



International Actuarial Association  
Association Actuarielle Internationale

1 December 2018

**ISAP 1**  
**International Standard of  
Actuarial Practice 1**  
**General Actuarial Practice**

# ISAP 1

## International Standard of Actuarial Practice 1

### General Actuarial Practice

Adopted by the IAA Council 18 November 2012

Reformatted to move definitions to the Glossary 13 October 2013

Conformance changes adopted 23 April 2017

Revision adopted 1 December 2018



International Actuarial Association  
Association Actuarielle Internationale

**Tel:** +1-613-236-0886 **Fax:** +1-613-236-1386  
**Email:** [secretariat@actuaries.org](mailto:secretariat@actuaries.org)  
1203-99 Metcalfe, Ottawa ON K1P 6L7 Canada  
[www.actuaries.org](http://www.actuaries.org)

---

© International Actuarial Association/  
Association Actuarial Internationale

## TABLE OF CONTENTS

Preface.....	ii
Section 1. General.....	1
1.1. Purpose.....	1
1.2. Scope.....	1
1.3. Compliance .....	1
1.4. Applicability.....	1
1.5. Reasonable Judgment.....	2
1.6. Language .....	3
1.7. Cross-References .....	3
1.8. Effective Date .....	3
Section 2. Appropriate Practices.....	1
2.1. Acceptance of Assignment.....	1
2.2. Knowledge of Relevant Circumstances .....	1
2.3. Reliance on Others .....	1
2.4. Materiality.....	3
2.5. Data Quality .....	3
2.6. Assumptions and Methodology.....	4
2.7. Assumptions and Methodology Set by Actuary.....	4
2.8. Assumptions and Methodology Prescribed (other than by Law) .....	5
2.9. Assumptions and Methodology Mandated by Law.....	6
2.10. Model Governance.....	6
2.11. Process Management.....	8
2.12. Peer Review .....	8
2.13. Treatment of Subsequent Events.....	8
2.14. Retention of Documentation .....	8
Section 3. Communication.....	9
3.1. General Principles .....	9
3.2. Report.....	9

## Preface

**This International Standard of Actuarial Practice (ISAP) is a model for actuarial standard-setting bodies to consider.**

The International Actuarial Association ([IAA](#)) encourages relevant actuarial standard-setting bodies to maintain a standard or set of standards that is substantially consistent with this ISAP to the extent that the content of this ISAP is appropriate for [actuaries](#) in their jurisdiction. This can be achieved in many ways, including:

- Adopting this ISAP as a standard with only the modifications in the Drafting Notes;
- Customizing this ISAP by revising the text of the ISAP to the extent deemed appropriate by the standard-setting body while ensuring that the resulting standard or set of standards is substantially consistent with this ISAP;
- Endorsing this ISAP by declaring that this ISAP is appropriate for use in certain clearly defined circumstances;
- Modifying existing standards to obtain substantial consistency with this ISAP; or
- Confirming that existing standards are already substantially consistent with this ISAP.

A standard or set of standards that is promulgated by a standard-setting body is considered to be substantially consistent with this ISAP if:

- There are no material gaps in the standard(s) in respect of the principles set out in this ISAP; and
- The standard or set of standards does not contradict this ISAP.

If this ISAP is translated for the purposes of adoption, the adopting body should select three verbs that embody the concepts of “must”, “should”, and “may”, as described in paragraph 1.6 Language, even if such verbs are not the literal translation of “must”, “should”, and “may”.

**ISAPs are model standards of actuarial practice and, as such, are not binding on any [actuary](#).**

ISAP 1 was last revised in 2017 for conformance changes only. This new version of ISAP 1 (the first revision with any substantive changes) includes the guidance from ISAP 1A - Governance of Models which is being retired concurrently.

In referring to ISAPs, the unqualified name (e.g. ISAP 1) refers to the latest version of the ISAP adopted by Council. If there is a need to refer to a prior version of the ISAP, the year of adoption should be added in parentheses, e.g. ISAP 1 (2017). A standard setter wishing to declare substantial consistency with an older version of an ISAP should use this nomenclature.

ISAP 1 was adopted by the [IAA](#) Council in November 2012. The reformatted version (to accommodate the separate Glossary) was adopted in October 2013. The conforming version (with no material changes) was adopted in April 2017. This revision was adopted on 1 December 2018.

