

**PROPOSED REVISED INTERNATIONAL STANDARD ON AUDITING 540
AUDITING ACCOUNTING ESTIMATES AND RELATED DISCLOSURES
(EXCLUDING THOSE INVOLVING FAIR VALUE MEASUREMENTS AND
DISCLOSURES)
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International Standards on Auditing (ISAs) are to be applied, as appropriate, in the audit or review of historical financial information.

ISAs contain basic principles and essential procedures (identified in bold lettering) together with related guidance in the form of explanatory and other material, including appendices. The basic principles and essential procedures are to be understood and applied in the context of the explanatory and other material that provide guidance for their application. It is therefore necessary to consider the whole text of an ISA to understand and apply the basic principles and essential procedures.

The nature of ISAs requires auditors to exercise professional judgment in applying them. In exceptional circumstances, an auditor may judge it necessary to depart from a basic principle or essential procedures of an ISA to achieve more effectively the objective of the audit. When such a situation arises, the auditor should be prepared to justify the departure.

Any limitation of the applicability of a specific ISA is made clear in the ISA.

In circumstances where specific basic principles, essential procedures or guidance contained in an ISA are not applicable in a public sector environment, or when additional guidance is appropriate in such an environment, the Public Sector Committee of the International Federation of Accountants so states in a Public Sector Perspective (PSP) at the end of the ISA. When no PSP is added, the ISA is to be applied as written to engagements in the public sector.

Introduction

1. The purpose of this International Standard on Auditing (ISA) is to establish standards and provide guidance on auditing accounting estimates and related disclosures, excluding those involving fair value measurements and disclosures. An “accounting estimate” is an approximation of a monetary amount in the absence of a precise means of measurement, and this term is used to describe items presented on the face of a financial statement or in notes to the financial statements. Some financial reporting frameworks require certain assets, liabilities or specific components of equity to be measured at fair value and recognized or disclosed in financial statements. ISA 545, “Auditing Fair Value Measurements and Disclosures” provides standards and guidance on auditing accounting estimates involving fair value measurements.
2. **The auditor should obtain sufficient appropriate audit evidence that accounting estimates are measured, and recognized or disclosed in the financial statements in accordance with the entity’s applicable financial reporting framework, and are reasonable in the circumstances.**
3. Management is responsible for making accounting estimates that are included in financial statements. This responsibility includes determining whether the measurement of accounting estimates is sufficiently reliable to meet the recognition criteria of the applicable financial reporting framework. Where accounting estimates cannot be measured reliably, management is responsible for making the appropriate disclosures in the notes to the financial statements required by that framework. This responsibility also includes, establishing financial reporting processes, including adequate controls, for making the accounting estimates. Such processes include selecting appropriate accounting policies and prescribing estimation methods, including supporting and documenting significant assumptions about future conditions, transactions or events that affect the accounting estimates. To update accounting estimates to reflect changing circumstances, management’s financial reporting processes need to be capable of responding to evolving conditions, transactions or events on a timely basis.
4. As a result of the uncertainties inherent in business activities and the manner in which financial reporting frameworks address these activities, many financial statement items cannot be measured with precision but can only be estimated. The use of estimates, therefore, is an essential part of the preparation of financial statements. An accounting estimate usually will meet the recognition criteria of most financial reporting frameworks if its measurement has the quality of reliability, which means that it is free from material error and represents faithfully that which it purports to represent or could reasonably be expected to represent. Because accounting estimates involve the exercise of judgment, differences in judgment between management and auditors may arise.
5. In matters involving the exercise of judgment, financial reporting frameworks often call for a quality of neutrality, that is freedom from bias. However, management may be motivated to manipulate financial results by introducing bias in the way they make accounting estimates.

Risk Assessment Procedures

6. As required by ISA 315, “Understanding the Entity and its Environment and Assessing the Risks of Material Misstatement”, the auditor obtains a sufficient understanding of the entity and its environment, including its internal control, to identify and assess the risks of material misstatement of the financial statements whether due to fraud or error, and sufficient to design and perform further procedures. Obtaining this understanding by performing risk assessment procedures calls for a continuous, dynamic process of gathering, updating and analyzing information throughout the audit.
7. **The auditor should perform risk assessment procedures to identify accounting estimates for which there is a risk of material misstatement by obtaining an understanding of:**
 - (a) **How management identifies and controls risks that may give rise to accounting estimates which could be materially misstated in the financial statements;**
 - (b) **The methods prescribed by management for making significant accounting estimates including supporting and documenting significant assumptions underlying them; and**
 - (c) **The relevant requirements of the entity’s financial reporting framework.**
8. Management’s processes for identifying and controlling risks that may give rise to accounting estimates susceptible to material misstatement will depend on the nature of the entity and the requirements of the applicable financial reporting framework. In some cases, these processes may be formal and complex because the entity is required to estimate many financial statement items on a regular basis. In other cases, for example in some small entities where accounting estimates are less prevalent, there may be little need to formalize the processes. In all cases, circumstances may arise that require management to respond to a condition or event for which a significant accounting estimate is required. In addition, an entity may engage in new types of transactions or there may be changes in the terms of transactions that give rise to accounting estimates. Especially in entities having many accounting estimates, effective management’s processes need to include a follow-up of the outcome, or subsequent re-estimation, of accounting estimates made in a prior period.
9. An important feature of internal control in the context of accounting estimates is the control environment, especially when accounting estimates are heavily influenced by management’s attitudes and motivations, and predicated on judgments about the future. In some cases, there may be few control activities in place to address accounting estimates, for example, there may be few controls in place for addressing an unforeseen large legal claim, other than possibly a management policy for timely referral of such a claim to appropriate legal counsel. Where accounting estimates are of a routine or recurring nature, there need to be adequate controls over the data and information for calculating the estimates on a timely basis. Past experience of the entity in dealing with accounting estimates may be relevant to internal controls.
10. There is a risk that management fails to follow the courses of action that it had indicated it intended to. The extent of this risk can sometimes be identified by the auditor considering whether a difference between an accounting estimate made in a prior period and the later actual outcome (or re-estimation) arose either because of factors that management could

have influenced or because of changes in assumptions that were outside the influence of management. The ability of management to forecast the outcome of uncertain future conditions, transactions or events for an accounting estimate can usually be evaluated by the auditor only in light of experience with such forecasts made by management in similar circumstances in the past. Consequently, the effectiveness of management's monitoring activities for following up the outcome, or subsequently re-estimating, significant accounting estimates made in a prior period is important to the auditor's understanding of management's processes and methodologies.

