In depth
A look at current financial reporting issues

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Revenue from contracts with customers

The standard is final – A comprehensive look at the new revenue model

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What's inside:

Engineering and construction industry supplement

At a glance

On 28 May, the IASB and FASB issued their long-awaited converged standard on revenue recognition. Almost all entities will be affected to some extent by the significant increase in required disclosures. But the changes extend beyond disclosures, and the effect on entities will vary depending on industry and current accounting practices.

In depth 2014-01 is a comprehensive analysis of the new standard. This supplement highlights some of the areas that could create the most significant challenges for engineering and construction entities as they transition to the new standard.

Overview

Entities in the engineering and construction (E&C) industry applying IFRS or US GAAP have primarily been following industry guidance for construction contracts[1] to account for revenue. These standards were developed to address particular aspects of long-term construction accounting and provide guidance on a wide range of industry-specific considerations including:

- Defining the contract, such as when to combine contracts, and when and how to account for change orders and other modifications.
- Defining the contract price, including variable consideration, customer-furnished materials, and claims.
- Recognition methods, such as the percentage-of-completion method (and, in the case of US GAAP, the completed contract method) and input/output methods to measure performance.
- Accounting for contract costs, such as pre-contract costs and costs to fulfil a contract.
- Accounting for loss-making contracts.

[1] This guidance is included in ASC Topic 605-35, *Construction-Type and Production-Type Contracts* (U.S. GAAP), and International Accounting Standards 11, *Construction Contracts* (IFRS).

The new revenue standard will replace the construction contract guidance and substantially all existing revenue recognition guidance under IFRS and US GAAP. This includes the percentage-of-completion method and the related construction cost accounting guidance as a stand-alone model.

Defining the contract

Current guidance covers:

- When two or more contracts should be combined and accounted for together.
- When one contract should be segmented and accounted for separately as two or more contracts.
- When a contract modification should be recognised.

These situations and, in particular, contract modifications such as change orders, are commonplace in the E&C industry.

The new standard applies only to contracts with customers that meet the following criteria:

- The contract has commercial substance.
- The contract has been approved by the parties to the contract and such parties are committed to satisfying their perspective obligations.
- It is probable that the entity will collect the consideration to be received in exchange for the goods or services to be transferred to the customer.
- The contract has enforceable rights that can be identified regarding the goods or services to be transferred.
- The payment terms can be identified.

Current practice is not expected to significantly change in the assessment of whether contracts should be combined. The standard does not contain guidance on segmenting contracts; however, construction companies that segment contracts under current guidance might not be significantly affected because of the requirement to account for separate performance obligations (refer to 'Accounting for multiple performance obligations' below). Construction companies currently exercise significant judgement to determine when to include change orders and other contract modifications in contract revenue and therefore there is diversity in practice. We expect that the use of judgement will continue to be needed and do not expect current practice (or existing diversity) in this area to be significantly affected by the new standard, including the accounting for unpriced change orders.

New standard	Current US GAAP	Current IFRS
Combining contracts Two or more contracts (including contracts with parties related to the customer) are combined and accounted for as one contract if the contracts are entered into at or near the same time and one or more of the following conditions are met: • The contracts are negotiated with a single commercial objective.	Combining and segmenting contracts is permitted provided certain criteria are met, but it is not required so long as the underlying economics of the transaction are fairly reflected.	Combining and segmenting contracts is required when certain criteria are met.

New standard	Current US GAAP	Current IFRS
• The amount of consideration in one contract depends on the other contract. • The goods or services promised are a single performance obligation (refer to 'Accounting for multiple performance obligations' below).		
Contract modifications (for example, change orders) An entity will account for a modification if the parties to a contract approve a change in the scope and/or price of a contract. If the parties have approved a change in the scope, but have not yet determined the corresponding change in price (for example, unpriced change orders), the entity should estimate the change to the contract price as variable consideration. A contract modification is accounted for as a separate contract if: • the modification promises distinct goods or services that result in a separate performance obligation; and • the entity has a right to consideration that reflects the stand-alone selling price of the additional goods or services. A modification that is not a separate contract is accounted for either as: • A prospective adjustment if the goods or services in the modification are distinct from those transferred before the modification. The remaining consideration in the original contract is combined with the consideration promised in the modification to create a new transaction price that is then allocated to all remaining performance obligations.	A change order is generally included in contract revenue when it is probable that the change order will be approved by the customer and the amount of revenue can be reliably measured. US GAAP also includes detailed revenue and cost guidance on the accounting for unpriced change orders (or those in which the work to be performed is defined, but the price is not).	A change order (known as a variation) is generally included in contract revenue when it is probable that the change order will be approved by the customer and the amount of revenue can be reliably measured. There is no detailed guidance on the accounting for unpriced change orders.

New standard	Current US GAAP	Current IFRS
• A cumulative adjustment to contract revenue if the remaining goods and services are not distinct and are part of a single performance obligation that is partially satisfied.		

Example 1 - Unpriced change orders

Facts: A contractor has a single performance obligation to build an office building. The contractor has a history of executing unpriced change orders; that is, those change orders where price is not defined until after scope changes are agreed upon. It is not uncommon for the contractor to commence work once the parties agree to the scope of the change, but before the parties agree on the price.