*[Drafting Notes – When an actuarial standard-setting organization adopts this ISAP it should:*

1. *Replace “ISAP” throughout the document with the local standard name, if applicable;*

2. *Choose the appropriate phrase and date in paragraph 1.8.;*
3. *Choose the appropriate phrase in sub-paragraph 2.1.2.a.;*
4. *Review this ISAP for, and resolve, any conflicts with the local [law](#) and code of professional conduct; and*
5. *Delete this preface (including these drafting notes) and the footnotes associated with paragraphs 1.8. and 2.1.2.a.]*

## Section 1. General

**1.1. Purpose** – This ISAP provides guidance to [actuaries](#) when performing [actuarial services](#) to give [intended users](#) confidence that

- [Actuarial services](#) are carried out professionally and with due care;
- The results are relevant to their needs, are presented clearly and understandably, and are complete; and
- The assumptions and methodology (including, but not limited to, [models](#) and modelling techniques) used are disclosed appropriately.

### 1.2. Scope

1.2.1. This ISAP is a general standard. It applies to all [actuarial services](#) performed by an [actuary](#) unless an element of guidance is explicitly superseded by another standard such as a practice-specific standard or by [law](#).

1.2.2. Usually, the intent of a practice-specific standard is to narrow the range of practice considered acceptable under the general standards. In exceptional cases, however, the intent of a practice-specific standard is to define as acceptable a practice that would not be acceptable under the general standards, in which case that intent is specifically noted by words in a practice-specific standard like: “Notwithstanding the general standards, the [actuary](#) should . . .”, followed by a description of the exception.

**1.3. Compliance** – An [actuary](#) may fail to follow the guidance in an ISAP but still comply with it where the [actuary](#):

1.3.1. Complies with requirements of [law](#) that conflict with the ISAP;

1.3.2. Complies with requirements of the actuarial code of professional conduct applicable to the [work](#) that conflict with the ISAP; or

1.3.3. Departs from the guidance in the ISAP and provides, in every [report](#) to which it is relevant, an appropriate statement with respect to the nature, rationale, and effect of any such departure if the guidance is expressed as “should”. If the guidance is expressed as “must”, the [actuary](#) may not depart from it unless paragraph 1.3.1. or paragraph 1.3.2. applies.

**1.4. Applicability** – ISAP 1 provides guidance to [actuaries](#) on general actuarial practice when performing [actuarial services](#). Other ISAPs do not repeat the general guidance provided in ISAP 1. Compliance with ISAP 1 is a prerequisite to compliance with all other ISAPs. An [actuary](#) who is performing these [actuarial services](#) may be acting in one of several capacities such as an employee, management, director, external adviser, auditor, or supervisory authority.

1.4.1. The application of the ISAP is clear when a single consulting [actuary](#) is performing [actuarial services](#) for a client who is not affiliated with the [actuary](#).

- 1.4.2. When a team is performing [actuarial services](#), most paragraphs of the ISAP apply to every [actuary](#) on the team. However, requirements in some paragraphs need not be met by every [actuary](#) on the team personally (e.g., 2.1.1.). In the case of such paragraphs, each [actuary](#) on the team should identify, if relevant to that [actuary](#)'s [work](#), which member of the team is responsible for complying with such requirements and be satisfied that the other team member accepts that responsibility.
- 1.4.3. When a team is performing [actuarial services](#), the team leader takes overall responsibility for the team's work product. An [actuary](#) who is not the team leader (and hence does not control the team's work product) should treat the team leader as the user and interpret the ISAP within that context.
- 1.4.4. If an [actuary](#) is performing [actuarial services](#) for an affiliated party (either individually or as a member of a team), the [actuary](#) should interpret the ISAP in the context of practices that apply normally within or in relation to the affiliated party, except that, if there are substantive inconsistencies between these practices and the ISAP, the [actuary](#) should endeavour to observe the spirit and intent of the ISAP as fully as possible.
- a. The [actuary](#) should consider the expectations of the [principal](#). These expectations might suggest that it may be appropriate to omit some of the otherwise required content in a [report](#). However, limiting the content of a [report](#) may not be appropriate if that [report](#) or the findings in that [report](#) may receive broad distribution.
  - b. If the [actuary](#) believes circumstances are such that including certain content in a [report](#) is not necessary or appropriate, the [actuary](#) should be prepared (if challenged by a professional actuarial body with jurisdiction over the [actuarial services](#)) to describe these circumstances and provide the rationale for limiting the content of that [report](#).

