



**Statement of Intent (SOI) for**  
**ISAP [5] – Insurer Enterprise Risk Models**  
*(Ratified by Council on 13 September 2014)*

**Submitted by: The Actuarial Standards Committee (ASC)**

**1. Background**

The financial soundness of insurance undertakings is essential to the financial management of most households and to public confidence in most major economies. It is expected that insurers will pay benefits and/or make good losses in accordance with their promises. Actuaries play a principal role in assuring financial soundness of insurers. Their tools include Enterprise Risk Management (ERM) and the use of enterprise risk models for assessment of capital. Enterprise risk models are those models that are developed for insurers to comprehensively and consistently evaluate risks. Examples include “Internal models” as defined under Solvency II and by the International Association of Insurance Supervisors (IAIS) as well as “Economic Capital Models”.

Insurer managements are responsible for establishing and operating frameworks to manage the risks to which their firms are exposed, recognising that the intrinsic nature of insurance is to share or to manage risk for customers. Additionally, almost all insurers are obliged to be subject to scrutiny by supervisors/regulators because of the need for public confidence. Techniques of enterprise risk modelling are an integral element of insurance undertaking management and also are required in the context of reporting to (and review by) supervisors.

More and more boards and senior managements of insurers rely on enterprise risk modelling, for both regulatory and management decision-making purposes. Regulators and supervisors place more emphasis on the so-called “use test” of such models. The central importance of enterprise risk models to insurance business management is captured in two of the core principles published by the IAIS for assessment and supervision of insurance firms:

- ICP 16 Enterprise Risk Management for Solvency Purposes;
- ICP 17 Capital Adequacy.

(While addressing the perspective of the supervisor, these core principles also offer firms guidance as to what is generally regarded as sound management practice.)



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ICP 16 discusses use of modelling/stress and scenario testing techniques both in relation to risk quantification generally and within the organisational process of assessing the financial resource implications of the insurer’s business plans (Own Risk and Solvency Assessment or ORSA). ICP 17 relates the firm’s ORSA to supervisory consideration of capital adequacy. It also includes extended consideration of what is required in order for a firm and supervisor to agree that a firm’s own model (“internal model”) may be relied upon by the supervisor for the determination of required financial resources.

Insurance firms, their stakeholders and interested supervisors all therefore have a strong interest in the reliable operation and transparent governance of the use of enterprise risk models by firms. Actuaries play an important role in advising firms and others on development or selection of appropriate models and testing techniques and in their continuing operation. They do this variously within responsible actuary roles and as advisers on risk management within or external to firms.

Hence the adoption of an appropriate model standard by the International Actuarial Association (IAA) that serves as a basis for actuarial standard setters can greatly raise the trust of users of actuarial services in this area.

The ASC is proposing two International Standards of Actuarial Practice (ISAPs) on ERM:

- ISAP [5] – Insurer Enterprise Risk Models (this ISAP); and
- ISAP [6] – ERM Programs and IAIS Insurance Core Principles.

At the same time the IAA’s Enterprise and Financial Risk Committee is developing a proposal for an International Actuarial Note (IAN) on Enterprise Risk Management. These three documents are intended to complement each other.

## 2. Purpose

Development and use of enterprise risk models is a rapidly growing and highly visible area of actuarial work. An ISAP (a model actuarial standard adopted by the IAA) is the most effective means to facilitate widely accepted convergence of principle-based actuarial standards within



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and across jurisdictions (as per Council decision in Vienna in October 2010 and the IAA Strategic Objective 3<sup>1</sup>). Hence ISAP [5] is expected to:

- Provide useful and high quality guidance to actuaries providing actuarial services in relation to enterprise risk models, to facilitate widely accepted convergence of principle-based actuarial standards within and across jurisdictions;
- Help to increase public confidence in the ERM work provided by actuaries – With a robust set of standards, the public (including users of actuarial work products, employers and regulators/supervisors) will be more confident in ERM work produced by actuaries. Given the recent performance of the financial services industry, it is clearly in the public interest to promote enhanced ERM practices subject to strict professional standards to lessen future market turmoil.
- Help to achieve greater transparency and consistency – Prior to the financial crisis many firms had ERM processes, but there was little, if any, consistency or comparability. In addition, many ERM practitioners were applying techniques that were often new and untested. Actuaries have a 100+ year history of providing assessments of many types of risk. Actuaries are expanding this discipline into the areas of contingent losses that are not a direct part of traditional actuarial assessments but which will rely heavily on the time-proven techniques that underlie many traditional analyses of risk. An ERM standard is desirable to support these actuaries.
- Help to give comfort and confidence to boards/managements and regulators of insurance companies – The lack of a coherent set of standards puts all users of ERM work products in the difficult position of evaluating the quality of the work without knowing if it was done in a professional manner. Managers and regulators want to feel comfortable about the quality of ERM work they are reviewing and relying on. They will rely more readily on actuaries who practice within a set of clearly articulated professional standards. Thus ISAP [5] will help build the acceptance of, trust in, and reliance on actuarial services in this area of practice provided in compliance with a professional standard substantially consistent with the proposed ISAP [5].