When would these unpriced change orders be included in contract revenue?

Discussion: The contractor might be able to determine that it expects the price of the scope change to be approved based on its historical experience. If so, after the scope changes are approved, the contractor will account for the unpriced change order as variable consideration. The contractor will estimate the transaction price based on a probability-weighted or most likely amount approach (whichever is more predictive) provided that it is highly probable (IFRS) or probable (US GAAP) that a significant reversal in the amount of cumulative revenue recognised will not occur when the price of the change order is approved.

The contractor will need to determine whether the unpriced change order is accounted for as a separate contract. This will often not be the case based on the following:

- Change orders often don't provide distinct goods or services because they are highly interrelated with the goods or services in the original contract, and are part of the contractor's service of integrating goods and services into a combined item for the customer.

- Change orders are typically based on the contractor's goal of obtaining one commercial objective for the overall contract. The pricing of a change order may, as a result, not represent the stand-alone selling price of the additional goods or services.

The contractor in this case will update the transaction price and measure of progress toward completion of the contract (that is, a cumulative catch-up adjustment) because the remaining goods or services, including the change order, are not distinct and are part of a single performance obligation that is partially satisfied.

Determining the transaction price

The transaction price (or contract revenue) is the consideration the contractor expects to be entitled to in exchange for satisfying its performance obligations. This determination is more complex when the contract price is variable. Common considerations in this area for E&C include the accounting for awards or incentive payments, customer-furnished materials, claims, liquidated damages, and the time value of money. Revenue related to awards or incentive payments might be recognised earlier under the new standard in some situations. A significant change in practice as it relates to customer-furnished materials, claims, liquidated damages, and the time value of money is not expected.

New standard	Current US GAAP	Current IFRS
Awards/incentive payments Awards/incentive payments are accounted for as variable consideration. They are included in contract revenue using the expected value or most likely amount approach (whichever is more predictive of the amount the entity expects to be entitled to receive). These amounts are included in the transaction price only if it is highly probable (IFRS) or probable (US GAAP) that a significant reversal in the amount of cumulative revenue recognised will not occur in the future. An entity should assess its experience with similar types of performance obligations and determine whether, based on that experience, the entity expects a significant reversal in future periods in the cumulative amount of revenue recognised.	Awards/incentive payments should be included in contract revenue when the specified performance standards are probable of being met or exceeded and the amount can be reliably measured.	Awards/incentive payments should be included in contract revenue when the specified performance standards are probable of being met or exceeded and the amount can be reliably measured.
Customer-furnished materials The value of goods or services contributed by a customer (for example, materials, equipment, or labour) to facilitate the fulfilment of the contract is included in contract revenue (as non-cash consideration) if the entity controls these goods or services after they are provided. Non-cash consideration is measured at fair value unless fair value cannot be reasonably estimated, in which case it is measured by reference to the selling price of the goods or services transferred.	The value of customer-furnished materials is included in contract revenue when the contractor has the associated risk for these materials.	There is no explicit guidance on the accounting for non-cash consideration in the construction contracts standard. Management follows general principles on non-monetary exchanges, which generally require companies to use the fair value of goods or services received in measuring the amount to be included in contract revenue.
Claims Claims are accounted for as variable consideration. They are included in contract revenue using the expected value or most likely amount approach (whichever is more predictive of the amount the entity expects to be entitled to receive) provided that it is highly probable (IFRS) or probable (US GAAP) that a significant reversal in the amount of cumulative revenue recognised will not occur when the uncertainty associated with the claim is subsequently resolved.	A claim is recorded as contract revenue when it is probable and can be estimated reliably (determined based on specific criteria), but only to the extent of contract costs incurred. Profits on claims are not recorded until they are realised.	A claim is included in contract revenue only if negotiations have reached an advanced stage such that it is probable the customer will accept the claim and the amount can be reliably measured.

New standard	Current US GAAP	Current IFRS
Time value of money Contract revenue should reflect the time value of money whenever the contract includes a significant financing component. An entity is not required to consider the time value of money if the period between payment and the transfer of the promised goods or services is one year or less, as a practical expedient. All relevant facts and circumstances should be considered when assessing if a contract contains a significant financing component.	Revenue is discounted in only limited situations, including receivables with payment terms greater than one year. The interest component is computed based on the stated rate of interest in the instrument or a market rate of interest if the stated rate is considered unreasonable when discounting is required.	Revenue is discounted when the inflow of cash or cash equivalents is deferred. An imputed interest rate is used to determine the amount of revenue to be recognised as well as the separate interest income to be recorded over time.

Example 2 - Variable consideration

Facts: A contractor enters into a contract for the expansion of an existing two-lane highway to a three-lane highway. The contract price is C65 million plus a C5 million award fee if the expansion is complete before the holiday travel season. The contract is expected to take one year to complete. The contractor has a long history of performing this type of highway work. The award fee is binary; that is, if the job is finished before the holiday travel season, the contractor receives the full award fee. The contractor does not receive any award fee if the highway is not finished before the holiday season. The contractor believes, based on its significant past experience, that it is 95 percent likely that the contract will be completed in advance of the holiday travel season.

How should the contractor account for the award fee?