11. **The auditor should perform audit procedures on the outcome or re-estimation of significant accounting estimates made in prior periods.**
12. The auditor's procedures are usually carried out in conjunction with the retrospective review of significant accounting estimates described in paragraph 74(b) of proposed ISA 240, "The Auditor's Responsibility to Consider Fraud in an Audit of Financial Statements". The nature, timing and extent of the audit procedures undertaken is a matter of professional judgment. The auditor considers whether estimates that were made, or that should have been made, at the end of the prior period have been resolved and whether changes in circumstances would likely give rise to re-estimations. The auditor may decide to perform these procedures in interim periods.

METHODS AND ASSUMPTIONS USED IN MAKING ACCOUNTING ESTIMATES

13. Management prescribes the methods for making accounting estimates in a number of ways. It selects the policies for the entity to follow for significant estimates, consistent with the applicable accounting framework, and implements internal control procedures. It defines its own role and involvement with significant assumptions, subject in some cases to oversight by those charged with governance of the entity.
14. When an accounting estimate is recognized in financial statements management determines a single monetary amount representing its judgment about the most likely outcome of the uncertain future conditions, transactions or events that led it to make the accounting estimate. Such single monetary amounts are sometimes referred to as "point" or "best"¹ estimates. In some cases, management considers the surrounding facts and circumstances and information available to it (including, for example, opinions of experts), and concludes on an amount that it considers to be the best estimate. Where there is significant "measurement uncertainty"², the process management followed to determine a best estimate may initially involve its consideration of a "range of reasonably possible outcomes"³, predicated on varying assumptions from which it selected the most likely outcome.
15. **The auditor's understanding should include how management's methods involve the determination of a best estimate and whether that determination is made from a range of reasonably possible outcomes.**

¹ The term "best estimate" is used in this ISA to denote the single monetary amount that represents the most likely outcome of uncertain future events and conditions.

² The term "measurement uncertainty" was taken from an IASB Exposure Draft revising IAS 1, "Presentation of Financial Statements". The revised IAS 1 (issued in December 2003) used the term "estimation uncertainty".

³ The term "range of reasonably possible outcomes" is taken from IAS 1 (revised 2003) paragraph 120(c).

16. Measurement uncertainty is the susceptibility of a financial statement item to a lack of precision in its calculation because the outcome of future events is not known. The measurement uncertainty associated with different accounting estimates varies with the circumstances affecting them. Some circumstances that may give rise to measurement uncertainty are:
- The absence of measurement techniques for making precise estimations.
 - The extent to which the accuracy of an accounting estimate depends upon management's judgment about the outcome of uncertain future conditions, transactions or events.
 - The sensitivity of the accounting estimates to assumptions that are outside management's control.
 - The size of the underlying population of the item being estimated and the range of reasonably possible outcomes.
 - The complexity of the mathematical calculation.
17. To obtain an understanding of management's methods for determining accounting estimates, the auditor considers, for example:
- The types of accounts or transactions to which the accounting estimates relate (for example, whether the estimates arise from the recording of routine and recurring transactions or whether they arise from non-recurring or unusual transactions).
 - The experience and competence of those involved in determining the accounting estimates.
 - The extent to which management uses experts within or outside the entity.
 - How management ensures that the data used to develop accounting estimates is complete, relevant and accurate.
 - How management determines the range of reasonably possible outcomes, including how they evaluated whether there are some outcomes that are more likely than others or whether each reasonably possible outcome is as likely as any other.
 - How management determines the best estimate of the most likely outcome from the range of reasonably possible outcomes.
18. Accounting estimates may be determined as part of a continuing routine accounting system, or through a non-routine exercise at period end. Methods may differ among entities making similar accounting estimates. Methods used by smaller entities may be effective without being complex or formalized, though sometimes smaller entities may experience difficult and complex accounting estimates requiring specialized methods. Smaller entities sometimes engage outside experts to assist in making accounting estimates, while larger entities may employ experts internally.
19. Some aspects of an entity's internal control over accounting estimates may influence the likelihood of material misstatements. Relevant aspects of internal control over accounting estimates include:
- Procedures for the accumulation of relevant, complete, and reliable underlying data on which to base an accounting estimate.

- Assignment of qualified personnel to prepare accounting estimates.
 - Policies for the review and approval of accounting estimates by appropriate levels of management and, where appropriate, those charged with governance. This may include:
 - Review of the significant assumptions used
 - Consideration of the need to use the work of experts
 - Consideration of changes in previously established methods to arrive at accounting estimates
 - Evaluation of the propriety of disclosures in the financial statements.
20. In developing accounting estimates, management often makes assumptions about uncertain future events and conditions, including matters within and outside its control. To provide an appropriate basis for accounting estimates, interdependent assumptions need to be internally consistent. A particular assumption that may appear reasonable when taken in isolation may not be reasonable when used in conjunction with other assumptions.
21. The auditor obtains an understanding of the assumptions underlying accounting estimates. Assumptions usually are required to support accounting estimates that are highly dependent upon management's judgment about the outcome of uncertain future conditions, transactions or events. The auditor also obtains an understanding of how management ensures that assumptions are internally consistent and where applicable, appropriately reflect management's intent.

