an RBC company action level event, meets one or more of the standards of an insurer deemed to be in hazardous financial condition, or otherwise exhibits qualities of a troubled insurer, as determined by the commissioner.

If an insurer that qualifies for an exemption subsequently no longer qualifies for that exemption due to changes in premium, as reflected in the insurer's most recent annual financial statement or in the most recent annual financial statements of the insurers within the insurance group of which the insurer is a member, the insurer shall have one (1) year following the year the threshold is exceeded to comply with the ORSA requirements.

## **B. Application for Waiver**

An insurer that does not qualify for exemption may apply to the commissioner for a waiver from the requirements of the ORSA based upon unique circumstances. The commissioner may consider various factors including, but not limited to, the type of business entity, and volume of business written and material reduction in risk or risk exposures. If the insurer is part of a non-exempted insurance group, the commissioner shall coordinate with the lead state commissioner and the other domiciliary commissioners in considering the request for a waiver.

## **C. General Guidance**

The ORSA should be one element of an insurer's ERM framework. The ORSA and the ORSA Summary Report link the insurer's risk identification, assessment, monitoring, prioritization and reporting processes with capital management and strategic planning. Each insurer's ORSA and ORSA Summary Report will be unique, reflecting the insurer's business, strategic planning and approach to ERM. The commissioner will utilize the ORSA Summary Report to gain a high-level understanding of the insurer's ORSA. The ORSA Summary Report will be supported by the insurer's internal risk-management materials.

To allow the commissioner to achieve a high level understanding of the insurer's ORSA, the ORSA Summary Report should discuss three major areas, which will be referred to as the following sections:

- **Section 1** – Description of the Insurer's Risk Management Framework
- **Section 2** – Insurer's Assessment of Risk Exposure
- **Section 3** – Group Assessment of Risk Capital and Prospective Solvency Assessment

When developing an ORSA Summary Report, the content should be consistent with the ERM information that is reported to senior management and/or the board of directors or appropriate committee. While some of the format, structure and content of the ORSA Summary Report may be tailored for the regulator, the content should be based on the insurer's internal reporting of its ERM information. The ORSA Summary Report itself does not need to be the medium of reporting its ERM to the board of directors or appropriate committee, and the report to the board of directors or appropriate committee may not be at the same level of detail as the ORSA Summary Report.

In order to aid the commissioner's understanding of the information provided in the ORSA Summary Report, it should include certain key information. The ORSA Summary Report should identify the basis(es) of accounting for the report (e.g., generally accepted accounting principles, statutory accounting principles or international financial reporting standards) and the date or time period that the numerical information represents. The ORSA Summary Report should also

explain the scope of the ORSA conducted such that the report identifies which insurer(s) are included in the report. This may be accomplished by including an organizational chart. In subsequent years, the ORSA Summary Report should also include a short summary of material changes to the ORSA from the prior year, including supporting rationale, as well as updates to the sections listed above, if applicable.

The commissioner may develop a deeper understanding of the insurer's ERM framework upon examination or an annual risk-focused update. Additionally, as part of the risk-focused analysis and/or examination process, the commissioner may also request and review confidential supporting materials to supplement his/ her understanding of information contained in the ORSA Summary Report. These materials may include risk management policies or programs, such as the insurer's underwriting, investment, claims, asset-liability management (ALM), reinsurance counterparty and operational risk policies.

This Manual is intended to provide guidance for completing each section of the ORSA Summary Report. The depth and detail of information is likely to be influenced by the nature and complexity of the insurer and should be updated at least annually for the insurer. The insurer is permitted discretion to determine how best to communicate its ERM processes. An insurer may avoid duplicative information and supporting documents by referencing other documents, provided those documents are available to the regulator upon examination or upon request. In order to ensure that the commissioner is receiving the most current information from an insurer, the timing for filing the ORSA Summary Report during the calendar year may vary from insurer to insurer, depending on when an insurer conducts its internal strategic planning process. In any event, the ORSA Summary Report shall be filed once each year, with the insurer apprising the commissioner as to the anticipated time of filing.

The ORSA Summary Report shall include a signature of the insurer's chief risk officer or other executive having responsibility for the oversight of the insurer's ERM process attesting to the best of his/her belief and knowledge that the insurer applies the ERM process described in the ORSA Summary Report and that a copy of the ORSA Summary Report has been provided to the insurer's board of directors or the appropriate committee.