Discussion: The contractor is likely to conclude, given the binary award fee, that it is appropriate to use the most likely amount approach to determine the amount of variable consideration to include in the estimate of the transaction price. The contract's transaction price is therefore C70 million: the fixed contract price of C65 million plus the C5 million award fee (the most-likely amount). This estimate is regularly revised and adjusted, as appropriate, using a cumulative catch-up approach, which is consistent with current practice.

The contractor will then assess, based on its experience with similar types of performance obligations, whether it is highly probable (IFRS) or probable (US GAAP) that the award fee included in the transaction price will not be subject to a significant reversal when the contract is completed. Factors to consider in making this assessment include, but are not limited to:

- The contractor has a long history of performing this type of work.
- It is largely within the contractor's control to complete the work before the holiday travel season.
- The uncertainty will be resolved within a relatively short period of time.
- There are only two possible final consideration amounts.

This assessment will determine whether the award fee is eligible to recognise as revenue when the performance obligation is satisfied (that is, as the construction occurs).

Example 3 - Claims

Facts: Assume the same fact pattern as Example 2, except that due to reasons outside of the contractor's control (for example, customer-caused delays), the cost of the contract far exceeds original estimates, but a profit is still expected. The contractor submits a claim against the customer to recover a portion of these costs. The claim process is in its early stages, but the contractor has a long history of successfully negotiating claims with customers, albeit sometimes at a discount from the amount sought.

How should the contractor account for the claim?

Discussion: Claims are highly susceptible to external factors (such as the judgement of, or negotiations with, third parties), and the possible outcomes are highly variable. The contractor might have experience in successfully negotiating claims, but it might be challenging to assert that such experience has predictive value in this fact pattern (because of the highly uncertain variables). The contractor might therefore conclude that it is highly probable (IFRS) or probable (US GAAP) that the amount of the claim, if recognised, could be subject to significant reversal in future periods.

The amount of the claim is excluded from the transaction price (contract revenue) until the contractor determines it is highly probable (IFRS) or probable (US GAAP) it will not be subject to significant reversal in future periods. The contractor will then estimate the amount of the claim using the expected value method (which is more predictive in this fact pattern) and include the amount not subject to significant reversal in the transaction price.

It could be highly probable (IFRS) or probable (US GAAP) that some portion of the claim will not result in a significant revenue reversal, such as when a contractor can demonstrate that specific direct costs were incurred as a result of the customer-caused delay. Based on the underlying contractual terms, the contractor might determine that it has an enforceable right to receive payment from its customer. If the contractor has a history of successful negotiations it might therefore conclude that it is highly probable (IFRS) or probable (US GAAP) that a portion (that is, a minimum amount) of the claim will not be subject to significant reversal in the future periods. The contractor will need to reassess the estimates of the claim amount at each reporting date until the uncertainty is resolved.

Example 4 - Time value of money

Facts: A contractor enters into a contract for the construction of a hospital that includes scheduled milestone payments. The performance obligation will be satisfied over time and the contractual milestone payments are estimated to coincide with the revenue to be earned. The contract specifies that the customer will retain 5% of each milestone payment and the retainage will be paid to the contractor only when the hospital is complete.

Does the contract include a significant financing component?

Discussion: The contractor will likely conclude that the contract does not include a significant financing component and therefore will not reflect the time value of money in the transaction price. The milestone payments are estimated to coincide with the contract revenue to be earned. Further, the contract requires amounts to be retained for reasons other than to provide financing; that is, retainage is intended to protect the customer from the contractor failing to adequately complete some or all of its obligations under the contract.

Accounting for multiple performance obligations

Performance obligations are promises to deliver goods or perform services. Contractors often account for each contract at the contract level today; that is, contractors account for the 'macro-promise' in the contract (for example, to build a road or build a refinery). Current guidance permits this approach, although a contractor effectively promises to provide a number of different goods or services in delivering such macro-promises. Determining when to separately account for these performance obligations under the new standard will require judgement.

It is possible to account for a contract at the contract level (for example, the macro-promise to build a road) under the new standard when the criteria for combining a bundle of goods or services into one performance obligation are met.

Judgement will be needed in many situations to determine if all of the promises in the contract should be bundled together, particularly when assessing contracts such as engineering, procurement, and construction (EPC) or design / build contracts.

New standard	Current US GAAP	Current IFRS
An entity should assess the goods or services promised in a contract and identify as a performance obligation each promise to transfer to a customer either: (a) A good or service (or bundle of goods or services) that is distinct. (b) A series of distinct goods or services that are homogenous and meet both of the following criteria: • Each distinct good or service that is transferred consecutively is a performance obligation satisfied over time. • The same method would be used to measure the entity's progress toward satisfying the performance obligation for each distinct good or service. A good or service is distinct if both of the following criteria are met: • The customer can benefit from the good or service either on its own or together with other resources that are readily available to the customer. • The entity's promise to transfer the good or service to the customer is separable from other promises in the contract. Factors that indicate a performance obligation is separable from other promises in the contract include, but are not limited to: • The goods or services are not highly dependent on or interrelated with other goods or services in the contract. • The entity does not provide a significant service of integrating	The basic presumption is that each contract is the profit centre for revenue recognition, cost accumulation, and income measurement. That presumption may be overcome only if a contract or a series of contracts meets the conditions described above for combining or segmenting contracts. There is no further guidance for separately accounting for more than one deliverable in a construction contract under the construction contract guidance.	The basic presumption is that each contract is the profit centre for revenue recognition, cost accumulation, and income measurement. That presumption is overcome when a contract or a series of contracts meets the conditions described for combining or segmenting contracts. There is no further guidance for separately accounting for more than one deliverable in a construction contract.