UNDERSTANDING THE REQUIREMENTS OF THE FINANCIAL REPORTING FRAMEWORK

22. Some financial reporting frameworks require the disclosure of the estimation methods management used to make certain accounting estimates. In most instances, the monetary amount estimated for a financial statement item falls within a relatively narrow range of possible outcomes. In that case no disclosure of management's estimation methods is usually required. Certain estimated monetary amounts may be so sensitive to changes in assumptions or circumstances that the use of different assumptions could materially affect an amount recognized in the entity's financial statements. In such circumstances, financial reporting frameworks may require the disclosure of the estimation methods, including details of the underlying assumptions to which the monetary amount is particularly sensitive.
23. Most financial reporting frameworks include as a criterion for recognizing a monetary amount in the financial statements that it can be reliably measured. In many cases, the amount to be recognized is estimated. In some cases, the degree of measurement uncertainty is so great and the range of reasonably possible outcomes is so wide that a reliable estimate cannot be made. In such instances, the financial reporting framework often provides that an accounting estimate is not recognized in the financial statements, but the nature of the item, and possibly information about the range of reasonably possible outcomes, is disclosed in the notes to the financial statements. In addition, financial reporting frameworks in some cases also provide for disclosure about accounting estimates that are recognized in the financial statements.
24. Some financial reporting frameworks require or permit disclosures that enable users of financial statements to understand the judgments that management has made about the future and the assumptions underlying accounting estimates. Some types of disclosures are:

- The nature of the assumptions or degree of measurement uncertainty.
- The sensitivity of the accounting estimates to the methods and assumptions underlying their calculation, including the reasons for the sensitivity and the effect of changes in selected assumptions.
- Management's views about the expected resolution of an uncertainty, the range of reasonably possible outcomes, including the effect on the accounting estimate and the financial statements.
- An explanation of changes made in assumptions made in prior periods.

Assessment of the Risks of Material Misstatement

25. **Based on the information gathered from the risk assessment procedures, the auditor should identify and assess the risks of material misstatement at the financial statement level and at the assertion level for accounting estimates.**
26. The auditor's assessment of the risk of material misstatement takes into account:
- (a) The identified accounting estimates and what can go wrong at the assertion level, the significance of the accounting estimate, and the likelihood that the risks could result in a material misstatement;
 - (b) The auditor's evaluation of whether the degree of measurement uncertainty of an accounting estimate gives rise to a significant risk; and
 - (c) The extent to which the historical experience of management in making accounting estimates in prior periods may be indicative of the likely outcome of similar estimates made in the current period.
27. **The auditor should determine whether the degree of measurement uncertainty in an accounting estimate identified as having a risk of material misstatement gives rise to a significant risk.**
28. Making the assessment and determination required by paragraphs 25 and 27, enables the auditor to classify accounting estimates with risks of material misstatement in one of the following three categories:

Category A - Low Measurement Uncertainty Accounting estimates where the degree of measurement uncertainty does not give rise to a significant risk. In this case the risk of material misstatement arises primarily from the significance of the monetary amount of the accounting estimate recognized in the financial statements.

Category B - Significant Measurement Uncertainty Accounting estimates where the high degree of measurement uncertainty arising from the wide range of possible outcomes gives rise to a significant risk. In this case the risk of material misstatement arises from the potential for a different measurement of the accounting estimate recognized in the financial statements, rather than from the significance of the monetary amount of the estimate. ISA 315, discusses those risks of material misstatement that require special audit consideration and are therefore significant risks. ISA 330, "The Auditor's Procedures in Response to Assessed Risks" discusses the consequences of the existence of a significant risk.

Category C - Uncertainty Precludes Recognition Accounting estimates where the measurement uncertainty not only gives rise to a significant risk but also is so great that an estimate is not sufficiently reliable to meet the recognition criteria of the applicable financial reporting framework.

Appendix 1 provides further description of illustrative characteristics of each of these categories and provides illustrative examples of each.

Responses to the Risks of Material Misstatement

29. **The auditor should design and perform further audit procedures whose nature, timing and extent are responsive to the assessed risks of accounting estimates at the financial statement level and at the assertion level.**
30. The auditor responds to the risks of material misstatement of accounting estimates in the following ways:
- (a) Responses that have an overall effect on how the audit is conducted such as emphasizing to the audit team the need to maintain professional skepticism in gathering and evaluating audit evidence, assigning more experienced staff or those with special skills, or using experts. Using the work of an expert is discussed in paragraphs 31 and 32.
 - (b) Audit procedures responsive to the risks of material misstatement at the assertion level that may apply to accounting estimates in Categories A, B and C:
 - Subsequent events (Paragraph 34);
 - Testing the process used to develop the accounting estimate (Paragraphs 35 to 40);
 - Making an independent estimate (Paragraphs 41 to 43).
 - (c) Additional responses to significant risks in Categories B and C only
 - Evaluating the design of controls relating to the accounting estimate, including relevant control activities and determining whether they have been implemented (Paragraph 45)
 - Obtaining all evidence about the operating effectiveness of internal controls that the auditor plans to rely on from tests of controls performed in the current period (Paragraph 45)
 - Performing substantive procedures that specifically respond to the risks of material misstatement arising from measurement uncertainty (Paragraphs 46 to 66).

USING THE WORK OF AN EXPERT

31. **The auditor should determine the need to use the work of an expert.** The auditor may have the necessary skill and knowledge to plan and perform audit procedures related to accounting estimates or may decide to use the work of an expert. ISA 620, “Using the work of an expert” requires the auditor, among other things, to:
- (a) Assess the professional competence and objectivity of the expert; and
 - (b) Obtain sufficient appropriate audit evidence that the scope of the expert’s work is adequate for the purposes of the audit.

32. The auditor obtains sufficient appropriate audit evidence that the work of the expert is adequate for the financial statement assertions being considered, and complies with the requirements of ISA 620. The reasonableness of assumptions and the appropriateness of the methods the expert used, and their application, are the expert's responsibility. Despite this, the auditor obtains an understanding of the significant assumptions and methods the expert used, and considers whether they are appropriate, complete and reasonable, based on the auditor's knowledge of the business and the results of other audit procedures. The auditor often discusses these matters with the expert. Paragraphs 49 to 56 discuss the auditor's evaluation of significant assumptions used by management, including assumptions relied upon by management based on the work of an expert it has used.