An insurer may comply with the ORSA requirement by providing the most recent report(s)<sup>1</sup> filed by the insurer or another member of an insurance group of which the insurer is a member to the commissioner of another state or to a supervisor or regulator of a foreign jurisdiction, if that report provides information that is comparable to the information described in this Manual. If a U.S. state insurance commissioner is the global group-wide supervisor, the U.S. state insurance commissioner should receive the ORSA Summary Report covering all group-wide insurance operations. If the U.S. is not the global group-wide supervisor, the insurer may file ORSA Summary Reports encompassing, at a minimum, the U.S. insurance operations, as long as the lead state receives ORSA Summary Reports encompassing the non-U.S. insurance operations from the global group-wide supervisor. If an ORSA Summary Report encompassing the non-U.S. insurance operations is not provided by the global group-wide supervisor, it should be provided by the insurer. If the insurer files an ORSA Summary Report encompassing only the U.S. insurance operations, and in it the insurer states that the U.S. ERM framework is based on

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<sup>1</sup>Reports filed to foreign jurisdictions that are a report on an insurer's ORSA shall henceforth for purposes of this Manual be referred to as an "ORSA Summary Report,"

the insurers' global ERM framework, then the global ERM framework should be explained either within the U.S. ORSA Summary Report or in an ORSA Summary Report encompassing the non-U.S. insurance operations and be provided to the lead state at a time agreed to by the insurer and the lead state. If the report is in a language other than English, it must be accompanied by a translation into the English language. The commissioner should discuss with the global group-wide supervisor from the relevant foreign jurisdiction(s) the report received from the global group-wide supervisor to inquire of any concerns and to either confirm that the report was compliant with the foreign jurisdiction's requirements or consistent with the applicable principles outlined in the International Association of Insurance Supervisors (IAIS) Insurance Core Principle (ICP) 16: Enterprise Risk Management (ERM), as well as this Manual to determine if additional information is needed. The commissioner will, where possible, avoid creating duplicative regulatory requirements for internationally active insurers.

In analyzing an ORSA Summary Report, the commissioner will expect that the report represents a work product of the ERM framework that include all of the material risks identified by the insurer to which an insurer or insurers (if applicable) is exposed.

The ORSA Summary Report may assist the commissioner in determining the scope, depth and minimum timing of risk-focused analysis and examination procedures. For example, insurers may have varying ERM frameworks, ranging from a business plan to a combination of investment plans and underwriting policies to more complex risk-management processes and sophisticated modeling. Insurers with ERM frameworks appropriate to their risk profile may not require the same scope or depth of review upon examination and analysis as those with less relatively comprehensive ERM frameworks. Therefore, the insurer should consider whether the ORSA Summary Report demonstrates the strengths of its framework, including how it meets the guidelines within this Manual for the relative risk of the insurer.

In addition to the ORSA Summary Report, the insurer should internally document the ORSA results to facilitate a more in-depth review by the commissioner through analysis and examination processes. Such review may depend on several factors, such as the nature and complexity, financial position and/or prioritization of the insurer, as well as external considerations such as the economic environment. These factors may result in the commissioner requesting additional information about the insurer's ERM framework through the financial analysis or examination processes. The information requested may include, but is not limited to, risk management policies and programs, such as the insurer's underwriting, investment, claims, duration or asset-liability management, as well as reinsurance counterparty or operational risk policies.

## II. SECTION 1 – DESCRIPTION OF THE INSURER’S ENTERPRISE RISK MANAGEMENT FRAMEWORK

An effective ERM framework should, at a minimum, incorporate the following key principles:

- **Risk Culture and Governance** – Governance structure that clearly defines and articulates roles, responsibilities and accountabilities; and a risk culture that supports accountability in risk-based decision-making.
- **Risk Identification and Prioritization** – Risk identification and prioritization process that is key to the organization; responsibility for this activity is clear; the risk management function is responsible for ensuring that the process is appropriate and functioning properly at all organizational levels.
- **Risk Appetite, Tolerances and Limits** – A formal risk appetite statement, and associated risk tolerances and limits are foundational elements of risk management for an insurer; understanding of the risk appetite statement ensures alignment with risk strategy by the board of directors.
- **Risk Management and Controls** – Managing risk is an ongoing ERM activity, operating at many levels within the organization.
- **Risk Reporting and Communication** – Provides key constituents with transparency into the risk-management processes and facilitate active, informal decisions on risk-taking and management.