**1.5. Reasonable Judgment** – The [actuary](#) should exercise reasonable judgment in applying any ISAP.

- 1.5.1. A judgment is reasonable if it takes into account:
- a. The spirit and intent of the ISAPs;
  - b. The type of assignment; and
  - c. Appropriate constraints on time and resources.
- 1.5.2. Nothing in an ISAP should be interpreted as requiring work to be performed that is not proportionate to the scope of the decision or the assignment to which it relates and the benefit that [intended users](#) would be expected to obtain from the [work](#) (Principle of Proportionality).
- 1.5.3. Any judgment required by the ISAP (including implicit judgment) is intended to be the [actuary](#)'s [professional judgment](#) unless otherwise stated.

## 1.6. Language

- 1.6.1. Some of the language used in all ISAPs is intended to be interpreted in a very specific way in the context of a decision of the [actuary](#). In particular, the following words are to be understood to have the meanings indicated:
- “Must” means that the indicated action is mandatory and failure to follow the indicated action will constitute a failure to comply with the ISAP, unless the departure is due to a conflict with law (1.3.1.) or code of professional conduct (1.3.2.).
  - “Should” (or “shall”) means that, under normal circumstances, the [actuary](#) is expected to follow the indicated action, unless the departure is due to a conflict with law (1.3.1.) or code of professional conduct (1.3.2.). However, in all other cases, if following the indicated action would produce a result that would be inappropriate or would potentially mislead the [intended users](#) of the [actuarial services](#), the [actuary](#) should depart from the guidance and disclose that fact and provide the reason for not following the indicated action as described in paragraph 1.3.3.
  - “May” means that the indicated action is not required, nor even necessarily expected, but in certain circumstances is an appropriate activity, possibly among other alternatives. Note that “might” is not used as a synonym for “may”, but rather with its normal meaning.
  - “Any” (as in e.g. “any [report](#)”) means all such items if they exist, while acknowledging they may not exist. Such a reference does not give rise to a requirement to create such an item.
- 1.6.2. ISAPs use various terms whose specific meanings are defined in the Glossary. These terms are highlighted in the text with a dashed underscore and in blue, which is also a hyperlink to the definition (e.g., [actuary](#)).

**1.7. Cross-References** – When an ISAP refers to the content of another document, the reference relates to the referenced document as it is effective on the [adoption date](#) as shown on the cover page of the ISAP. If the referenced document is amended or restated after the [adoption date](#) of the ISAP, the [actuary](#) must consider the extent to which the guidance in the ISAP is still applicable and appropriate.

**1.8. Effective Date** – This ISAP is effective for {[actuarial services](#) performed/[actuarial services](#) commenced/[actuarial services](#) performed relevant to an event}<sup>1</sup> on or after [Date].

---

<sup>1</sup> Phrase to be selected and date to be inserted by standard-setter adopting or endorsing this ISAP.



## Section 2. Appropriate Practices

### 2.1. Acceptance of Assignment

- 2.1.1. When providing [actuarial services](#), the [actuary](#) should confirm with the [principal](#) the nature and scope of [actuarial services](#) to be provided, including:
- The role of the [principal](#);
  - Any limitations or constraints on the [actuary](#);
  - Any requirements that the [actuary](#) is required to satisfy;
  - Identification of the schedule and expected cost or resources needed (especially if they are substantial); and
  - The information needed to be communicated to and by the [actuary](#), especially if it is sensitive or confidential.
- 2.1.2. In accepting an assignment for [actuarial services](#), the [actuary](#) shall:
- {If adopting standard-setter has a standard on qualifications}* Be qualified under *[name of standard]* to perform the services, or become qualified before the services are delivered;  
  
*{If adopting standard-setter does not have a standard on qualifications}* Be competent and appropriately experienced to perform the services<sup>2</sup>;
  - Be satisfied that the assignment can be performed under the applicable code of professional conduct; and
  - Have reasonable assurance of time, resources, access to relevant employees and other relevant parties, access to documentation and information, and the right of the [actuary](#) to communicate information, as may be necessary for the [work](#).