AUDIT PROCEDURES RESPONSIVE TO THE RISK OF MATERIAL MISSTATEMENT AT THE ASSERTION LEVEL

33. **For accounting estimates that the auditor has identified and assessed as having risks of material misstatement, the auditor should use professional judgment in deciding whether to adopt one or a combination of the following approaches:**
- (a) **Considering whether subsequent events confirm the accounting estimate made.**
 - (b) **Testing the operating effectiveness of the process used to develop the accounting estimate and the data used to develop it.**
 - (c) **Making an independent estimate for comparison with management's.**

Subsequent Events

34. Transactions and events that occur after the period end, but prior to completion of the audit, may provide persuasive audit evidence regarding an accounting estimate. It also may reduce or even remove the need to test the operating effectiveness of the process used to develop the accounting estimate or to make an independent estimate to assess the reasonableness of the accounting estimate. For example, a sale of inventory of a superseded product, shortly after the period end, may provide audit evidence relating to the estimate of its net realizable value. The auditor exercises caution, however, when evaluating whether that evidence is sufficiently persuasive to confirm an accounting estimate.

Testing the Process used to Develop the Accounting Estimate

35. Evaluating how management developed the accounting estimate is likely to be an appropriate response when, for example:
- (a) The accounting estimate is derived from the routine processing of data by the entity's accounting system, the entity's controls over such processing are strong and the auditor has tested the data used to develop the accounting estimate.
 - (b) The historical experience of the entity in making estimates of a similar nature supports the likelihood that the estimates are reliably calculated.
 - (c) The accounting estimate is based on a large population of items of a similar nature that individually are not significant.
36. Based on the understanding gained of the entity's internal control, including its control environment, the methods used by management to make accounting estimates and the assumptions underlying the estimates, the auditor considers the effect of the following on the nature, timing and extent of audit procedures to evaluate management's process:

- (a) Whether management's process is likely to give rise to a reasonable estimate;
 - (b) Whether employees making the accounting estimates are competent and whether management has an incentive and opportunity to override controls over estimates made by subordinates; and
 - (c) Whether the risk assessment leads the auditor to expect that controls are operating effectively.
37. When the auditor's assessment of risks of material misstatement at the assertion level is based on an expectation that controls over the process are operating effectively, ISA 330 requires the auditor to obtain audit evidence about the operating effectiveness of those controls.
38. The greater the judgment needed to be applied to make an accounting estimate, the less likelihood there is that the estimate is subject to routine controls. Possible reasons include:
- The need for involvement of management in the process and the possible introduction of bias.
 - The risk of human intervention in collecting, processing and analyzing data.
 - The nature of non-routine or unusual transactions that pose difficulties in designing and implementing effective controls.
39. The auditor's substantive procedures performed in response to the related assessment of the risk of material misstatement include testing whether the data on which the accounting estimate is based, including data used in the work of an expert, is accurate, complete and relevant, and whether that data was properly used in determining the accounting estimate. The auditor's substantive procedures may also include verifying the source of the data, mathematical re-computing, and reviewing information for internal consistency.
40. The auditor's testing of the operating effectiveness of the process used to develop an accounting estimate may suggest or establish that its reliability is highly dependent on management's assumptions, or that the accounting estimate is management's best estimate from a wide range of reasonably possible outcomes. This may indicate that an accounting estimate involves a high degree of measurement uncertainty that gives rise to a significant risk. Additional responses to significant measurement uncertainty are described in paragraphs 44 to 66.

Making an Independent Estimate

41. The auditor considers whether an appropriate response is to make an independent estimate (for example by using an auditor-developed model) to compare with management's estimate in the following cases:
- (a) where an accounting estimate is not derived from the routine processing of data by the accounting system;
 - (b) where the historical experience of the entity in developing estimates is unlikely to be relevant to a particular accounting estimate;

- (c) where the entity's controls within and over management's processes for determining accounting estimates are not well designed or properly implemented (as may be the case, for example, for non-recurring or unusual accounting estimates); or
 - (d) where the amount of an estimate is not based on a population of items having similar probabilities of final outcome (for example, an allowance for loss on a loan that is individually significant to a borrower in an industry not otherwise represented in a loan portfolio).
42. Although the auditor may develop separate assumptions to compare with management's accounting estimate the auditor still obtains an understanding of management's assumptions. The auditor uses that understanding to evaluate whether the auditor's model considers the significant variables and any significant difference from management's accounting estimate.
43. Making an independent estimate may reveal that the reliability of an accounting estimate is highly dependent on assumptions or that a best estimate has to be determined from a wide range of reasonably possible outcomes, indicative of significant measurement uncertainty. This would indicate that the accounting estimate may give rise to a significant risk. Additional responses to significant measurement uncertainty are described in paragraphs 44 to 66.

Responses to Significant Measurement Uncertainty

44. Accounting estimates that give rise to a risk of material misstatement because of significant measurement uncertainty (i.e. accounting estimates in categories B or C described in paragraph 28 and in Appendix 1) give rise to significant risks. Management may identify these risks and respond to them by designing and implementing controls to address them.
45. **For accounting estimates that give rise to significant risks the auditor should, in addition to the requirements of paragraph 33:**
- (a) **To the extent not already done, evaluate the design of the entity's controls, including relevant control procedures, and determine whether they have been implemented;**
 - (b) **Obtain all audit evidence about the operating effectiveness of internal controls that the auditor plans to rely on from tests of control performed in the current period; and**
 - (c) **Perform substantive procedures that specifically respond to the measurement uncertainty. They include evaluating whether the accounting estimate has been properly determined from management's assumptions and testing the data used to make the estimate.**
46. Accounting estimates that fall in categories B or C involve significant measurement uncertainty and management may develop a range of reasonably possible outcomes within which it believes an accounting estimate will fall. This is particularly likely where the entity's financial reporting framework requires the consideration of ranges and possibly disclosures relating to ranges of reasonably possible outcomes. Once a range of reasonably possible outcomes has been established, management undertakes an analysis to determine a best estimate, within the range, to be recognized in the financial statements. When the range is very wide, a reasonable estimate cannot be made. In such circumstances, given the

significance of the measurement uncertainty, it is likely that the financial reporting framework would not permit an estimate to be recognized in the financial statements and the accounting estimate would fall into category C.

