

CARIBBEAN ACTUARIAL ASSOCIATION



Caribbean Actuarial Association Standard of Practice

APS 4: General Insurance Unpaid Claim Estimates

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APS 4:	General Insurance Unpaid Claim Estimates
Version 2:	Approved: December 6, 2019
Purpose	This Actuarial Practice Standard sets out required standards of practice for all actuaries of the Caribbean Actuarial Association when performing actuarial services relating to developing unpaid claim estimates for general insurance coverages of entities in operation in the Caribbean.
Target Audience:	Actuaries performing actuarial services related to developing unpaid claim estimates for events that have already occurred or will have occurred, as of an accounting date, exclusive of estimates developed solely for ratemaking purposes.
Compliance:	Compliance with APS0 is a prerequisite to compliance with this APS.

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Section 1. General

1.1. Purpose

1.1.1. This Actuarial Practice Standard (“APS”) provides guidance to actuaries of the Caribbean Actuarial Association (“CAA”) 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.

1.1.2. This APS also applies to all members of the CAA and should be read accordingly.

1.2. Scope

1.2.1. This standard provides guidance to actuaries of the CAA performing actuarial services relating to developing unpaid claim estimates for general insurance coverages of entities in operation in the Caribbean.

1.3. Compliance

1.3.1. Compliance with APS0 is a prerequisite to compliance with this APS.

1.3.2. References in APS0 to “this APS” should be interpreted as applying equally to this APS, where appropriate.

1.4. Applicability

1.4.1. This standard applies when estimating unpaid claims for events that have already occurred or will have occurred, as of an accounting date, exclusive of estimates developed solely for ratemaking purposes.

1.4.2. This standard applies when estimating unpaid claims for all classes of insurance entities, including self-insureds, captives, insurance companies, reinsurers, and governmental entities.

1.4.3. This standard applies to estimates of gross amounts before recoverables (such as deductibles, ceded reinsurance, and salvage and subrogation), estimates of net amounts after such recoverables, and estimates of amounts of such recoverables.

1.4.4. This standard applies only with respect to unpaid claim estimates that are communicated in a report. Actions taken by the actuary's principal regarding such estimates are beyond the scope of this standard.

1.4.5. "Reserves" and "reserving" are sometimes used to refer to “unpaid claim estimates” and “unpaid claim estimate analysis” respectively. In this standard, the term “reserve” is limited to its strict definition as an amount booked in a financial statement.

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- 1.4.6. Actuarial services described above are covered by this standard, regardless as to whether the actuary refers to the work performed as "reserving," "estimating unpaid claims" or any other term.
- 1.4.7. This standard or its underlying principles as appropriate may be applied to unpaid claim estimates for health or life business in the absence of other applicable actuarial standards or guidance.
- 1.4.8. This standard does not require or prohibit the use of discounting in the calculation of unpaid claim estimates. The actuary should determine if discounting is appropriate in any particular case.
- 1.4.9. This standard does not apply to premium related liabilities such as unearned premium and unexpired risk reserves.
- 1.4.10. This standard does not apply to the estimation of items that may be a function of unpaid claim estimates or claim outcomes, such as (but not limited to) loss-based taxes, contingent commissions and retrospectively rated premiums.
- 1.4.11. The actuary should comply with this standard except to the extent it may conflict with applicable law (statutes, regulations, and other legally binding authority) or other applicable standards. If compliance with applicable law or standards requires the actuary to depart from the guidance set forth in this standard, the actuary should refer to the Compliance section of this APS.

1.5. Reasonable Judgment – The actuary should exercise reasonable judgment in applying this APS.

1.6. Language

In this APS, the following words and phrases are defined here:

- 1.6.1. "Actuarial central estimate" means an estimate that represents an expected value over a range of reasonably possible outcomes, which may not include all possible outcomes. The estimate need not be based on statistical considerations or a probability distribution.
- 1.6.2. "Best estimate" means an estimate that, in the professional judgment of the actuary, is neither conservative nor optimistic.
- 1.6.3. "Claims adjustment expense" means the costs of administering, determining coverage for, settling, or defending claims even if it is ultimately determined that the claim is invalid. Differences in the definition of the expense categories can be important in any comparison or analysis, as they can differ by accounting policy or jurisdiction. A common method is to analyze separately the expenses that can be associated with individual claims (i.e., allocated expenses, sometimes referred to as "allocated claims adjustment expenses") and those that cannot (i.e., unallocated expenses, often consisting of claims and legal management and staff and their related costs, sometimes referred to as "unallocated claims adjustment expenses.")