**2.2. Knowledge of Relevant Circumstances** – The [actuary](#) should have or obtain sufficient knowledge and understanding of the [data](#) and other information available, including the relevant history, processes, nature of the business operations, [law](#), and business environment of the subject of the [actuarial services](#), to be appropriately prepared to perform the [actuarial services](#) required by the assignment.

**2.3. Reliance on Others** – The [actuary](#) may use information prepared by another party. This information may include [data](#), opinions of other professionals, and supporting analyses (but excludes assumptions and methodology). The [actuary](#) may select the party and information on which to rely, or may be given the information by the [principal](#). The [actuary](#) may take

---

<sup>2</sup>Adopting standard-setter to choose one of these two phrases as appropriate, insert the name of the qualification standard if applicable, and delete material between the {}.

responsibility for such information, or the [actuary](#) may state that reliance has been placed upon the source of this information and disclaim responsibility.

- 2.3.1. If the [actuary](#) selects the party on whom to rely, the [actuary](#) should consider the following:
  - a. The other party's qualifications;
  - b. The other party's competence, integrity, and objectivity;
  - c. The other party's awareness of how the information is expected to be used;
  - d. Discussions and correspondence between the [actuary](#) and the other party regarding any facts known to the [actuary](#) that are likely to have a material effect upon the information used; and
  - e. The need to review the other party's supporting documentation.
- 2.3.2. If the [actuary](#) uses information prepared by another party without disclaiming responsibility for that information, the [actuary](#):
  - a. Should determine that the use of that information conforms to [accepted actuarial practice](#) in the jurisdiction(s) of the [actuary](#)'s services;
  - b. Should establish appropriate procedures for the management and review of the information that the [actuary](#) intends to use; and
  - c. Does not need to disclose the source of the information.
- 2.3.3. If the [actuary](#) states reliance on the information prepared by another party and disclaims responsibility for it, the [actuary](#) should:
  - a. Disclose in any [report](#) that fact (including identifying the other party);
  - b. Disclose in any [report](#) the nature and extent of such reliance;
  - c. Examine the information for evident shortcomings;
  - d. When practicable, review the information for reasonableness and consistency; and
  - e. Disclose in any [report](#) the steps, if any, that the [actuary](#) took to determine whether it was appropriate to rely on the information.
- 2.3.4. If the information was prepared by the other party under a different jurisdiction, the [actuary](#) should consider any differences in the [law](#) or [accepted actuarial practice](#) between the two jurisdictions and how that might affect the [actuary](#)'s use of the information.

**2.4. Materiality** – In case of omissions, understatements, or overstaterments, the [actuary](#) should assess whether the effect is material. If the effect of any of these is material, the [actuary](#) should disclose this in any [report](#) to which it is relevant. The threshold of materiality under which the [work](#) is being conducted should be determined by the [actuary](#) unless it is imposed by another party such as an auditor or the [principal](#). When determining the threshold of materiality, the [actuary](#) should:

- 2.4.1. Assess materiality from the point of view of the [intended user](#)(s), recognizing the purpose of the [actuarial services](#); thus, an omission, understatement, or overstatement is material if the [actuary](#) expects it to affect significantly either the [intended user](#)'s decision-making or the [intended user](#)'s reasonable expectations;
- 2.4.2. Consider the [actuarial services](#) and the subject of those [actuarial services](#); and
- 2.4.3. Consult with the [principal](#) if necessary.

## 2.5. Data Quality

- 2.5.1. Sufficient and Reliable Data – The [actuary](#) should consider whether sufficient and reliable [data](#) are available to perform the [actuarial services](#). [Data](#) are sufficient if they include the appropriate information for the [work](#). [Data](#) are reliable if they are substantially accurate. If sufficient and reliable [data](#) are not available, then the [actuary](#) should follow the guidance in paragraph 2.5.5. below.
- 2.5.2. Data Validation – The [actuary](#) should take reasonable steps to review the consistency, completeness, and accuracy of the [data](#) used. These might include:
  - a. Undertaking reconciliations against audited financial statements, trial balances, or other relevant records, if these are available;
  - b. Testing the [data](#) for reasonableness against external or independent [data](#);
  - c. Testing the [data](#) for internal consistency and consistency with other relevant information; and
  - d. Comparing the [data](#) to those for a prior period or periods.