47. The auditor's substantive procedures in response to measurement uncertainty that gives rise to a significant risk will depend upon the particular circumstances of the accounting estimate. The extent to which management has made its accounting estimate with reference to a range of reasonably possible outcomes will likely have an important influence on the auditor's substantive response. In this case, the auditor's response is likely to include evaluating the reasonableness of management's assumptions in determining the range of reasonably possible outcomes, and how management determined the best estimate from the range.
48. Where management has determined a best estimate without establishing a range of reasonably possible outcomes, because for example management decided that a particular outcome was probable, the auditor's response is likely to include evaluating the reasonableness of management's assumptions. The auditor evaluates management's support for the accounting estimate, and may conclude that management's view is supported by the evidence. Alternatively, the auditor may decide to independently develop (with or without using the work of an expert) a range of reasonably possible outcomes and to evaluate the sensitivity of the accounting estimate to changes in assumptions. The auditor then evaluates the reasonableness of management's estimate in relation to the range developed by the auditor.

EVALUATING THE REASONABLENESS OF MANAGEMENT'S ASSUMPTIONS

49. **For accounting estimates that give rise to significant risks, the auditor should evaluate whether the significant assumptions made by management, taken individually, and as a whole reflect the auditor's understanding of the entity and provide a reasonable basis for the accounting estimates and related disclosures in the entity's financial statements.**
50. In developing accounting estimates, management makes assumptions about matters both within and outside its control. Examples of assumptions outside the control of management include, interest rates, exchange rates, mortality and morbidity rates (for example, relating to a particular population of insurance policy holders) and inflation rates.
51. Because the making of assumptions involves predicting the future they are inherently uncertain. This is especially so when they relate to when (or whether) events or conditions are going to occur, or when they relate to events or conditions that may exist far into the future. Information to support assumptions on such matters as the likely direction of interest rates and securities prices is sometimes available from reputable external sources.
52. Assumptions about matters that management is able to control include, for example, the population of employees that are expected to be terminated as a result of a personnel redundancy program, or the timing and duration of such a program. Management also may decide to initiate a plan of asset sales to eliminate, for example, a particular type of product line; and management controls the process by soliciting bids, negotiating the terms of transactions and other actions to accomplish the plan. In some cases management needs to consider the circumstances of the entity, such as pre-existing contractual commitments or restrictions imposed by law or regulation. Those charged with governance may be involved

in authorizing specific actions depending on the significance of the actions management proposes to take, and the authority delegated to management.

53. Management's support for accounting estimates comes from the entity's information systems and its continuing processes of strategic analysis and risk management. Even without formalized processes, the auditor may be able to evaluate the assumptions through inquiries of management and further corroborative procedures.
54. The auditor considers the assumptions, collectively and individually, in evaluating whether the assumptions reasonably support the accounting estimates. Assumptions are frequently interdependent, and, therefore, need to be internally consistent. A particular assumption that may appear reasonable when taken in isolation, may not be reasonable when used in conjunction with other assumptions. Assumptions made by an expert used by management to assist in making accounting estimates are treated as though they were management's.
55. An accounting estimate often reflects management's intent to carry out courses of action relevant to the accounting estimate. Management often documents plans and intentions relevant to specific assets or liabilities and the financial reporting framework may require it to do so. While the extent of audit evidence to be obtained about management's intent is a matter of professional judgment, the auditor's procedures usually include:
 - Considering management's past history of carrying out its stated intentions.
 - Reviewing written plans and other documentation, including, where applicable, budgets, minutes, etc.
 - Considering management's stated reasons for a particular course of action.
 - Considering management's ability to carry out a particular course of action given the entity's economic circumstances, including the implications of its existing commitments.
 - Obtaining appropriate representations from management.
56. The auditor's consideration of management's assumptions is based on information available to the auditor at the time of the audit. The auditor is not responsible for predicting future conditions, transactions or events that, if known at the time of the audit, might have significantly affected management's actions or management's assumptions underlying the accounting estimates and disclosures.

MANAGEMENT DETERMINES AN ACCOUNTING ESTIMATE FROM A RANGE OF
REASONABLY POSSIBLE OUTCOMES OR ASSUMPTIONS

57. **For accounting estimates that give rise to significant risks, where management has determined an accounting estimate from a range of reasonably possible outcomes or from sensitivity analysis on assumptions, the auditor should evaluate how management determined the best estimate from within the range or which assumptions to use.**
58. Management is responsible for supporting how it has selected a best estimate from a range of reasonably possible outcomes, or which assumptions to use. If the auditor believes that, based on audit procedures undertaken and an evaluation of management's process management has not adequately supported the accounting estimate, the auditor requests management to perform other procedures and provide persuasive evidence to provide the necessary support. Management may need to engage an expert to assist in obtaining the

support, or management may need to perform analysis of data or obtain information from industry or other sources to support its view.

59. Where there is significant measurement uncertainty and, therefore, a wide range of reasonably possible outcomes, there may not be a most likely outcome in a range and, therefore, no specifically supportable best estimate. In such circumstances, management chooses an estimate from the range of reasonably possible outcomes. Financial reporting frameworks suggest various ways to determine the best estimate. The best estimate may be derived by weighting all possible outcomes according to their probabilities. This method of estimation is sometimes referred to as “expected value” and often it is applied to a large population of data. Where there is a continuous range of possible outcomes, and each point in that range is as likely as any other, some financial reporting frameworks encourage use of the mid-point of the range.

THE AUDITOR INDEPENDENTLY DEVELOPS A RANGE OF REASONABLY POSSIBLE OUTCOMES

60. **For accounting estimates that give rise to significant risks, where management has not adequately supported a best estimate, the auditor should independently develop a range of reasonably possible outcomes. This allows the auditor to evaluate the reasonableness of management’s best estimate in relation to the auditor determined range.**
61. The auditor can independently develop a range of reasonably possible outcomes in a number of ways. In some cases, the auditor may use a model, proprietary or commercial, to which the auditor may introduce entity-specific data. The auditor may employ or engage an expert with specialized expertise to develop or execute the model or to provide relevant assumptions. In some cases, the auditor’s model contains assumptions used by management that the auditor deems appropriate, while in other cases all assumptions are unique to the auditor’s model. A sensitivity analysis involves evaluating the effect on an accounting estimate of varying an assumption (within the parameters of supportable premises) while maintaining other assumptions constant. For example, an accounting estimate may be based on an assumed future exchange rate between two currencies. A sensitivity analysis involves calculating the effect on the accounting estimate of changes in the exchange rate from the assumed rate. The range of reasonably possible outcomes, therefore, varies according to the assumptions used.
62. In determining a range of reasonably possible outcomes, the auditor takes into account considerations similar to those that apply to the making of an independent accounting estimate. If, for example, management’s best estimate is not within the auditor’s range of reasonably possible outcomes, the auditor seeks to understand the reasons.
63. The auditor may conclude that management’s accounting estimate is adequately supported and, therefore, reasonable in the circumstances. Alternatively, the auditor may conclude that the evidence points to an estimate that is other than management’s estimate, and that the difference between the auditor’s and management’s estimate constitutes a financial statement misstatement (see paragraphs 67 to 74).