Section 1 of the ORSA Summary Report should provide a high-level summary of the aforementioned ERM framework principles, if present. The ORSA Summary Report should describe how the insurer identifies and categorizes relevant and material risks and manages those risks as it executes its business strategy. The ORSA Summary Report should also describe risk-monitoring processes and methods, provide risk appetite statements, and explain the relationship between risk tolerances and the amount and quality of risk capital. The ORSA Summary Report should identify assessment tools (feedback loops) used to monitor and respond to any changes in the insurer’s risk profile due to economic changes, operational changes or changes in business strategy. Finally, the ORSA Summary Report should describe how the insurer incorporates new risk information in order to monitor and respond to changes in its risk profile due to economic and/or operational changes and changes in strategy.

The manner and depth in which the insurer addresses these principles is dependent upon its own risk-management processes. Any strengths or weaknesses noted by the commissioner in evaluating this section of the ORSA Summary Report will have relevance to the commissioner’s ongoing supervision of the insurer, and the commissioner will consider the entirety of the risk management program and its appropriateness for the risks of the insurer.

### **III. SECTION 2 – INSURER ASSESSMENT OF RISK EXPOSURES**

Section 2 of the ORSA Summary Report should provide a high-level summary of the quantitative and/or qualitative assessments of risk exposure in both normal and stressed environments for each material risk category in Section 1. This assessment process should consider a range of outcomes using risk assessment techniques that are appropriate to the nature, scale and complexity of the risks. Examples of relevant material risk categories may include, but are not limited to, credit, market, liquidity, underwriting and operational risks.

Section 2 may include detailed descriptions and explanations of the material and relevant risks identified by the insurer, the assessment methods used, key assumptions made, risk-mitigation activities and outcomes of any plausible adverse scenarios assessed. The assessment of each risk will depend on its specific characteristics. For some risks, quantitative methods may not be well established and, in these cases, a qualitative assessment may be appropriate. Examples of these risks may include certain operational and reputational risks. In addition, each insurer's quantitative methods for assessing risk may vary; however, insurers generally consider the likelihood and impact that each material and relevant risk identified by the insurer will have on the firm's balance sheet, income statement and future cash flows. Methods for determining the impact on future financial position may include simple stress tests or more complex stochastic analyses. When evaluating a risk, the insurer should analyze the results under both normal and stressed environments. Lastly, the insurer's risk assessment should consider the impact of stresses on capital, which may include consideration of risk capital requirements, available capital, as well as regulatory, economic, rating agency and/or other views of capital requirements.

The analysis should be conducted in a manner that is consistent with the way in which the business is managed, whether on a group, legal entity or other basis. Stress tests for certain risks may be performed at the group level. Where relevant to the management of the business, some group-level stresses may be mapped into legal entities. The commissioner may request additional information to map the results to an individual insurance legal entity.

Any risk tolerance statements should include material quantitative and qualitative risk tolerance limits and how the tolerance statements and limits are determined, taking into account relevant and material categories of risk and the risk relationships that are identified.

Because the risk profile of each insurer is unique, each insurer should utilize assessment techniques (e.g., stress tests, etc.) applicable to its risk profile. U.S. insurance regulators do not believe there is a standard set of stress conditions that each insurer should test. The commissioner may provide input regarding the level of stress that the insurer's management should consider for each risk category. The ORSA Summary Report should provide a general description of the insurer's process for model validation, including factors considered and model calibration. Unless a particular assumption is stochastically modeled, the group's management should set assumptions regarding the expected values based on its current anticipated experience, what it expects to occur during the next year or multiple future years, and consideration of expert judgment. The commissioner may provide input to an insurer's management on the assumptions and scenarios to be used in its assessment techniques. For assumptions that are stochastically

modeled, the commissioner may provide input on the level of the measurement metric to use in the stressed condition or specify particular parameters used in the economic scenario generator. Commissioner input will likely occur during the financial analysis process and/or the financial examination process.