The [actuary](#) should describe this review in any [report](#).

- 2.5.3. Sources of Data for Assumptions – To the extent possible and appropriate when setting assumptions, the [actuary](#) should consider using [data](#) specific to the organization or the subject of the [actuarial services](#). Where such [data](#) are not available, relevant, or sufficiently credible, the [actuary](#) should consider industry [data](#), [data](#) from other comparable sources, population [data](#), or other published [data](#), adjusted as appropriate. The [data](#) used, and the adjustments made, should be described in any [report](#).
- 2.5.4. Data Modification – The [actuary](#) should disclose any modification of [data](#) before its use (such as interpolation, extrapolation, adjustment, or discarding of outliers) in any [report](#).

2.5.5. Deficiencies in Data – The [actuary](#) should consider the possible effect of any [data](#) deficiencies (such as inadequacy, inconsistency, incompleteness, inaccuracy, and unreasonableness) on the results of the [work](#). If such deficiencies in the [data](#) are not likely to materially affect the results, then the deficiencies need not be considered further. If the [actuary](#) cannot find a satisfactory way to resolve the deficiencies, then the [actuary](#) should consider whether to:

- a. Decline to undertake or continue to perform the [actuarial services](#);
- b. Work with the [principal](#) to modify the [actuarial services](#) or obtain appropriate additional [data](#) or other information; or
- c. Subject to compliance with the [actuary](#)'s code of professional conduct, perform the [actuarial services](#) as well as possible, and disclose in any [report](#) the [data](#) deficiencies (including an indication of the potential impact of those [data](#) deficiencies).

## 2.6. Assumptions and Methodology

2.6.1. The assumptions and methodology may be

- a. Set by the [actuary](#) (2.7.);
- b. Prescribed by the [principal](#) or another party (2.8); or
- c. Mandated by [law](#) (2.9.).

2.6.2. Where a [report](#) is silent about who set an assumption or methodology, the [actuary](#) who authored that [report](#) will be assumed to have taken responsibility for such assumption or methodology.

2.7. **Assumptions and Methodology Set by Actuary** – Where the [actuary](#) sets the assumptions and methodology, or the [principal](#) or another party sets an assumption or methodology that the [actuary](#) is willing to support:

2.7.1. Selection of Assumptions and Methodology – The [actuary](#) should select the assumptions and methodology that are appropriate for the [work](#). The [actuary](#) should consider the needs of the [intended users](#) and the purpose of the [actuarial services](#). In selecting assumptions and methodology, the [actuary](#) should consider the circumstances of the organization, the subject of the [actuarial services](#), and the assignment, as well as relevant industry and professional practices. The [actuary](#) should consider to what extent it is appropriate to adjust assumptions or methodology to compensate for known deficiencies in the available [data](#). The [actuary](#) should consider to what extent it is appropriate to use assumptions or methodology if they have a known significant bias to underestimation or overestimation of the result.

2.7.2. Appropriateness of Assumptions – The [actuary](#) should consider the appropriateness of the assumptions underlying each component of the methodology used. Assumptions generally involve significant [professional judgment](#) as to the appropriateness of the methodology used and the parameters underlying the application of such methodology. Assumptions may (if permitted in the

circumstances) be implicit or explicit and may involve interpreting past [data](#) and other information or projecting future trends.