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<sup>1</sup> Establish, maintain and promote common standards of actuarial education and common principles of professional conduct. Promote the development and issuance of actuarial standards in the jurisdictions of all Full Member Associations, and the global convergence of actuarial standards.



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- Help to promote the development of the actuarial profession – ERM is an evolving discipline and the proposed ISAP will be drafted so as not to slow or stop further developments of this field. Taking a lead role in the development of professional standards for ERM practice, in conjunction with the CERA educational initiative, will clearly establish the actuarial profession as the thought leader in this area.
- Demonstrate the IAA’s commitment to support the work of the profession in achieving acceptance of actuaries as valuable professionals in the ERM area.

The guidance provided in ISAP [5] is intended to motivate Member Associations of the IAA and their standard-setters to consider adopting or adapting ISAP [5] for their membership.

### 3. Scope, roles and content

This standard will apply to actuaries when performing actuarial services involving the use of enterprise risk models, including stress and scenario tests, to assess solvency and produce risk metrics for ERM programs of insurance entities (both group and solo entities). ERM programs are defined as the processes undertaken by insurers to identify, assess, measure, manage and mitigate, monitor, control and report on risks in respect of the insurance enterprise as a whole. This is consistent with ICP 16.

For ERM programs, enterprise risk models and stress and scenario tests are primary sources of information about the risks associated with proposed plans for the insurer and for the actual risk that is taken and retained by the insurer in the course of executing the accepted plans. They provide quantitative guidance about the degree of diversification of the risks of the insurer and can have a major influence on the risk appetite and risk budget of the insurer.

This standard will assume compliance with ISAP 1 and will avoid restating considerations that are covered there. Issues discussed in ISAP 1 will be addressed if and only if the coverage in ISAP 1 requires further guidance in relation to Insurer Enterprise Risk Models. This standard will focus on processes involved in this work and will address underlying principles rather than prescriptions. In addition, the principle of proportionality will be reflected in the standard by stating that the work required should be proportionate to the nature, scale and complexity of the underlying risks. The following aspects of practice are proposed to be within its scope:

- Data quality considerations;
- Assessing consistency with the valuation bases;



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- Assumption setting;
- Scenario selection including calibration and stress and reverse stress tests;
- Model selection (including the use of proxies, roll forwards and basis risk assessment);
- Model validation;
- Review of results;
- Frequency of calculations;
- Assumption and model review and update process; and
- General considerations including risks arising in, controls to be applied to, and documentation requirements in relation to enterprise risk models and stress, reverse stress and scenario testing.

The ASC believes that some specific actuarial issues such as the following items are better addressed by one or more IANs rather than in an ISAP:

- Detailed model validation procedures;
- Detail of establishing probability distributions and testing of statistical quality;
- Specific requirements appropriate to the use of partial models (i.e. a model that combines elements of an insurer's own model and a model prescribed by regulation);
- Methods for verification of the accuracy and completeness of data;
- Detailed procedures for assessment of dependency and diversification of risks;
- Limitations of ERM-Models; and
- 'Governance Considerations' concerning ERM-Models.

The contents of ISAP [6] will be drafted in accordance with the [criteria and guidelines approved by the Actuarial Standards Committee](#). It is understood that the proposed ISAP will cover areas of emerging and developing practice where actuaries will sometimes be competing with others to provide services and it is not intended to unduly disadvantage actuaries working in such situations.



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### ***4. Principle of Subsidiarity***

The ASC considered whether the proposal for a model ISAP [5] conflicts with the principle of subsidiarity and concluded that it did not. The ASC confirms its intent that the proposed ISAP [5] is to comply with the principle of subsidiarity.