By identifying each material risk category independently and reporting results in both normal and stressed conditions, insurer management and the commissioner are better placed to evaluate certain risk combinations that could cause an insurer to fail. One of the most difficult exercises in modeling insurer results is determining the relationships, if any, between risk categories. History may provide some empirical evidence of relationships, but the future is not always best estimated by historical data.

#### **IV. SECTION 3 – GROUP ASSESSMENT OF RISK CAPITAL AND PROSPECTIVE SOLVENCY ASSESSMENT**

Section 3 of the ORSA Summary Report should describe how the insurer combines the qualitative elements of its risk management policy with the quantitative measures of risk exposure in determining the level of financial resources needed to manage its current business and over a longer term business cycle (e.g., the next one to three years). The group risk capital assessment should be performed as part of the ORSA regardless of the basis (group, legal entity or other subset basis) and in a manner that encompasses the entire insurance group. The information provided in Section 3 is intended to assist the commissioner in assessing the quality of the insurer's risk and capital management.

##### **A. Group Assessment of Risk Capital**

Within the Group Assessment of Risk Capital, aggregate available capital is compared against the various risks that may adversely affect the enterprise. The insurer should consider how the group capital assessment is integrated into the insurer's management and decision-making culture, how the insurer evaluates its available capital and how risk capital is integrated into its capital-management activities.

The insurer should have sound processes for assessing capital adequacy in relation to its risk profile and those processes should be integrated into the insurer's management and decision-making culture. These processes may assess risk capital through myriad metrics and future forecasting periods, reflecting varying time horizons, valuation approaches and capital management strategies (e.g., mix of capital). While a single internal risk capital measure may play a primary role in internal capital adequacy assessment, insurers may evaluate how risk and capital interrelate over various time horizons, or through the lens of alternative risk capital or accounting frameworks (i.e., economic, rating agency, and/or regulatory frameworks). This section is intended to assist the commissioner in understanding the insurer's capital adequacy in relation to its aggregate risk profiles.

The group capital assessment should include a comparative view of risk capital from the prior year, including an explanation of the changes, if not already explained in another section of the ORSA Summary Report. This information may also be requested by the commissioner



throughout the year, if needed (e.g., if material changes in the macroeconomic environment and/or microeconomic facts and circumstances suggest the information is needed for the ongoing supervisory plan).

The analysis of an insurer’s group assessment of risk capital requirements and associated capital adequacy description should be accompanied by a description of the approach used in conducting the analysis. This should include key methodologies, assumptions and considerations used in quantifying available capital and risk capital. Examples might include:

<b>Considerations</b>	<b>Description of Methodologies and Assumptions</b>	<b>Examples (not exhaustive)</b>
<b>Definition of Solvency</b>	Describe how the insurer defines solvency for the purpose of determining risk capital and liquidity requirements.	Cash flow basis; balance sheet basis
<b>Accounting or Valuation Regime</b>	Describe the accounting or valuation basis for the measurement of risk capital requirements and/or available capital.	GAAP; statutory; economic or market consistent; IFRS; rating agency model
<b>Business Included</b>	Describe the subset of business included in the analysis of capital.	Positions as of a given valuation date; New business assumptions
<b>Time Horizon</b>	Describe the time horizon over which risks were modeled and measured.	One-year, multi-year; lifetime; run-off
<b>Risks Modeled</b>	Describe the risks included in the measurement of risk capital, including whether all relevant and material risks identified by the insurer have been considered.	Credit; market; liquidity; insurance; operational
<b>Quantification Method</b>	Describe the method used to quantify the risk exposure.	Deterministic stress tests; stochastic modeling; factor-based analysis
<b>Risk Capital Metric</b>	Describe the measurement metric utilized in the determination of aggregate risk capital.	Value-at-risk (VAR), which quantifies the capital needed to withstand a loss at a certain probability; tail-value-at-risk (TVAR), which quantifies the capital needed to withstand average losses above a certain probability; probability of ruin, which quantifies the probability of ruin given the capital held