- 2.7.3. Margins for Adverse Deviations – In cases where unbiased calculations are not required, the [actuary](#) should consider to what extent it is appropriate to adjust the assumptions or methodology with margins for adverse deviations in order to allow for uncertainty in the underlying [data](#) and other information, assumptions, or methodology. The [actuary](#) should disclose any incorporation of margins for adverse deviations in assumptions or methodology in any [report](#).
- 2.7.4. Discontinuities – The [actuary](#) should consider the effect of any discontinuities in experience on assumptions or methodology. Discontinuities could result from:
- a. Internal circumstances regarding the organization or subject of the [actuarial services](#) such as changes in an insurer’s claims processing or changes in the mix of business; or
  - b. External circumstances impacting the organization or subject of the [actuarial services](#) such as changes in the legal, economic, legislative, regulatory, supervisory, demographic, technological, and social environments.
- 2.7.5. Individual Assumptions and Aggregate Assumptions – The [actuary](#) should assess whether an assumption set is reasonable in the aggregate. While assumptions might be justifiable individually, it is possible that prudence or optimism in multiple assumptions will result in an aggregate assumption set that is no longer valid. If not valid, the [actuary](#) should make appropriate adjustments to achieve a reasonable assumption set and final result.
- 2.7.6. Internal Consistency of Assumptions and Methodology – The [actuary](#) should determine if the assumptions and methodology used for different components of the [work](#) are materially consistent, and that any significant interdependencies are modelled appropriately. The [actuary](#) should disclose any material inconsistencies in any [report](#).
- 2.7.7. Alternative Assumptions and Sensitivity Testing – The [actuary](#) should consider and address the sensitivity of each methodology to the effect of variations in key assumptions, when appropriate. In determining whether sensitivity has been appropriately addressed, the [actuary](#) should take into account the purpose of the [actuarial services](#) and whether the results of the sensitivity tests reflect a reasonable range of variation in the key assumptions, consistent with that purpose.

**2.8. Assumptions and Methodology Prescribed (other than by Law)** – Where the assumptions or methodology are prescribed by the [principal](#) or another party:

- 2.8.1. If the [actuary](#) is willing to support the prescribed assumption or methodology (following paragraph 2.7. as applicable), the [actuary](#) may disclose the party who prescribed the assumption or methodology and the [actuary](#)’s support in any [report](#)
- 2.8.2. If the [actuary](#) is unwilling to support the prescribed assumption or methodology because:

- a. It significantly conflicts with what would be appropriate for the purpose of the [actuarial services](#); or
- b. The [actuary](#) has been unable to judge the appropriateness of the prescribed assumption or methodology without performing a substantial amount of additional work beyond the scope of the assignment, or the [actuary](#) was not qualified to judge the appropriateness of the assumption;

then the [actuary](#) should disclose in any [report](#) that fact, the party who prescribed the assumption or methodology, and the reason why this party, rather than the [actuary](#), set the assumption or methodology.

- 2.8.3. When the [principal](#) requests an additional calculation using an assumption set which the [actuary](#) does not judge to be reasonable for the purpose of the [actuarial services](#), the [actuary](#) may provide the [principal](#) with the results based on such assumptions. If those results are communicated to any party other than the [principal](#), the [actuary](#) should disclose in any [report](#) the source of those assumptions and the [actuary](#)'s [opinion](#) of their appropriateness.

**2.9. Assumptions and Methodology Mandated by Law** – When an assumption or methodology is mandated by [law](#), the [actuary](#) should disclose in any [report](#) that the assumption or methodology was mandated by [law](#) and whether such assumption or methodology may limit the relevance of the work for other purposes.

**2.10. Model Governance** – *For the purpose of this paragraph and subparagraphs i. and j. of paragraph 3.2.2. “using” includes selecting, developing, modifying, and running [models](#).* This paragraph applies to all [models](#) used when performing [actuarial services](#) which support decision making. It provides guidance to [actuaries](#) on appropriate [model governance](#) to manage the risks inherent in using a [model](#). [Model governance](#) is important for all [models](#), from those using simple spreadsheets to those including complex simulations. The level of governance should be proportionate to the risk to the [intended users](#) as a result of an incorrect conclusion being drawn from the results of the [model](#).

The [actuary](#) involved in using [models](#) should:

- 2.10.1. Be satisfied that the [model risks](#) have been identified, assessed, and that there are appropriate actions to mitigate these risks such as adequate model validation, documentation, and process controls.
- 2.10.2. Be satisfied that an appropriate model validation has taken place. The model validation includes assessments that:
  - a. The [model](#) reasonably fits its intended purpose. Items that the [actuary](#) should consider, if applicable, include the availability, granularity, and quality of [data](#) and inputs required by the [models](#), the appropriateness of the relationships recognized, and the [model](#)'s ability to generate an appropriate range of results around expected values;
  - b. The [model](#) meets its specifications; and

- c. The full or partial results of the [model](#) can be reproduced or any differences can be explained.

The model validation should be performed by individual(s) who did not develop the [model](#), unless to do so imposes a burden that is disproportionate to the [model risk](#).