EVALUATING WHETHER THE RECOGNITION CRITERIA OF THE FINANCIAL REPORTING FRAMEWORK HAVE BEEN MET

64. **For accounting estimates that give rise to significant risks, the auditor should evaluate whether the recognition criteria of the applicable financial reporting framework have been met.**
65. If management is unable to make an accounting estimate whose measurement is reliable, recognition in the financial statements may be prohibited by the applicable financial reporting framework. Consequently, accounting estimates that involve very high degrees of measurement uncertainty are not recognized in the financial statements but often information about the circumstances is disclosed in the notes to the financial statements, including in some cases information about the range of possible outcomes. For example, if the validity and amount of a claim for damages under a legal action are disputed, it may be inappropriate for the entity to recognize a liability for the claim. However, it may be appropriate to disclose the circumstances of the claim in the notes to the financial statements, including possibly the amount of the claim or the range of exposure to loss.
66. The auditor evaluates whether the audit evidence obtained is sufficient to support managements judgments about whether the recognition of an accounting estimate is appropriate. If management has recognized an accounting estimate in the financial statements, the auditor evaluates whether the measurement of the accounting estimate is sufficiently reliable to meet the recognition criteria of the financial reporting framework. The auditor also evaluates the audit evidence about accounting estimates that have not been recognized by management in the financial statements, and considers the adequacy of the disclosures in the notes to the financial statements.

Evaluating Audit Evidence and Determining Misstatements and Possible Management Bias

67. **The auditor should evaluate the sufficiency and appropriateness of the audit evidence with a view to determining whether the accounting estimates are reasonable in the circumstances or whether any are misstated. The auditor should also consider whether accounting estimates, while individually reasonable, may reflect possible management bias.**
68. The auditor concludes that a financial statement misstatement is present if an accounting estimate is either:
- (a) in the auditor's judgment not reasonable in the circumstances; or
 - (b) is not measured and disclosed in the financial statements in accordance with the entity's applicable financial reporting framework.
69. ISA 320, "Materiality in the Identification and Evaluation of Misstatements" classifies misstatements as:
- (a) Known misstatements;
 - (b) Likely misstatements; or
 - (c) Misstatements arising from differences in judgment.

The following paragraphs provide guidance as to the classification of misstatements relating to accounting estimates. ISA 320, provides guidance on the evaluation of the effect on the financial statements of all misstatements identified during the audit.

KNOWN MISSTATEMENTS

70. A known misstatement of an accounting estimate arises when the auditor obtains conclusive audit evidence that in making an accounting estimate management has:
- (a) Made mistakes in the gathering or processing of data;
 - (b) Not followed the requirements of the financial reporting framework; or
 - (c) Misinterpreted or overlooked facts.

LIKELY MISSTATEMENTS

71. Likely misstatements arise from the projection of errors identified in audit samples. Audit evidence relating to accounting estimates may give rise to likely misstatements when the auditor finds sampling errors when testing the data underlying an accounting estimate.

MISSTATEMENTS ARISING FROM DIFFERENCES IN JUDGMENT

72. The measurement uncertainty inherent in accounting estimates may give rise to the auditor making a judgment about the measurement of an accounting estimate that differs from management's judgment. Although audit evidence often is only persuasive, rather than conclusive, the auditor nevertheless decides on whether differences in judgment about an accounting estimate constitute a misstatement of the financial statements.
73. The auditor may have independently developed a range of reasonably possible outcomes with which to evaluate the reasonableness of management's best estimate. In such circumstances the auditor concludes that an accounting estimate is reasonable if it falls within the range (see examples 1 and 2 in Appendix 2).
74. If management's accounting estimate lies outside a range of auditor determined reasonably possible outcomes there is a difference in judgment considered to be a misstatement of the difference between management's accounting estimate and the point in the range of reasonably possible outcomes that the auditor considers to be the most likely outcome, or that is prescribed by the applicable financial reporting framework (see examples 3 and 4 in Appendix 2).

POSSIBLE MANAGEMENT BIAS

75. An accounting estimate is not misstated if it falls within a range of reasonably possible outcomes. However, measurement uncertainty associated with the making of accounting estimates poses a potential threat to the reliability of financial statements. Management has considerable latitude in exercising its judgment in deciding about the appropriateness of assumptions. Within the constraints imposed by the applicable financial reporting framework, it also has the ability to choose where an accounting estimate should lie within a range of reasonably possible outcomes. Management may be motivated to choose an accounting estimate or assumptions that, although plausible, may not reflect the most likely outcome of uncertain future events and conditions. For example, management may choose estimates that tend to increase (or avoid decreasing) the carrying amount of assets and estimates that tend to understate liabilities, as a means of managing earnings.

76. If there are a number of accounting estimates that fall within a range of reasonably possible outcomes there is a risk that accounting estimates are misstated when looked at collectively, notwithstanding that each is considered reasonable when looked at in isolation. This may arise when, for example:
- Accounting estimates consistently lie at one boundary of the reasonable range of possible outcomes. For example, when management consistently uses biased assumptions with respect to a number of accounting estimates.
 - Accounting estimates move from one consistent location within a range of reasonably possible outcomes to another in successive periods. For example, management may change from recognizing estimates of assets from the mid point of the range to the top end of the range.
77. The auditor documents details of areas of possible management bias. Appendix 2 provides examples of the relationship between misstatements and possible bias. ISA 320, provides guidance on the evaluation of the effect on the financial statements of possible bias identified during the audit.