New standard	Current US GAAP	Current IFRS
the goods or services into the combined item(s) for which the customer has contracted. • The goods or services do not significantly modify or customise another good or service in the contract. Goods and services that are not distinct and therefore not separate performance obligations should be combined with other goods or services until the entity identifies a bundle of goods or services that is distinct.		

Example 5 - Design and build contract

Facts: A contractor enters into a contract to design and build an airport terminal. The contractor is responsible for the design and overall management of the project build, including engineering, site clearance, foundation, procurement, construction of terminal space, gates with loading bridges, customs and immigration, airline office space, distribution systems required for its operations, and installation of equipment and finishing.

How many distinct performance obligations are in the contract?

Discussion: The contractor will likely account for the design and build contract as a single performance obligation because these goods and services are not distinct. The goods and services are highly interrelated and the contract includes a significant service of integrating the goods and services into the combined item the customer contracted for; that is, the airport terminal. Revenue is recognised over time by selecting an appropriate measure of progress toward satisfaction of the single performance obligation.

Example 6 - Procurement of specialised equipment

Facts: Assume the same fact pattern as Example 5 above, except the contract requires the contractor to procure specialised equipment from a subcontractor and integrate the equipment into the airport terminal. The contractor expects to transfer control of the equipment approximately one year from the contract inception. The installation and integration of the equipment continue throughout the contract.

How many distinct performance obligations are in the contract?

Discussion: The contractor will likely account for the design and build contract as well as the procurement of specialised equipment as a single performance obligation. The goods and services in the bundle are highly interrelated and providing them to the customer requires the contractor also provide significant services of integrating the services into the combined item the customer has contracted to receive (the airport terminal). Revenue is recognised over time by selecting an appropriate measure of progress toward satisfaction of the performance obligation. (See discussion of accounting for uninstalled materials in Example 12 below.)

Allocating the transaction price

The transaction price is allocated to the performance obligations in a contract that require separate accounting. Of particular interest will be the allocation of variable consideration (for example, award or incentive payments) associated with only one performance obligation, rather than the contract as a whole. An entity can allocate the transaction price entirely to one (or more) performance obligations when certain conditions are met.

New standard	Current US GAAP	Current IFRS
The transaction price (and any subsequent changes in estimate of the transaction price) is allocated to each separate performance obligation based on the relative stand-alone selling price of each performance obligation. The best evidence of a stand-alone selling price is the observable price of a good or service when sold separately. The stand-alone selling price should be estimated if the actual selling price is not directly observable. The standard does not prescribe a specific estimation method. For example, a contractor might use cost plus a reasonable margin to estimate the selling price of a good or service. An entity should maximise the use of observable inputs when estimating the stand-alone selling price. Entities may use a residual approach to estimate the stand-alone selling price if the stand-alone selling price of a good or service is highly variable or uncertain. An entity may also allocate a discount or an amount of contingent consideration entirely to one (or more) performance obligations if certain conditions are met.	Except for allocation guidance related to contract segmentation, there is no explicit guidance on allocating contract revenue to multiple deliverables in a construction contract, given the presumption that the contract is the profit centre for determining revenue recognition.	Except for allocation guidance related to contract segmentation, there is no explicit guidance on allocating contract revenue to multiple deliverables in a construction contract, given the presumption that the contract is the profit centre for determining revenue recognition.

Example 7 - Allocating contract revenue to more than one performance obligation

Facts: A contractor enters into a contract to build both a road and a bridge (assume there are two separate performance obligations: building the road and building the bridge). The contractor determines at inception that the contract price is C151 million, which includes a C140 million fixed price and an estimated C11 million award fee. The amount of the award fee is variable depending on how early the contractor finishes the project. The contractor will receive a base award fee of C10 million if it finishes the project 30 days ahead of schedule. The award fee increases (decreases) by 10% for each day before (after) the 30 days it finishes the project. The contractor has experience with similar contracts. The contractor uses the most likely amount to estimate the variable consideration associated with the incentive bonus of C10 million. Based on the contractor's prior experience and its current estimates, the contractor determines that it will finish the project 30 days ahead of schedule and be entitled to the C10 million award fee. The contractor uses the expected value method to estimate the additional variable consideration associated with the 10% daily penalty or

incentive and determines it will be entitled to a 10% increase or C1 million. The contractor concludes that it is highly probable (IFRS) or probable (US GAAP) that a change in estimate would not result in a significant revenue reversal in the future.

How should the contractor allocate the contract price to the two separate performance obligations?