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- 1.6.4. “Coverage” means the terms and conditions of a plan or contract, or the requirements of applicable law, that create an obligation for claim payment associated with contingent events.
 - 1.6.5. “Event” means the incident or activity that triggers potential for claim or claim adjustment expense payment.
 - 1.6.6. “General insurance” is typically defined as any insurance that is not determined to be life insurance. It is often called property and casualty insurance in North America and non-life insurance elsewhere.
 - 1.6.7. “Insurance” includes, unless explicitly excluded, all risk transfer mechanisms, regardless of whether there is a formal legal insurance contract.
 - 1.6.8. “Method” means a systematic procedure for estimating unpaid claims.
 - 1.6.9. “Model” means a mathematical or empirical representation of a specified phenomenon.
 - 1.6.10. “Model risk” means the risk that the methods are not appropriate to the circumstances or the models are not representative of the specified phenomenon.
 - 1.6.11. “Parameter risk” means the risk that the parameters used in the methods or models are not representative of future outcomes.
 - 1.6.12. “Process risk” means the risk associated with the projection of future contingencies that are inherently variable, even when the parameters are known with certainty.
 - 1.6.13. “Unpaid claim estimate”
 - a. Means the actuary's estimate of the obligation for future payment resulting from claims due to past events. The estimate includes components for known claims and for claims incurred but not reported (“IBNR”).
 - b. Includes (unless explicitly stated otherwise) the associated unpaid claim adjustment expense.
 - c. Is also referred to as “estimation of loss and loss adjustment expense for unpaid claims.”
 - 1.6.14. “Unpaid claim estimate analysis” means the process of developing an unpaid claim estimate
- 1.7. Cross-References** -When this APS 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 this APS. The referenced document may be amended, restated, revoked, or replaced after the adoption date. In such a case, the actuary should consider the extent the modification is applicable and appropriate to the guidance in this APS.
- 1.8. Effective Date** – This APS was approved at a General Meeting of the Members on December 6, 2019 and is effective for actuarial services performed on or after December 6, 2019.

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Section 2. Appropriate Practices**2.1. Knowledge of Relevant Circumstances**

- 2.1.1. The actuary should have an understanding of the nature of the unpaid claims being estimated. This understanding should be based on what a qualified actuary in the same practice area could reasonably be expected to know or foresee as being relevant and material to the estimate at the time of the unpaid claim estimate analysis, given the same purpose, constraints, and scope. The actuary need not be familiar with every aspect of potential unpaid claims.
- 2.1.2. Examples of aspects of the unpaid claims (including any material trends and issues associated with such elements) that may require an understanding include the following:
 - a. Coverage;
 - b. Conditions or circumstances that make a claim more or less likely or the cost more or less severe;
 - c. The underlying claim adjustment process; and
 - d. Potential recoverables, particularly from reinsurance.

2.2. Materiality

- 2.2.1. All data, models, methods and assumptions that could have a material impact on the results should be considered when the work is being performed.
- 2.2.2. The actuary may choose to disregard items that, in the actuary's professional judgment, are not material to the unpaid claim estimate given the intended purpose and use.
- 2.2.3. The actuary should evaluate materiality based on professional judgment, taking into account the requirements of applicable law and the intended purpose of the unpaid claim estimate.
- 2.2.4. The actuary should consider factors associated with the unpaid claim estimate analysis that, in the actuary's professional judgment, are material and are reasonably foreseeable to the actuary at the time of estimation. The actuary is not expected to become an expert in every aspect of potential unpaid claims.

2.3. Assumptions and Methodology Set by Actuary

- 2.3.1. Purpose and Use of the Unpaid Claim Estimate
 - a. The actuary should identify the intended purpose or use of the unpaid claim estimate. Potential purposes or uses of unpaid claim estimates include, but are not limited to, establishing liability estimates for external financial reporting, internal management reporting, and various special purpose uses such as appraisal work and scenario analyses.

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- b. Where multiple purposes or uses are intended, the actuary should consider the potential conflicts arising from those multiple purposes and uses and should consider adjustments to accommodate the multiple purposes to the extent that, in the actuary's professional judgment, it is appropriate and practical to make such adjustments.

2.3.2. Scope of Unpaid Claim Estimate

The actuary should identify the scope of the unpaid claim estimate, including:

- a. The intended measure of the unpaid claim estimate:
 - i. Examples of various types of measures for the unpaid claim estimate include but are not limited to, high estimate, low estimate, median, mean, mode, actuarial central estimate, best estimate, specified percentile, range of estimates, point estimate with a margin for adverse deviation, or probability distribution of the unpaid claim amount.
 - ii. The actuary should consider whether the intended measure is appropriate to the intended purpose or use of the unpaid claim estimate.
 - iii. The description of the intended measure should include the identification of whether any amounts are discounted or include a margin for adverse deviation;
- b. Whether the unpaid claim estimate is to be gross or net of specified recoverables;
- c. Whether and to what extent collectability risk is to be considered when the unpaid claim estimate is affected by recoverables;
- d. The specific types of unpaid claim adjustment expenses covered in the unpaid claim estimate (for example, coverage dispute costs, defence costs, and adjusting costs);
- e. The claims to be covered by the unpaid claim estimate (for example, type of loss, line of business, year, and territory); and
- f. Any other items that, in the actuary's professional judgment, are needed to describe the scope sufficiently.