Evaluating Disclosure of Measurement Uncertainty in the Financial Statements

78. If the auditor determined range of reasonably possible outcomes is greater than the acceptable misstatement⁴ of the financial statement item determined when making the risk assessment, then the auditor may not be in a position to determine whether there is a financial statement misstatement or not (see examples 2 and 4 in Appendix 2). In such circumstances the auditor evaluates the adequacy of the disclosure of the uncertainties in the notes to the financial statements.
79. **Where an accounting estimate falls within an auditor determined range of reasonably possible outcomes and that range is greater than acceptable misstatement applicable to the estimate, the auditor should evaluate whether the disclosures in the financial statements meet the requirements of the applicable financial reporting framework and adequately disclose the measurement uncertainties that affect the accounting estimate.**
80. Some financial reporting frameworks prescribe the disclosures necessary in varying circumstances of measurement uncertainty. In other cases, the auditor may encourage management to describe, in the notes to the financial statements, the circumstances giving rise to the uncertainty surrounding the particular matter and, in the case of loss contingencies the range of reasonably possible outcomes.

Management Representations

81. **The auditor should obtain written representations from management regarding the reasonableness of accounting estimates, including whether they appropriately reflect management's intent and ability to carry out specific courses of action on behalf of the entity.**
82. ISA 580, "Management Representations" discusses the use of management representations. Depending on the nature, materiality and extent of measurement uncertainty, management

⁴ The term "acceptable misstatement" is explained in ISA 320, "Materiality in the Identification and Evaluation of Misstatements".

representations about accounting estimates recognized or disclosed in the financial statements may include representations about:

- The appropriateness of the measurement methods, including related assumptions, used by management in determining accounting estimates within the applicable financial reporting framework, and the consistency in application of the methods
- The completeness and appropriateness of disclosures related to accounting estimates under the entity's financial reporting framework
- Whether subsequent events require adjustment to the accounting estimates and disclosures included in the financial statements
- Management's intent to carry out courses of action relevant to the accounting estimate.

Reporting on the Financial Statements

83. Where the auditor disagrees with management regarding either the recognition or measurement of accounting estimates or the adequacy of the financial statement disclosures concerning accounting estimates and such disagreements are material to the financial statements, the auditor either qualifies the audit opinion or issues an adverse opinion.
84. Where the auditor does not disagree with the accounting estimate and the range of reasonably possible outcomes is greater than the acceptable misstatement for the estimate the auditor, as required by paragraph 79, evaluates the adequacy of the disclosures in the financial statements. Based on the evaluation the auditor considers whether to modify the auditor's report by adding an emphasis of matter paragraph to the auditor's report on the financial statements.
85. The addition of such an emphasis of matter paragraph does not affect the auditor's opinion which ordinarily refers to the fact that the auditor's opinion is not qualified in this respect. Guidance with respect to the modification of auditor's reports is set out in ISA 701, "Modifications to the Independent Auditor's Report".

Documentation

86. **With respect to all accounting estimates, the auditor should document:**
- (a) **The results of the auditor's risk assessment procedures to identify accounting estimates for which there is a risk of material misstatement;**
 - (b) **The results of the audit procedures on the outcome or re-estimation of significant accounting estimates made in prior periods;**
 - (c) **The responses to the assessed risks of material misstatement of accounting estimates at the financial statement level and at the assertion level, and the nature, timing and extent of further audit procedures responsive to the risks;**
 - (d) **Misstatements identified by the auditors;**
 - (e) **Details of possible management bias; and**
 - (f) **The auditor's evaluation of whether the disclosures in the financial statements adequately disclose uncertainties affecting accounting estimates.**

87. **With respect to those accounting estimates that give rise to significant risks, the auditor should also document;**
- (a) **The accounting estimates that give rise to significant risks and the auditor's responses to those risks;**
 - (b) **The auditor's evaluation of the significant assumptions made by management;**
 - (c) **The auditor's evaluation of management's determination of best estimates from within a range or which assumptions to use;**
 - (d) **The ranges of reasonably possible outcomes determined by the auditor, and the auditor's evaluation of the reasonableness of management's best estimate in relation to the auditor determined range; and**
 - (e) **The auditor's evaluation of whether the recognition criteria of the applicable financial reporting framework have been met.**
88. The extent to which these matters are documented is for the auditor to determine using professional judgment.

Effective Date

89. This ISA is effective for audits of financial statements for periods beginning on or after [insert date].

Public Sector Perspective

The need for, and if so the content of, this section to be considered by the Public Sector Committee

Categories of accounting estimate subject to a risk of material misstatement

Category	Illustrative characteristics	Illustrative examples
<p>A. <u>Low Measurement Uncertainty</u>. Accounting estimates where the degree of measurement uncertainty does not give rise to a significant risk.</p> <p><i>The risk of material misstatement arises primarily from the significance of the monetary amount of the accounting estimate recognized in the financial statements.</i></p>	<p>Accounting estimates in this category are those, for example:</p> <ul style="list-style-type: none"> • that are capable of being calculated from generally accepted methodologies; or • that are not dependent upon management's judgment of the outcome of uncertain future conditions, transactions or events; or • that do not involve complex calculations; or • where the accounting estimate is derived from the entity's accounting system and the internal controls over the relevant systems are strong; or • where the historical experience of the entity is likely to be indicative of the final outcome of the item being estimated; or • where the amount being estimated involves a large population of items each having a similar probability of final outcome. 	<ol style="list-style-type: none"> 1 Depreciation expense of a fleet of rental vehicles 2 Valuation of a pile of bulk raw material such as coal or timber 3 Liabilities in respect of a staff bonus scheme. 4 Liability for refunds of deposits on reusable containers returned by customers 5 Warranty provision relating to a long established product line 6 Bad debt provision with respect to credit cards issued by a financial institution
<p>B. <u>Significant Measurement Uncertainty</u>. Accounting estimates where the high degree of measurement uncertainty arising from the wide range of possible outcomes gives rise to a significant risk.</p> <p><i>The risk of material misstatement arises from the potential for a different measurement of the accounting estimate recognized in the financial statements, rather than from the significance of the monetary amount of the estimate</i></p>	<p>Accounting estimates in this category are those for example:</p> <ul style="list-style-type: none"> • that are highly dependent upon management's judgment of the outcome of uncertain future conditions, transactions or events that are remote in time or may not occur; or • that are not capable of being calculated from generally accepted methodologies or derived with some degree of precision from available data; or • that involve complex calculations; or • where the accounting estimate is derived from the entity's accounting system and the internal controls over the relevant systems are weak; or • where the historical experience of the entity is unlikely to be indicative of the 	<ol style="list-style-type: none"> 1 Future sales of a new drug in order to determine whether carrying amount of development costs is impaired. 2 Provision for environmental remediation costs 3 The present value of expenditures expected to be required to settle an obligation such as a structured settlement annuity 4 Estimate of ultimate liability in respect of a line of Property & Casualty Insurance business where the controls over the timely input of reported claims are weak 5 Warranty provision relating to a newly