- 2.10.3. Understand the [model](#), the conditions under which it is appropriate for the [model](#) to be used including any limitations of the [model](#) for the intended use, the context in which the [model](#) will be used, how model inputs will be provided, and how the [actuary](#) expects the results of the [model](#) will be used. The [actuary](#) should disclose relevant limitations or uncertainties and their broad implications in any [report](#).
- 2.10.4. Be satisfied that there is adequate documentation of the [model](#) design, construction, and operation and of the conditions under which it is appropriate to use the [model](#), including any limitations of the [model](#). This documentation should include, where appropriate, scope, purpose, methodology, statistical quality, calibration, and fitness for intended purpose, and reflect changes to the [model](#) (if any) made by the [actuary](#).
- 2.10.5. Be satisfied that the [model](#) is subject to appropriate controls. This should typically include a change control process that:
  - a. Avoids unauthorized changes to the [model](#);
  - b. Documents any changes made and any material impact on the [model](#); and
  - c. Allows any changes to be reversed.
- 2.10.6. When the results or output of a [model](#) run are to be used:
  - a. Be satisfied that the conditions to use the [model](#) are met;
  - b. Be satisfied that there are appropriate controls on inputs and outputs of the [model](#);
  - c. Consider whether the model validation described in paragraph 2.10.2. should be performed in whole or in part;
  - d. Understand, and where appropriate explain, material differences between different runs of the [model](#), and be satisfied that there is an adequate control process for production runs. In the case of stochastic [models](#), be satisfied that a sufficient number of runs of the [model](#) are made and understand the significant differences between different runs of the [model](#);
  - e. Understand any management actions or responses assumed within the [model](#). The [actuary](#) should disclose such management actions or responses assumed and their broad implications in any [report](#); and
  - f. Document, where appropriate, limitations, inputs, key assumptions, intended uses, and model output.

## 2.11. Process Management

- 2.11.1. Process Controls – The [actuary](#) should consider to what extent, if any, the procedures used to carry out the [work](#) should be controlled, and if so, how.
- 2.11.2. Reasonableness Checks – The [actuary](#) should review the results produced by the selected assumptions and methodology for overall reasonableness.

**2.12. Peer Review** – The [actuary](#) should consider to what extent, if at all, it is appropriate for any [report](#) to be independently reviewed, in totality or by component, before the final [report](#) is delivered to the [principal](#) or distributed to the [intended users](#). The purpose of peer review is to ensure the quality of a [report](#), with the process tailored to the complexity of the [work](#) and the specific environment in which the [actuary](#) works. If a peer review is deemed to be appropriate:

- 2.12.1. The [actuary](#) should select a reviewer who is independent of involvement with the specific component(s) reviewed and is knowledgeable and experienced in the practice area of the [actuarial services](#).
- 2.12.2. If the reviewer is an [actuary](#), the reviewer should comply with the guidance in any applicable actuarial standard, in performing the review.

**2.13. Treatment of Subsequent Events** – The [actuary](#) should consider any [subsequent event](#) that has the potential of materially changing the results of the [actuarial services](#) if the event had been reflected in the [work](#) and disclose such an event in any [report](#).

## 2.14. Retention of Documentation

- 2.14.1. The [actuary](#) should retain, for a reasonable period of time, sufficient documentation for purposes such as:
  - a. Peer review, regulatory review, and audit;
  - b. Compliance with [law](#); and
  - c. Assumption of any recurring assignment by another [actuary](#).
- 2.14.2. Documentation is sufficient when it contains enough detail for another [actuary](#) qualified in the same practice area to understand the [work](#) and assess the judgments made.
- 2.14.3. Nothing in any ISAP is intended to give any person access to material beyond the access that they are already authorized to have.