Discussion: The contractor must first assign a stand-alone selling price to each of the road and the bridge in order to allocate the contract price (including both the fixed and variable amounts). The contractor constructs roads and bridges of a similar type and nature to those required by the contract on a stand-alone basis. The stand-alone selling price of the road, based on prior experience, is C140 million. The stand-alone selling price of the bridge, based on prior experience, is C30 million. There is an inherent discount of C19 million built into the bundled contract. The C151 million transaction price is allocated as follows using a relative allocation model:

Road:	C124.4m (C151m * (C140m / C170m))
Bridge:	C 26.6m (C151m * (C 30m / C170m))

Example 8 - Allocating contract revenue – changes in the transaction price

Facts: Assume the same fact pattern as Example 7 above, except that the amount of variable consideration changes from an expected C11 million to an expected C13 million after contract inception. The changes are due to improved weather conditions during the construction period and therefore an expectation that the contractor will complete the entire project earlier than expected.

How should the contractor allocate the change in the estimated contract price?

Discussion: The basis for allocating the transaction price to performance obligations (that is, the percentage used to allocate based on relative stand-alone selling prices) does not change after contract inception. The additional C2 million of transaction price is allocated to the road and bridge using the initially developed allocation percentages as follows:

Road:	C1.6m (C2m * (C140m / C170m))
Bridge:	C0.4m (C2m * (C 30m / C170m))

The change in estimate is recognised using a cumulative catch-up approach. For example, if the road is 90% complete and work on the bridge has not yet commenced when the estimate changes, the contractor will recognise cumulative revenue of C113.4 million (C124.4 million x 90% +C1.6 million x 90%) for the portion of the performance obligation already satisfied for the road. The contractor will recognise additional revenue of C12.6 million (C124.4 million x 10% + C1.6 million x 10%) as the remaining performance obligations related to the road are satisfied and C27 million ((C26.6 million + C0.4 million) x 100%) as the bridge is completed.

Assume the same fact pattern as above, except that the bridge is completed and the amount of the award fee only relates to the completion of the road. In this situation, the contractor will allocate the entire change in the estimated contract price of C2 million to the road. The contractor will recognise additional revenue of C1.8 million (C2 million x 90%) in the period of the change of estimate for the portion of the performance obligation already satisfied for the road. The contractor will recognise the remaining revenue of C12.6 million (C124.4 million x 10% + C2 million x 10%) as the remaining performance obligations related to the road are satisfied.

Recognising revenue

Revenue recognition under existing guidance is based on the activities of the contractor; that is, provided reasonable estimates are available, revenue can be recognised as the contractor performs (known as the percentage-of-completion method). Revenue is recognised under the new standard when a performance obligation is satisfied, which occurs when control of a good or service transfers to the customer. Control can transfer either at a point in time or over time. The change to a control transfer model requires careful assessment of when a contractor can recognise revenue. Many construction-type contracts will transfer control of a good or service over time and therefore might result in a similar

pattern of revenue recognition as today's guidance. This should not, however, be assumed. Contractors will not be able to default to the method used today, and will need to perform a careful assessment of when control transfers.

New standard	Current US GAAP	Current IFRS
Transfer of control Revenue is recognised upon the satisfaction of performance obligations, which occurs when control of the good or service transfers to the customer. Control can transfer at a point in time or, perhaps more common for the E&C industry, over time. A performance obligation is satisfied over time when at least one of the following criteria is met: • The customer receives and consumes the benefits of the entity's performance as the entity performs. • The entity's performance creates or enhances a customer-controlled asset. • An asset with an alternative use to the entity is not created but the entity has a right to payment for performance completed to date. A performance obligation is satisfied at a point in time if it does not meet the criteria above. Determining when control transfers will require a significant amount of judgement. Indicators that might be considered in determining whether the customer has obtained control of an asset at a point in time include: • The entity has a present right to payment. • The customer has legal title. • The customer has physical possession. • The customer has the significant risks and rewards of ownership. • The customer has accepted the asset.	Revenue is recognised using the percentage-of-completion method when reliable estimates are available. The percentage-of-completion method based on a zero-profit margin is used when reliable estimates cannot be made, but there is an assurance that no loss will be incurred on a contract (for example, when the scope of the contract is ill-defined, but the contractor is protected from an overall loss) until more precise estimates can be made. The completed-contract method is required when reliable estimates cannot be made.	Revenue is recognised using the percentage-of-completion method when reliable estimates are available. The percentage-of-completion method based on a zero-profit margin is used when reliable estimates cannot be made, but there is assurance that no loss will be incurred on a contract (for example, when the scope of the contract is ill-defined, but the contractor is protected from an overall loss) until more precise estimates can be made. Contract costs that are not probable of being recovered are recognised as an expense immediately. The completed-contract method is prohibited.