2.3.3. Methods and Models

- a. The actuary should consider methods or models for estimating unpaid claims that, in the actuary's professional judgment, are appropriate.
- b. The actuary should select specific methods or models, modify such methods or models, or develop new methods or models based on relevant factors including, but not limited to, the following:
 - i. The nature of the claims and underlying exposures;

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- ii. The development characteristics associated with these claims;
 - iii. The characteristics of the available data;
 - iv. The applicability of various methods or models to the available data; and
 - v. The reasonableness of the assumptions underlying each method or model.
- c. The actuary should consider whether a particular method or model is appropriate in light of the purpose, constraints, and scope of the assignment. For example, an unpaid claim estimate produced by a simple methodology may be appropriate for an immediate internal use. The same methodology may be inappropriate for external financial reporting purposes.
 - d. The actuary should consider whether, in the actuary's professional judgment, different methods or models should be used for different components of the unpaid claim estimate. For example, different coverages within a line of business may require different methods.
 - e. The actuary should consider the use of multiple methods or models appropriate to the purpose, nature and scope of the assignment and the characteristics of the claims unless, in the actuary's professional judgment, reliance upon a single method or model is reasonable given the circumstances. If for any material component of the unpaid claim estimate the actuary does not use multiple methods or models, the actuary should disclose and discuss the rationale for this decision in the report.
 - f. In the case when the unpaid claim estimate is an update to a previous estimate, the actuary may choose to use the same methods or models as were used in the prior unpaid claim estimate analysis, different methods or models, or a combination of both. The actuary should consider the appropriateness of the chosen methods or models, even when the decision is made not to change from the previously applied methods or models.

2.3.4. Recoverables

Where the unpaid claim estimate analysis encompasses multiple types of recoverables, the actuary should consider interaction among the different types of recoverables and should adjust the analysis to reflect that interaction in a manner that the actuary deems appropriate.

2.3.5. Gross vs. Net

The scope of the unpaid claim estimate analysis may require estimates both gross and net of recoverables. Gross and net estimates may be viewed as having three components, which are the gross estimate, the estimated recoverables, and the net estimate. The actuary should consider the particular facts and circumstances of the assignment when choosing which components to estimate.

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2.3.6. Reinsurance Collectability

If the recoverable amount from ceded reinsurance is material, the actuary should consider the collectability of ceded reinsurance in evaluating net unpaid estimates. The actuary should solicit information from management regarding collectability problems, significant disputes with reinsurers, and practices regarding provisions for uncollectable reinsurance.

2.3.7. External Conditions

Claim obligations are influenced by external conditions, such as potential economic changes, regulatory actions, judicial decisions, or political or social forces. The actuary should consider relevant external conditions that are generally known by qualified actuaries in the same practice area and that, in the actuary's professional judgment, are likely to have a material effect on the actuary's unpaid claim estimate analysis. However, the actuary is not required to have detailed knowledge of or consider all possible external conditions that may affect the future claim payments.

2.3.8. Changing Conditions

The actuary should consider whether there have been significant changes in conditions, particularly with regard to claims, losses, or exposures that are likely to be insufficiently reflected in the experience data or in the assumptions used to estimate the unpaid claims. Examples include reinsurance program changes and changes in the practices used by the entity's claims personnel to the extent such changes are likely to have a material effect on the results of the actuary's unpaid claim estimate analysis. Changing conditions can arise from circumstances particular to the entity or from external factors affecting others within an industry. When determining whether there have been known, significant changes in conditions, the actuary should consider obtaining supporting information from the principal or the principal's duly authorized representative and may rely upon their representations unless, in the actuary's professional judgment, they appear to be unreasonable.

2.3.9. Uncertainty

The actuary should consider the uncertainty associated with the unpaid claim estimate analysis. This standard does not require or prohibit the actuary from measuring this uncertainty. The actuary should consider the purpose and use of the unpaid claim estimate in deciding whether or not to measure this uncertainty. When the actuary is measuring uncertainty, the actuary should consider the types and sources of uncertainty being measured and choose the methods, models, and assumptions that are appropriate for the measurement of such uncertainty. For example, when measuring the variability of an unpaid claim estimate covering multiple components, consideration should be given to whether the components are independent of each other or whether they are correlated. Such types and sources of uncertainty surrounding unpaid claim estimates may include uncertainty due to model risk, parameter risk, and process risk.