### Section 3. Communication

- 3.1. General Principles** – Any [communication](#) should be appropriate to the particular circumstances and take the skills, understanding, levels of relevant technical expertise, and needs of the [intended user](#) into consideration to allow the [intended user](#) to understand the implications of the [actuary](#)'s [communication](#).
- 3.1.1. **Form and Content** – The [actuary](#) should determine the form, structure, style, level of detail, content, and relevant disclosures of each [communication](#) to be appropriate to the particular circumstances, taking into account the [intended users](#).
- 3.1.2. **Clarity** – The [actuary](#) should word each [communication](#) to be clear and use language appropriate to the particular circumstances, taking into account the [intended users](#).
- 3.1.3. **Timing of Communication** – The [actuary](#) should issue each [communication](#) within a reasonable time period. The timing of the [communication](#) should reflect any arrangements that have been made with the [principal](#). The [actuary](#) should consider the needs of the [intended users](#) in setting the timing.
- 3.1.4. **Identification of the Actuary** – A [communication](#) shall clearly identify the issuing [actuary](#). When two or more individuals jointly issue a [communication](#), at least some of which is actuarial in nature, the [communication](#) shall identify all responsible [actuaries](#), unless the [actuaries](#) judge it inappropriate to do so. The name of an organization with which each [actuary](#) is affiliated may also be included in the [communication](#), but the [actuary](#)'s responsibilities are not affected by such identification. Unless the [actuary](#) judges it inappropriate, any [communication](#) shall also indicate to what extent and how supplementary information and explanation can be obtained from the [actuary](#) or another party.
- 3.2. Report** – The [actuary](#) should complete a [report](#), including relevant disclosures, unless any [intended users](#) will otherwise be adequately informed about the output of [actuarial services](#) (including access to the supporting information which is necessary to understand the outputs and disclosures). The [actuary](#) should present all information with sufficient detail that another [actuary](#) qualified in the same practice area could make an objective appraisal of the reasonableness of the [actuary](#)'s [work](#).
- 3.2.1. **Content** – The [actuary](#) should include in any [report](#), if applicable:
- The scope and intended use of the [report](#);
  - The output from the [actuarial services](#), including the potential impact of variability on those outputs;
  - The methodology, assumptions, [data](#) and other information used;
  - Any restrictions on distribution;
  - The date of the [report](#); and
  - Identification of the authorship of the [report](#).
- 3.2.2. **Disclosures** – The [actuary](#) issuing a [report](#) should disclose in that [report](#), if applicable:

- a. Any material deviation from the guidance in the ISAP (1.3.3.);
  - b. Any reliance on information prepared by another party for which the [actuary](#) disclaims responsibility (2.3.3.);
  - c. Any material omissions, understatements, or overstatements (2.4.)
  - d. Any [data](#) validation (2.5.2.), adjustments (2.5.3.), modification (2.5.4.), and deficiencies (2.5.5.);
  - e. Any margins for adverse deviations in assumptions or methodology (2.7.3.);
  - f. Any material inconsistency in the assumptions and methodology used (2.7.6.);
  - g. Assumptions and methodology that have been prescribed by another party which the [actuary](#) does not support (2.8.2. and 2.8.3.);
  - h. Assumptions and methodology that are mandated by [law](#) (2.9.);
  - i. The limitations, and uncertainties, of any [model](#) used for the [work](#), and their broad implications (2.10.3.);
  - j. The management actions or responses assumed in any [model](#) used for the [work](#), and their implications (2.10.6.e.); and
  - k. Any material [subsequent event](#) (2.13.).
- 3.2.3. Authorship – The [actuary](#) issuing a [report](#) should include in the [report](#):
- a. The [actuary](#)'s name;
  - b. If applicable, the name of the organization on whose behalf the [actuary](#) is issuing the [report](#), and the [actuary](#)'s position held;
  - c. The capacity in which the [actuary](#) serves;
  - d. The [actuary](#)'s qualifications;
  - e. The code of professional conduct and actuarial standards under which the [work](#) was performed, if there is any possible ambiguity; and
  - f. If applicable, attestations and reliances.
- 3.2.4. Form – A [report](#) may comprise one or several [communications](#) that may exist in several different formats. Where a [report](#) comprises multiple [communications](#), the [actuary](#) should communicate to each [intended user](#) which [communications](#) compose the [report](#). The [actuary](#) should ensure that [report](#) components (especially those in electronic media) are such that they can be reliably reproduced for a reasonable period of time.
- 3.2.5. Constraints – The content of a [report](#) may be constrained by circumstances such as legal, legislative, regulatory, or supervisory proceedings. Constraints could also

include other standards such as financial reporting standards or an organization's accounting policy. The [actuary](#) should follow the guidance on disclosure in any actuarial standard applicable to the [actuary](#), to the extent reasonably possible within such constraints.