New standard	Current US GAAP	Current IFRS
This list is not intended to be a checklist or all-inclusive. No one factor is determinative on a stand-alone basis.		
Measuring performance obligations satisfied over time A contractor should measure progress toward satisfaction of a performance obligation that is satisfied over time using the method that best depicts the transfer of goods or services to the customer. Methods for recognising revenue when control transfers over time include: • Output methods that recognise revenue on the basis of direct measurement of the value to the customer of the entity's performance to date (for example, surveys of goods or services transferred to date, appraisals of results achieved). • Input methods that recognise revenue on the basis of the entity's efforts or inputs to the satisfaction of a performance obligation (for example, cost-to-cost, labour hours, labour cost, machine hours, or material quantities). The method selected should be applied consistently to similar contracts with customers. Once the metric is calculated to measure the extent to which control has transferred, it must be applied to total contract revenue to determine the amount of revenue to be recognised. The effects of any inputs that do not represent the transfer of goods or services to the customer, such as abnormal amounts of wasted materials, should be excluded from the measurement of progress. It may be appropriate to measure progress by recognising revenue equal to the costs of the transferred goods if goods are transferred at a significantly different time from the related service	A contractor can use either an input method (for example, cost-to-cost, labour hours, labour cost, machine hours, or material quantities), an output method (for example, physical progress, units produced, units delivered, or contract milestones), or the passage of time to measure progress toward completion. There are two different approaches for determining revenue, cost of revenue, and gross profit once a 'percentage complete' is derived: the Revenue method and the Gross Profit method.	A contractor can use either an input method (for example, cost-to-cost, labour hours, labour cost, machine hours, or material quantities), an output method (for example, physical progress, units produced, units delivered, or contract milestones), or the passage of time to measure progress toward completion. IFRS requires the use of the Revenue method to determine revenue, cost of revenue, and gross profit once a 'percentage complete' is derived. The Gross Profit method is not permitted.

New standard	Current US GAAP	Current IFRS
(such as materials the customer controls before the entity installs the materials). Estimates to measure the extent to which control has transferred (for example, estimated costs to complete when using a cost-to-cost calculation) should be regularly evaluated and adjusted using a cumulative catch-up method.		

Example 9 - Recognising revenue

Facts: A contractor enters into a construction contract with an owner to build an oil refinery. The contract has the following characteristics:

- The oil refinery is highly customised to the owner's specifications and changes to these specifications by the owner are expected over the contract term.
- The oil refinery does not have an alternative use to the contractor.
- Non-refundable, interim progress payments are required as a mechanism to finance the contract.
- The owner can cancel the contract at any time (with a termination penalty); any work in process is the property of the owner. As a result, another entity would not need to re-perform the tasks performed to date.
- Physical possession and title do not pass until completion of the contract.

The contractor determines that the contract has a single performance obligation to build the refinery.

How should the contractor recognise revenue?

Discussion: The preponderance of evidence suggests that the contractor's performance creates an asset that the customer controls and control is being transferred over time. The contractor will have to select either an input or output method to measure the progress toward satisfying the performance obligation.

Example 10 - Recognising revenue - use of cost-to-cost

Facts: Assume the same fact pattern as Example 9 above. Additional contract characteristics are:

- Contract duration is three years.
- Total estimated contract revenue is C300 million.
- Total estimated contract cost is C200 million.
- Year one cost is C120 million (including C20 million related to contractor-caused inefficiencies).

The contractor concludes that cost-to-cost is a reasonable method for measuring the progress toward satisfying its performance obligation.

How much revenue and cost should the contractor recognise during the first year?

Discussion: The contractor should exclude any costs that do not depict the transfer of goods or services to determine the amount of revenue to recognise under a cost-to-cost model. The costs associated with contractor-caused inefficiencies should be excluded in this situation. The amounts of contract revenue and cost recognised at the end of year one are:

Revenue:	C150m (C300m * (C100m / C200m))
Contract cost (excluding inefficiencies):	C100m
Gross contract margin:	C 50m
Contract inefficiencies:	C 20m
Adjusted contract margin:	C 30m

Example 11 - Recognising revenue - use of cost-to-cost with changes in estimates

Facts: Assume the same fact pattern as Examples 9 and 10 above, except that the total estimated cost to complete the contract increases at the end of the second year to C250 million due to an increase in the cost of materials. Actual cumulative costs incurred as of the end of the second year (excluding year-one inefficiencies) is C200 million.

How much revenue and cost should the contractor recognise during the second year?

Discussion: The amount of contract revenue and cost recognised during the second year:

Cumulative revenue:	C240m (C300m * (C200m / C250m)
Revenue recognised year one:	C150m
Revenue recognised year two:	C 90m
Cumulative costs (excluding inefficiencies):	C200m
Costs recognised year one (excluding inefficiencies):	C100m
Costs recognised year two: (excluding inefficiencies):	C100m
Gross contract margin year two:	C (10m) (C90m - C100m)
Gross contract margin to-date (excluding inefficiencies):	C 40m (C240m - C200m)
Adjusted contract margin to-date:	C 20m (C240m - C200m - C20m)

Example 12 - Recognising revenue – uninstalled materials

Facts: Assume the same fact pattern as Example 6 above and at contract inception the contractor estimates the following:

Contract price:	C100 million
Contract costs:	C50 million
Cost of the specialised equipment:	C20 million

Discussion: The contractor concludes that including the costs to procure the specialised equipment in measuring progress would overstate the extent of the contractor's performance. Therefore, revenue should be recognised for the specialised equipment in an amount equal to the cost of the specialised equipment upon the transfer of control to the customer. As such, the contractor excludes the cost of the specialised equipment from its measure of progress toward complete satisfaction of the performance obligation on a cost-to-cost basis. During the first six months, the contractor incurs C25 million of costs compared to the total of C50 million of expected costs to complete (excluding the C20 million cost of the specialised equipment). Therefore, the contractor estimates that the performance obligation is 50 percent complete (C25 million ÷ C50 million) and recognises revenue of C40 million (50% × (C100 million total transaction price – C20 million revenue for the specialised equipment)). Upon transfer of control of the specialised equipment, the contractor recognises revenue and costs of C20 million. Subsequently, the contractor continues to

recognise revenue on the basis of costs incurred relative to total expected costs (excluding the revenue and cost of the specialised equipment).