Considerations	Description of Methodologies and Assumptions	Examples (not exhaustive)
<b>Defined Security Standard</b>	Describe the defined security standard utilized in the determination of risk capital requirements, including linkage to business strategy and objectives.	AA solvency; 99.X% 1-year VAR; Y% TVAR or CTE; X% of RBC
<b>Aggregation and Diversification</b>	Describe the method of aggregation of risks and any diversification benefits considered or calculated in the group risk capital determination.	Correlation matrix; dependency structure; sum, full/partial/no diversification

The approach and assessment of group-wide capital adequacy should also consider the following:

- Elimination of intra-group transactions and double-gearing where the same capital is used simultaneously as a buffer against risk in two or more entities;
- The level of leverage, if any, resulting from holding company debt;
- Diversification credits and restrictions on the fungibility of capital within the holding company system, including the availability and transferability of surplus resources created by holding company system level diversification benefits;
- The effects of contagion risk, concentration risk and complexity risk in the group assessment of risk capital; and
- The effect of liquidity risk, or calls on the insurer's cash position, due to micro-economic factors (i.e., internal operational) and/or macro-economic factors (i.e., economic shifts).

The goal of the group capital assessment is to provide an overall determination of risk capital needs for the insurer, based upon the nature, scale and complexity of risk within the group and its risk appetite, and to compare that risk capital to available capital to assess capital adequacy. Group assessment of risk capital should not be perceived as the minimum amount of capital before regulatory action will result (e.g., the triggers in the *Risk-Based Capital (RBC) for Insurers Model Act* (#312)); rather, it should be recognized that this is the capital needed within a holding company system to achieve its business objectives.

## **B. Prospective Solvency Assessment**

The insurer's capital assessment process should be closely tied to business planning. To this end, the insurer should have a robust capital forecasting capability that supports its management of risk over the planning time horizon in line with its stated risk appetite. The forecasting process should consider material and relevant changes identified by the insurer to the insurer's internal operations and the external business environment. It should also consider the prospect of operating in both normal and stressed environments.

The insurer's prospective solvency assessment should demonstrate it has the financial resources necessary to execute its multi-year business plan in accordance with its stated risk appetite. If the insurer does not have the necessary available capital (in terms of quantity and/or quality) to meet its current and projected risk capital requirements then it should describe the management actions it has taken (or will take) to remedy any capital adequacy concerns. These management

actions may include or describe any modifications to the business plan or identification of additional capital resources.

The prospective solvency assessment is, in effect, a feedback loop. The insurer should project its future financial position, including its projected economic and regulatory capital to assess its ability to meet the regulatory capital requirements. Factors to be considered are the insurer's current risk profile, its risk management policy, and its quality and level of capital, including any changes to its current risk profile caused by executing the multi-year business plan. The prospective solvency assessment should also consider both normal and stressed environments.

While the prospective solvency assessment includes capital projections, the prospective solvency assessment should also include a discussion of prospective risks impacting the capital projections. This discussion should address whether risk exposures are expected to increase or decrease in the future and what steps the insurer plans to take that may change its risk exposures. The term "prospective" should pertain to both existing risks likely to intensify and emerging risks with the potential to impact the insurer in the future.

If the prospective solvency assessment is performed for each individual insurer, the assessment should take into account any risks associated with group membership. Such an assessment may involve a review of any group solvency assessment and the methodology used to allocate group capital across insurance legal entities, as well as consideration of capital fungibility; i.e., any constraints on risk capital or the movement of risk capital to legal entities.

