

INTERNATIONAL STANDARD ON AUDITING 540

AUDIT OF ACCOUNTING ESTIMATES

(Effective for audits of financial statements for periods beginning on or after December 15, 2004)*

CONTENTS

	Paragraph
Introduction	1-4
The Nature of Accounting Estimates	5-7
Audit Procedures Responsive to the Risk of Material Misstatement of the Entity's Accounting Estimates	8-10
Reviewing and Testing the Process Used by Management	11-21
Use of an Independent Estimate	22
Review of Subsequent Events	23
Evaluation of Results of Audit Procedures	24-27

International Standard on Auditing (ISA) 540, "Audit of Accounting Estimates" should be read in the context of the "Preface to the International Standards on Quality Control, Auditing, Review, Other Assurance and Related Services," which sets out the application and authority of ISAs.

* ISA 315, "Understanding the Entity and Its Environment and Assessing the Risks of Material Misstatement," ISA 330, "The Auditor's Procedures in Response to Assessed Risks," and ISA 500, "Audit Evidence" gave rise to conforming amendments to ISA 540. The conforming amendments are effective for audits of financial statements for periods beginning on or after December 15, 2004 and have been incorporated in the text of ISA 540.

Introduction

1. The purpose of this International Standard on Auditing (ISA) is to establish standards and provide guidance on the audit of accounting estimates contained in financial statements. This ISA is not intended to be applicable to the examination of prospective financial information, though many of the audit procedures outlined herein may be suitable for that purpose.
2. **The auditor should obtain sufficient appropriate audit evidence regarding accounting estimates.**
3. “Accounting estimate” means an approximation of the amount of an item in the absence of a precise means of measurement. Examples are:
 - Allowances to reduce inventory and accounts receivable to their estimated realizable value.
 - Provisions to allocate the cost of fixed assets over their estimated useful lives.
 - Accrued revenue.
 - Deferred tax.
 - Provision for a loss from a lawsuit.
 - Losses on construction contracts in progress.
 - Provision to meet warranty claims.
4. Management is responsible for making accounting estimates included in financial statements. These estimates are often made in conditions of uncertainty regarding the outcome of events that have occurred or are likely to occur and involve the use of judgment. As a result, the risk of material misstatement is greater when accounting estimates are involved and in some cases the auditor may determine that the risk of material misstatement related to an accounting estimate is a significant risk that requires special audit consideration. See paragraphs 108-114 of ISA 315, “Understanding the Entity and Its Environment and Assessing the Risks of Material Misstatement.”

The Nature of Accounting Estimates

5. The determination of an accounting estimate may be simple or complex depending upon the nature of the item. For example, accruing a charge for rent may be a simple calculation, whereas estimating a provision for slow-moving or surplus inventory may involve considerable analyses of current data and a forecast of future sales. In complex estimates, there may be a high degree of special knowledge and judgment required.
6. Accounting estimates may be determined as part of the routine information system relevant to financial reporting operating on a continuing basis, or may

be nonroutine, operating only at period end. In many cases, accounting estimates are made by using a formula based on experience, such as the use of standard rates for depreciating each category of fixed assets or a standard percentage of sales revenue for computing a warranty provision. In such cases, the formula needs to be reviewed regularly by management, for example, by reassessing the remaining useful lives of assets or by comparing actual results with the estimate and adjusting the formula when necessary.

7. The uncertainty associated with an item, or the lack of objective data may make it incapable of reasonable estimation, in which case the auditor needs to consider whether the auditor's report needs modification to comply with ISA 701, "Modifications to the Independent Auditor's Report."

Audit Procedures Responsive to the Risk of Material Misstatement of the Entity's Accounting Estimates

8. **The auditor should design and perform further audit procedures to obtain sufficient appropriate audit evidence as to whether the entity's accounting estimates are reasonable in the circumstances and, when required, appropriately disclosed.** The audit evidence available to detect a material misstatement in an accounting estimate will often be more difficult to obtain and less persuasive than audit evidence available to detect a material misstatement in other items in the financial statements. The auditor's understanding of the entity and its environment, including its internal control, assists the auditor in identifying and assessing the risks of material misstatement of the entity's accounting estimates.
9. An understanding of the procedures and methods, including relevant control activities, used by management in making the accounting estimates is important for the auditor to identify and assess risks of material misstatement in order to design the nature, timing and extent of the further audit procedures.
10. **The auditor should adopt one or a combination of the following approaches in the audit of an accounting estimate:**
 - (a) **Review and test the process used by management to develop the estimate;**
 - (b) **Use an independent estimate for comparison with that prepared by management; or**
 - (c) **Review of subsequent events which provide audit evidence of the reasonableness of the estimate made.**

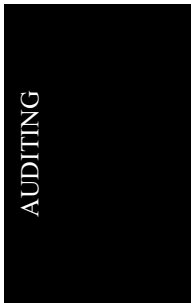
Reviewing and Testing the Process Used by Management

11. The steps ordinarily involved in reviewing and testing of the process used by management are:

- (a) Evaluation of the data and consideration of assumptions on which the estimate is based;
- (b) Testing of the calculations involved in the estimate;
- (c) Comparison, when possible, of estimates made for prior periods with actual results of those periods; and
- (d) Consideration of management’s approval procedures.