Other considerations

Warranties

Most warranties in the construction industry provide coverage against latent defects. There is currently diversity in the way E&C companies account for these and other types of warranties. Warranty costs are either accounted for within contract accounting (for example, as a contract cost) or outside of contract accounting in accordance with the existing loss contingency guidance. We expect practice to become less diverse and potentially change significantly for some entities that utilise a cost-to-cost input method for measuring progress and do not currently include warranty as a contract cost.

New standard	Current US GAAP	Current IFRS
Warranties that the customer has the option to purchase separately give rise to a separate performance obligation. A portion of the transaction price is allocated to that separate performance obligation at contract inception. The warranty is accounted for as a cost accrual if a customer does not have the option to purchase a warranty separately from the entity. An entity might provide a warranty that calls for a service to be provided to the customer (for example, maintenance) in addition to a promise that the entity's past performance was as specified in the contract. The entity will account for the service component of the warranty as a separate performance obligation in these circumstances. An entity that cannot reasonably account for an assurance warranty separately from services also provided under the warranty should account for both warranties together as a single performance obligation.	Contractors typically account for warranties that protect against latent defects outside of contract accounting and in accordance with existing loss contingency guidance. A contractor recognises revenue and concurrently accrues any expected cost for these warranty repairs. Revenue is deferred for warranties that protect against defects arising through normal usage (that is, extended warranties) and recognised over the expected life of the contract.	Contractors are required to account for the estimated costs of rectification and guarantee work, including expected warranty costs, as contract costs. However, contractors typically account for standard warranties protecting against latent defects outside of contract accounting and in accordance with existing provisions guidance. A contractor will recognise revenue and concurrently accrue any expected cost for these warranty repairs. Revenue is deferred for warranties that protect against defects arising through normal usage (that is, extended warranties) and recognised over the expected life of the contract.

Example 13 - Accounting for warranties

Facts: Assume the same fact pattern as Example 9 above. The contractor also provides a warranty that covers latent defects for certain components of the oil refinery. This warranty is automatically provided by the contractor and the customer does not have an option to purchase the warranty separately from the contractor.

How should the contractor account for such a warranty?

Discussion: The contractor should account for this warranty as a cost accrual. Contractors who determine that cost-to-cost is an appropriate method to measure transfer of control over time might therefore have to consider these costs in their cost-to-cost calculation.

Contract costs

Existing construction contract guidance contains a substantial amount of cost capitalisation guidance, both related to pre-contract costs and costs to fulfil a contract. The new standard also includes contract cost guidance that could result in a change in the measurement and recognition of contract costs as compared to today. In particular, measurement and recognition could change for those contractors that currently use the Gross Profit method for calculating revenue and cost of revenue.

New standard	Current US GAAP	Current IFRS
All costs related to satisfied performance obligations and costs related to inefficiencies (that is, abnormal costs of materials, labour, or other costs to fulfil) are expensed as incurred. Incremental costs of obtaining a contract are costs that the entity would not have incurred if the contract had not been obtained and are recognised as an asset if they are expected to be recovered. As a practical expedient, such costs may be expensed as incurred if the amortisation period of the asset that the entity otherwise would have recognised is one year or less. Costs to obtain a contract that would have been incurred regardless of whether the contract was obtained (for example, certain bid costs) are recognised as an expense when incurred, unless those costs are explicitly chargeable to the customer regardless of whether the contract is obtained. Direct costs of fulfilling a contract are accounted for in accordance with other standards (for example, inventory, intangibles, fixed assets) if they are within the scope of that guidance. Direct costs of fulfilling a contract are capitalised under the new standard if not within the scope of other standards and if they relate directly to a contract, relate to future performance, and are expected to be recovered under the contract. Capitalised costs are amortised as control of the goods or services to which the asset relates is transferred to the customer, which may include goods or services to be provided under specific anticipated contracts (for	There is a significant amount of detailed guidance relating to the accounting for contract costs within the construction contract guidance. This is particularly true with respect to accounting for pre-contract costs. Pre-contract costs that are incurred for a specific anticipated contract generally may be deferred only if their recoverability from that contract is probable. Other detailed guidance on costs to fulfil a contract is also prescribed by current guidance.	There is a significant amount of detailed guidance relating to the accounting for contract costs. Costs that relate directly to a contract and are incurred in securing the contract are included as part of contract costs if they can be separately identified, measured reliably, and it is probable that the contract will be obtained. Other detailed guidance on costs to fulfil a contract is also prescribed by current guidance.

New standard	Current US GAAP	Current IFRS
example, a contract renewal).		