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2.3.10. Reasonableness

The actuary should assess the reasonableness of the unpaid claim estimate, using appropriate indicators or tests that, in the actuary's professional judgment, provide a validation that the unpaid claim estimate is reasonable. The reasonableness of an unpaid claim estimate should be determined based on facts known to, and circumstances known to or reasonably foreseeable by, the actuary at the time of estimation.

2.3.11. Multiple Components of the Unpaid Claim Estimate

When the actuary's unpaid claim estimate comprises multiple components, the actuary should consider whether, in the actuary's professional judgment, the estimates of the multiple components are reasonably consistent.

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Section 3. Communication**3.1. Report**3.1.1. Disclosures

When issuing a report subject to this standard, the actuary should consider the intended purpose(s) or use(s) of the unpaid claim estimate and should disclose the following:

- a. The intended purpose(s) or use(s) of the unpaid claim estimate as described in Section 2.3.1, the scope of the unpaid claim estimate as described in Section 2.3.2, including adjustments to methods and models (i.e., sensitivity analysis) as described in Section 2.3.3 that the actuary considered appropriate in order to produce a single work product for multiple purposes or uses, if any, as described in Section 2.3.1.a;
- b. Significant limitations, if any, which constrained the actuary's unpaid claim estimate analysis such that, in the actuary's professional judgment, there is a significant risk that a more in-depth analysis would produce a materially different result, as described in Section 2.3.1.b;
- c. The following dates relevant to the unpaid claim estimate:
 - i. The accounting date, which is the date used to separate paid versus unpaid claim amounts;
 - ii. The valuation date, which is the date through which transactions are included in the data used in the unpaid claim estimate analysis; and
 - iii. The review date, which is the cut-off date for including information known to the actuary in the unpaid claim estimate analysis, if appropriate. An example of such communication is as follows: "This unpaid claim estimate as of December 31, 2015 was based on data evaluated as of November 30, 2015 and additional information provided to me through January 17, 2016."
- d. Specific significant risks and uncertainties, if any, with respect to whether actual results may vary from the unpaid claim estimate; and
- e. Significant events, assumptions, or reliance, if any, underlying the unpaid claim estimate that, in the actuary's professional judgment, have a material effect on the unpaid claim estimate, including assumptions provided by the actuary's principal or an outside party or assumptions regarding the accounting basis or application of an accounting rule. If the actuary depends upon a material assumption, method, or model that the actuary does not believe is reasonable or cannot determine to be reasonable, the actuary should disclose the dependency of the estimate on that assumption / method / model and the source of that assumption / method / model. The actuary should use professional judgment to determine whether further

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disclosure would be appropriate in light of the purpose of the assignment and the intended users of the report.

- f. In certain cases, consistent with the intended purpose or use, the actuary may need to make the following disclosures in addition to those in Section 3.1.2.c:
 - i. In the case when the actuary specifies a range of estimates, the actuary should disclose the basis of the range provided, for example, a range of estimates of the intended measure (each of such estimates considered to be a reasonable estimate on a stand-alone basis); a range representing a confidence interval within the range of outcomes produced by a particular model or models; or a range representing a confidence interval reflecting certain risks, such as model risk, process risk and parameter risk.
 - ii. In the case when the unpaid claim estimate is an update of a previous estimate, the actuary should disclose changes in assumptions, procedures, methods or models that the actuary believes to have a material impact on the unpaid claim estimate and the reasons for such changes to the extent known by the actuary. This standard does not require the actuary to measure or quantify the impact of such changes.
 - iii. In the case where discounting has been used in the unpaid claims estimate, the actuary should disclose the undiscounted unpaid claims estimate; the discount rate(s) and claims payment pattern(s) used and the basis for his / her selection.

3.1.2. Constraints

- a. The actuary should make clear that the unpaid claim estimate should not be used for any purpose or purposes other than those for which the actuary has provided the estimate.
- b. The actuary should consider specifically identifying unintended or inappropriate purposes that may include, but not be limited to, matters of capitalization, legality, contract language, regulatory compliance, risk transfer or taxes.
- c. Sometimes constraints exist in the performance of an actuarial analysis, such as those due to limited data, staff, time or other resources. Where, in the actuary's professional judgment, such constraints create a significant risk that a more in-depth analysis would produce a materially different result, the actuary should notify the principal of that risk and communicate the constraints on the analysis to the principal through documentation in the report.