	<p>final outcome of the item being estimated; or</p> <ul style="list-style-type: none"> • where the amount being estimated involves a small population of items having dissimilar probabilities of final outcome. 	<p>introduced product.</p> <p>6 Additional revenues on long term contracts where the contractor is negotiating for additional payments from customers</p>
<p>C. <u>Uncertainty Precludes Recognition</u>. Accounting estimates where the measurement uncertainty not only gives rise to a significant risk but also is so great that an estimate is not sufficiently reliable to meet the recognition criteria of the applicable financial reporting framework.</p>	<p>The characteristics of accounting estimates in this category are qualitatively similar to the characteristics of the preceding category. The difference is that management is unable to make an accounting estimate that can be depended upon by users of the financial statements to be free from material error. Consequently an asset or liability exists that is not recognized but may be disclosed as a contingent asset or liability as required by the financial reporting framework.</p>	<p>1 Estimated financial effect of a contingent liability (except where the possibility of any outflow in settlement is remote).</p> <p>2 Obligations for which an entity is jointly and severally liable to the extent that it is expected that the provision will be settled by other parties.</p>

Examples of circumstances giving rise to “Misstatements arising from differences in judgment”, potential management bias or disclosure of uncertainty

	Example 1	Example 2	Example 3	Example 4
Range of reasonably possible outcomes for provision for warranty expense supported by available audit evidence.	\$95,000 to \$102,000	\$95,000 to \$102,000	\$95,000 to \$102,000	\$95,000 to \$102,000
Management’s recognized accounting estimate for provision for warranty expense	\$96,000	\$96,000	\$91,000	\$91,000
‘Acceptable misstatement’ applicable to provision for warranty expense	\$8,000	\$4,000	\$8,000	\$4,000
Misstatements arising from differences in judgment				
Does management’s accounting estimate give rise to a “Misstatement arising from differences in judgment”	No Because it falls within the range of reasonably possible outcomes.	No Because it falls within the range of reasonably possible outcomes. As the range of \$7,000 is <u>greater than</u> ‘acceptable misstatement’ of \$4,000, the auditor needs to consider the adequacy of the disclosure of the measurement uncertainty.	Yes Because it falls outside the range of reasonably possible outcomes	Yes Because it falls outside the range of reasonably possible outcomes. As the range of \$7,000 is <u>greater than</u> ‘acceptable misstatement’ of \$4,000, the auditor needs to consider the adequacy of the disclosure of the measurement uncertainty
Alternative 1. Measuring the misstatement with reference to the mid-point of the range of reasonably possible outcomes. The mid point of the range is \$98,500 in all four examples. (See Note 1)	N/A	N/A	\$7,500 \$98,500 minus \$91,000	\$7,500 \$98,500 minus \$91,000
Alternative 2. Measuring the misstatement with reference to the nearest point on the range of reasonably possible outcomes. (See Note 2.)	N/A	N/A	\$4,000 \$95,000 minus \$91,000	\$4,000. \$95,000 minus \$91,000

Possible management bias that may give rise to a misstatement when aggregated with other evidence of potential bias.				
Could management's accounting estimate be considered biased when aggregated with other evidence of management bias (including evidence from other accounting estimates)?	<u>Yes</u> Because the accounting estimate is subject to measurement uncertainty and falls within a range of reasonably possible outcomes	<u>Yes</u> Because the accounting estimate is subject to measurement uncertainty and falls within a range of reasonably possible outcomes	<u>No</u> Because the calculation of the misstatement arising from differences in judgment subsumes the potential management bias.	<u>No</u> Because the calculation of the misstatement arising from differences in judgment subsumes the potential management bias.
Alternative 1. Measuring the possible bias with reference to the mid-point of the range of reasonably possible outcomes. The mid point of the range is \$98,500 in all four examples. (See Note 1)	\$2,500 \$98,500 minus \$96,000	\$2,500 \$98,500 minus \$96,000	N/A (Assuming misstatement booked)	N/A (Assuming misstatement booked)
Alternative 2. Measuring the possible bias with reference to the nearest point on the range of reasonably possible outcomes. (See Note 2)	(\$1,000) \$95,000 minus \$96,000	(\$1,000) \$95,000 minus \$96,000	N/A (Assuming misstatement booked)	N/A (Assuming misstatement booked)
Disclosure of uncertainty in the financial statements				
Does the auditor need to consider the disclosure of uncertainty surrounding the accounting estimate in the financial statements?	No Because the range of reasonably possible outcomes is <u>less than</u> the "acceptable misstatement"	Yes Because the range of reasonably possible outcomes is <u>greater than</u> the 'acceptable misstatement' of \$4,000.	No Because the range of reasonably possible outcomes is <u>less than</u> the "acceptable misstatement"	Yes Because the range of reasonably possible outcomes is <u>greater than</u> the 'acceptable misstatement' of \$4,000.

Notes:

- The auditor might measure the misstatement with reference to the mid-point of the range where the accounting estimate being measured involves a large population of items, where there is a continuous range of possible outcomes and each point in that range is considered to be as likely as any other. This follows the principle outlined in paragraph 39 of IAS 37 'Provisions, Contingent Liabilities and Contingent Assets'.
- Some accounting frameworks mandate that the misstatement should be measured as the difference between management's accounting estimate and the nearest point on the auditor's range of possible outcomes. (See for example AU 342.14 in US GAAS and CICA Handbook 5305.06).