Example 14 - Accounting for contract costs

Facts: Assume the same fact pattern as Examples 9 and 10 above. At the beginning of the contract, the contractor incurs certain mobilisation costs amounting to C1 million. The contractor has concluded that such costs should not be accounted for in accordance with existing asset standards (for example, inventory, fixed assets, or intangible assets).

How should the contractor account for the mobilisation costs?

Discussion: These costs to fulfil a contract would be capitalised if they: (a) relate directly to the contract; (b) relate to future performance; and (c) are expected to be recovered. Assuming the mobilisation costs meet these criteria and are capitalised, C500,000 would be amortised as of the end of year one (coinciding with 50 percent control transfer using a cost-to-cost method) using the fact pattern in Examples 9 and 10 above. Amortisation of capitalised mobilisation costs would be included in the measurement of the contractor's satisfaction of its performance obligation.

Contract assets and liabilities

Existing construction contract guidance requires a contractor to record an asset for unbilled accounts receivable when revenue is recognised but not billed. The unbilled accounts receivable is transferred to a billed accounts receivable when the invoice is submitted to the customer. Under the new standard, if a contractor delivers services to a customer before the customer pays consideration, the contractor should record either a contract asset or a receivable depending on the nature of the contractor's right to consideration for its performance. The transfer from a contract asset to an accounts receivable balance (when the contractor has a right to payment) may not coincide with the timing of the invoice as is required under the existing guidance. Cost in excess of billings and billings in excess of cost initially recognised on the balance sheet under current GAAP should be similar to the contract asset and contract liability recognised under the new standard.

New standard	Current US GAAP	Current IFRS
The entity should present either a contract asset or a receivable depending on the nature of the entity's right for its performance, if an entity recognises revenue before the customer pays consideration. (a) A contract asset is an entity's right to payment in exchange for goods or services that the entity has transferred to a customer, when that right is conditioned on something other than the passage of time (for example, the entity's future performance). (b) A receivable is an entity's right to payment that is unconditional. If a customer makes a payment or an amount of payment is due before an entity satisfied its performance obligations, the entity should present that amount as a contract liability. A contract liability is an entity's	Unbilled receivables arise when revenues have been recognised as the performance of contract work is being performed, but the amount cannot be billed under the terms of the contract until a later date. Billings in excess of costs and estimated earnings represent obligations for work to be performed with the exception of when billings exceed total estimated costs at completion of the contract plus contract profits earned to date.	A contractor may have incurred contract costs that relate to future activities on the contract. Such contract costs are recognised as an asset provided it is probable that they will be recovered. Such costs represent an amount due from the customer and are often classified as contract work in process. Advances received before the related work has been performed are recognised as a liability.

New standard	Current US GAAP	Current IFRS
obligation to transfer goods or services to a customer for which the entity has received payment from the customer.		

Onerous performance obligations

Existing construction contract guidance requires a loss to be recorded when the expected contract costs exceed the total anticipated contract revenue. Existing guidance related to the recognition of losses arising from contracts with customers will be retained for entities within the scope of that guidance.

Final thoughts

The above discussion does not address all aspects of the new standard. Companies should continue to evaluate how the new standard might change current business activities, including contract negotiations, key metrics (including debt covenants, surety, and prequalification capacity calculations), taxes, budgeting, controls and processes, information technology requirements, and accounting.

Entities will apply the new revenue standard in the first interim period within annual reporting periods beginning on or after 15 December 2016 (US GAAP) and 1 January 2017 (IFRS). Earlier adoption is permitted under IFRS, but not under US GAAP. For non-public entities (US GAAP only), the standard is effective for annual reporting periods beginning after 15 December 2017 and for interim reporting periods within annual reporting periods beginning after 15 December 2018. Earlier application is permitted for non-public entities; however, no earlier than 15 December 2016.

Entities can adopt the final standard retrospectively or use a simplified approach. Entities using the simplified approach will: (a) apply the revenue standard to all existing contracts as of the effective date and to contracts entered into subsequently; (b) recognise the cumulative effect of applying the new standard in the opening balance of retained earnings on the effective date; and (c) disclose, for existing and new contracts accounted for under the new revenue standard, the impact of adopting the standard on all affected financial statement line items in the period the standard is adopted. An entity that uses this approach must disclose this fact in its financial statements.

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For more information, please contact:

H. Kent Goetjen
US Engineering and Construction Leader
Phone: +1 (860) 241-7009
Email: h.kent.goetjen@us.pwc.com

Jonathan Hook
Global Engineering and Construction Leader
Phone: +44 (0) 20 780 44753
Email: jonathan.hook@uk.pwc.com

Questions?

PwC clients who have questions about this *In depth* should contact their engagement partner. Engagement teams that have questions should contact members of the Revenue team in Accounting Consulting Services.

Authored by:

Dusty Stallings
Partner
Phone: +1 (973) 236-4062
Email: dusty.stallings@us.pwc.com

Lawrence Dodyk
Partner
Phone: +1 (973) 236-7213
Email: lawrence.dodyk@us.pwc.com

Michael Sobolewski
Partner
Phone: +1 (313) 394-3299
Email: michael.sobolewski@us.pwc.com

Yun Han
Senior Manager
Phone: +1 (973) 236-4241
Email: yun.han@us.pwc.com