#### IV. APPENDIX – GLOSSARY

Term	Definition
Available Capital	The amount of resources that an enterprise has at a given point in time under a defined valuation or accounting basis (e.g., economic, statutory, GAAP, or a combination) to support its business and under the defined valuation represents the insurers assessment of the types of capital required to support its business.
Conditional Tail Expectation (CTE) [Also known as Tail Value at Risk or TVaR]	A measure of the amount of risk that exists in the tail of a distribution of outcomes, expressed as the probability weighted average of the outcomes beyond a chosen point in the distribution. Typically expressed as CTE (1-x), which would be calculated as the probability weighted average of the worst x% of outcomes. For example, CTE 95 is calculated as the probability weighted average of the worst 5% of outcomes, CTE 97 is the probability weighted average of the worst 3% of outcomes, etc. CTE can be used as a way of defining a particular <i>security standard</i> .
Correlation Matrix	A symmetric matrix specifying pairwise interactions between a set of variables or data. A correlation matrix is commonly applied to risks or capital amounts and is an important determinant of calculated <i>risk capital</i> , including levels of <i>diversification</i> .
Deficit Capital	If the amount of <i>available capital</i> is less than the determined <i>risk capital</i> of an enterprise, then the enterprise is said to have <i>deficit capital</i> .
Defined Security Standard	Minimum threshold of <i>available capital</i> that a company wishes to achieve or maintain, consistent with the company's business strategy, <i>risk appetite</i> and <i>risk tolerance</i> .
Dependency Structure	Specification of the relationship between different variables. Commonly specified in a <i>correlation matrix</i> .
Diversification	The extent to which the combined impact of risks inherent to assets and liabilities is less than the sum of the impacts of each risk considered in isolation.
Double Gearing	Used to describe situations where multiple companies (typically parent and subsidiary) are using shared capital to buffer against risk occurring in separate entities.
Excess Capital	If the amount of <i>available capital</i> is greater than the determined <i>risk capital</i> of an enterprise, the enterprise is said to have <i>excess capital</i> .
Fungibility	Within a group context, the ability to redeploy <i>available capital</i> from one entity to another. Fungibility is reduced where the movement of <i>available capital</i> within the group is constrained or regulation prohibits it.
Group Capital	Group capital represents the aggregate <i>available capital</i> or <i>risk capital</i> for the entire group. It will be impacted by the interaction of the risks and capital of the individual entities within the group, with properties such as <i>diversification</i> , <i>fungibility</i> and the quality and form of capital being important drivers.
Probability of Ruin	Likelihood of liabilities exceeding assets for a given time horizon.

<b>Term</b>	<b>Definition</b>
Risk Appetite	Documents the overall principles that a company follows with respect to risk-taking, given its business strategy, financial soundness objectives and capital resources. Often stated in qualitative terms, a risk appetite defines how an organization weighs strategic decisions and communicates its strategy to key stakeholders with respect to risk-taking. It is designed to enhance management's ability to make informed and effective business decisions while keeping risk exposures within acceptable boundaries.
Risk Capital	An amount of capital calculated to be sufficient to withstand adverse outcomes associated with various risks of an enterprise, up to a pre-defined <i>security standard</i> .
Risk Capital Metric	Quantitative variable used to gauge risk.
Risk Exposure	For each risk listed in the company's <i>risk profile</i> , the amount the company stands to lose due to that particular risk at a particular time, as indicated by a chosen metric.
Risk Limit	Typically quantitative boundaries that control the amount of risk that a company takes. Risk limits are typically more granular than <i>risk tolerances</i> and may be expressed at various levels of aggregation: by type of risk, category within a type of risk, product or line of business, or some other level of aggregation. Risk limits should be consistent with the company's overall <i>risk tolerance</i> .
Risk Profile	A delineation and description of the material risks to which an organization is exposed.
Risk Tolerance	The company's qualitative and quantitative boundaries around risk-taking, consistent with its <i>risk appetite</i> . Qualitative risk tolerances are useful to describe the company's preference for, or aversion to, particular types of risk, particularly for those risks that are difficult to measure. Quantitative risk tolerances are useful to set numerical limits for the amount of risk that a company is willing to take.
Security Standard	The level of a <i>measurement metric</i> used to determine <i>risk capital</i> . It signifies the strength of capital, and in practice, should be chosen to be consistent with the <i>risk appetite</i> and <i>risk tolerance</i> .
Solvency	For a given accounting basis, the state where, and extent to which, assets exceed liabilities.
Stochastic Analysis	A methodology designed to attribute a probability distribution to a range of possible outcomes. May use closed form solutions, or large numbers of scenarios in order to reflect the shape of the distribution.
Scenario Analysis	Analysis of the impact of possible future outcomes, based on alternative projected assumptions. This can include changes to a single assumption or combination of assumptions.
Stress Test	A type of scenario analysis in which the change in parameters is considered significantly adverse or even extreme.
Time Horizon	In the context of risk capital calculations, the period over which the impact of changes to risks is tested.
Value-at-Risk (VaR)	An estimate of the maximum loss over a certain period of time at a given confidence level.

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