Evaluation of Data and Consideration of Assumptions

- 12. The auditor would evaluate whether the data on which the estimate is based is accurate, complete and relevant. When information produced by the entity is used, it will need to be consistent with the data processed through the information system relevant to financial reporting. For example, in substantiating a warranty provision, the auditor would obtain audit evidence that the data relating to products still within the warranty period at period end agree with the sales information within the information system relevant to financial reporting. ISA 500, “Audit Evidence” paragraph 11 provides additional guidance on the requirement to obtain audit evidence about the accuracy and completeness of information produced by the entity when it is used in performing audit procedures.
- 13. The auditor may also seek audit evidence from sources outside the entity. For example, when examining a provision for inventory obsolescence calculated by reference to anticipated future sales, the auditor may, in addition to examining internal data such as past levels of sales, orders on hand and marketing trends, seek audit evidence from industry-produced sales projections and market analyses. Similarly, when examining management’s estimates of the financial implications of litigation and claims, the auditor would seek direct communication with the entity’s lawyers.
- 14. The auditor would evaluate whether the data collected is appropriately analyzed and projected to form a reasonable basis for determining the accounting estimate. Examples are the analysis of the age of accounts receivable and the projection of the number of months of supply on hand of an item of inventory based on past and forecast usage.
- 15. The auditor would evaluate whether the entity has an appropriate base for the principal assumptions used in the accounting estimate. In some cases, the assumptions will be based on industry or government statistics, such as future inflation rates, interest rates, employment rates and anticipated market growth. In other cases, the assumptions will be specific to the entity and will be based on internally generated data.
- 16. In evaluating the assumptions on which the estimate is based, the auditor would consider, among other things, whether they are:
 - Reasonable in light of actual results in prior periods;



- Consistent with those used for other accounting estimates; and
- Consistent with management's plans which appear appropriate.

The auditor would need to pay particular attention to assumptions which are sensitive to variation, subjective or susceptible to material misstatement.

17. In the case of complex estimating processes involving specialized techniques, it may be necessary for the auditor to use the work of an expert, for example, engineers for estimating quantities in stock piles of mineral ores. Guidance on how to use the work of an expert is provided in ISA 620, "Using the Work of an Expert."
18. The auditor would review the continuing appropriateness of formulae used by management in the preparation of accounting estimates. Such a review would reflect the auditor's knowledge of the financial results of the entity in prior periods, practices used by other entities in the industry and the future plans of management as disclosed to the auditor.

Testing of Calculations

19. The auditor would perform audit procedures on the calculation procedures used by management. The nature, timing and extent of the auditor's procedures will depend on the assessed risk of material misstatement, which is impacted by such factors as the complexity involved in calculating the accounting estimate, the auditor's understanding and evaluation of the procedures and methods, including relevant control activities used by the entity in producing the estimate and the materiality of the estimate in the context of the financial statements.

Comparison of Previous Estimates with Actual Results

20. When possible, the auditor would compare accounting estimates made for prior periods with actual results of those periods to assist in:
 - (a) Obtaining audit evidence about the general reliability of the entity's estimating procedures and methods, including relevant control activities;
 - (b) Considering whether adjustments to estimating formulae may be required; and
 - (c) Evaluating whether differences between actual results and previous estimates have been quantified and that, where necessary, appropriate adjustments or disclosures have been made.

Consideration of Management's Approval Procedures

21. Material accounting estimates are ordinarily reviewed and approved by management. The auditor would consider whether such review and approval is

performed by the appropriate level of management and that it is evidenced in the documentation supporting the determination of the accounting estimate.

Use of an Independent Estimate

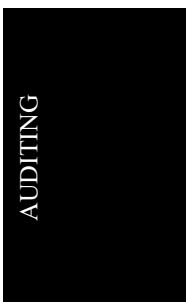
22. The auditor may make or obtain an independent estimate and compare it with the accounting estimate prepared by management. When using an independent estimate the auditor would ordinarily evaluate the data, consider the assumptions and perform audit procedures on the calculation procedures used in its development. It may also be appropriate to compare accounting estimates made for prior periods with actual results of those periods.

Review of Subsequent Events

23. Transactions and events which occur after period end, but prior to completion of the audit, may provide audit evidence regarding an accounting estimate made by management. The auditor's review of such transactions and events may reduce, or even remove, the need for the auditor to review and perform audit procedures on the process used by management to develop the accounting estimate or to use an independent estimate in assessing the reasonableness of the accounting estimate.

Evaluation of Results of Audit Procedures

24. **The auditor should make a final assessment of the reasonableness of the entity's accounting estimates based on the auditor's understanding of the entity and its environment and whether the estimates are consistent with other audit evidence obtained during the audit.**
25. The auditor would consider whether there are any significant subsequent transactions or events which affect the data and the assumptions used in determining the accounting estimates.
26. Because of the uncertainties inherent in accounting estimates, evaluating differences can be more difficult than in other areas of the audit. When there is a difference between the auditor's estimate of the amount best supported by the available audit evidence and the estimated amount included in the financial statements, the auditor would determine whether such a difference requires adjustment. If the difference is reasonable, for example, because the amount in the financial statements falls within a range of acceptable results, it may not require adjustment. However, if the auditor believes the difference is unreasonable, management would be requested to revise the estimate. If management refuses to revise the estimate, the difference would be considered a misstatement and would be considered with all other misstatements in assessing whether the effect on the financial statements is material.
27. The auditor would also consider whether individual differences which have been accepted as reasonable are biased in one direction, so that, on a cumulative basis, they may have a material effect on the financial statements.



AUDIT OF ACCOUNTING ESTIMATES

In such circumstances, the auditor would evaluate the accounting estimates taken as a whole.