# Working Draft:
# Engineering & Construction Contractors Revenue Recognition Implementation Issue


## **Issue #4-2:** Variable consideration and constraining estimates of variable consideration

## Expected Overall Level of Impact to Industry Accounting:
Significant

## Wording to be Included in the Revenue Recognition Guide:

*Background:*

1. Estimating the transaction price of a contract is an involved process that is affected by a variety of uncertainties that depend on the outcome of a series of future events. The estimates must be revised each period throughout the life of the contract when events occur and as uncertainties are resolved. The major factors that must be considered in determining total estimated revenue include (a) the basic contract price, (b) contract options, (c) change orders, (d) claims, and (e) contract provisions for penalty and incentive payments, including award fees and performance incentives.

2. Engineering and construction contracts often contain provisions for variable consideration from the customer in the form of unpriced change orders (see paragraphs 7 through 9 for discussion on the evaluation of the guidance in FASB ASC 606-10-25-10 through 25-13for contract modification accounting to determine if an unpriced change order should be accounted for under the variable consideration guidance), claims, back charges, extras, and contract provisions for penalty and incentive payments, including award fees and performance incentives.

3. Change orders, claims, extras, or back charges are common in construction activity. Modifications of the original contract frequently result from change orders that may be initiated by either the customer or the contractor. The nature of the construction industry, particularly the complexity of some types of projects, is conducive to disputes between the parties that may give rise to claims or back charges. Claims may also arise from unapproved change orders. In addition, customer representatives at a job site sometimes authorize the contractor to do work beyond contract specifications, and this gives rise to claims for extras. The ultimate profitability of a contract often depends on whether appropriate authorization has been obtained and that such items have been identified, documented and related amounts collected.

4. In accordance with FASB ASC 606, entities are required to make estimates of variable consideration in determining the transaction price, subject to the guidance on constraining estimates of variable consideration. In addition, as required by FASB ASC 606-10-32-9 an entity should consider all the information (historical, current, and forecast) that is reasonably available to the entity and shall identify a reasonable number of possible consideration amounts. The information that an entity uses to estimate the amount of variable consideration typically would be similar to the information that the entity's management uses during the bid-and-proposal process and in establishing prices for promised goods and services. Entities also are required on an ongoing basis to update their estimates of variable consideration

*Incentives/Penalties*

5. All types of contracts may be modified by target penalties and incentives relating to factors such as completion dates, plant capacity on completion of the project, and underruns and overruns of estimated costs. These provisions for incentives and award fees generally are based on (a) the relationship of actual contract costs to an agreed-upon target cost or (b) some measure of contract performance in relation to agreed-upon performance targets. Consequently, the contractor's profit is increased when actual costs are less than agreed-upon cost targets. Similarly, the profit is increased when actual performance meets or exceeds agreed-upon performance targets. Conversely, the contractor's profit is decreased when actual results (in terms of either cost or performance targets) do not meet the established cost or performance targets.
6. FinREC believes that the mere existence of contractual provisions for incentives or award fees should not be considered presumptive evidence that such incentives or award fees are to be automatically included in the transaction price. In the case of performance incentives, assessing whether actual performance will produce results that meet targeted performance objectives may require substantial judgment and experience with the types of activities covered by the contract. However, in many circumstances these estimates of performance relative to targeted performance are similar to the processes used to estimate completion on long-term contracts.

*Change orders*

7. Change orders are modifications of an original contract that effectively change the provisions of the contract without adding new provisions. They may be initiated by either the contractor or the customer, and they include changes in specifications or design, method or manner of performance, facilities, equipment, materials, sites, and period for completion of the work. For some change orders, both scope and price may be unapproved or in dispute. Many change orders are unpriced; that is, the work to be performed is defined, but the adjustment to the contract price is to be negotiated later.

8. Accounting for change orders depends on the underlying circumstances, which may differ for each change order depending on the customer, the contract, and the nature of the change. FASB ASC 606-10-25-11 states:

    > A contract modification may exist even though the parties to the contract have a dispute about the scope or price (or both) of the modification or the parties have approved a change in the scope of the contract but have not yet determined the corresponding change in price. In determining whether the rights and obligations that are created or changed by a modification are enforceable, an entity shall consider all relevant facts and circumstances including the terms of the contract and other evidence. If the parties to a contract have approved a change in the scope of the contract but have not yet determined the corresponding change in price, an entity shall estimate the change to the transaction price arising from the modification in accordance with paragraphs 606-10-32-5 through 32-9 on estimating variable consideration and paragraphs 606-10-32-11 through 32-13 on constraining estimates of variable consideration.

9. In accordance with FASB ASC 606-10-25-11, judgment will be needed to evaluate a change order to determine if it represents an enforceable obligation that should be accounted for in accordance with the guidance in ASC 606-10-32-5through 32-9 on estimating variable consideration, and paragraphs 606-10-32-11 through 32-13 on constraining estimates of variable consideration. FinREC believes some factors to consider include the following:

    a. The customer's written approval of the scope of the change order;
    b. Separate documentation for the change order costs that are identifiable and reasonable; and

c. The entity favorable experience in negotiating change orders, especially as it relates to the specific type of contract and change order being evaluated.

*Claims*

10. Claims, represent amounts in excess of the agreed contract price that a contractor seeks to collect from customers or others, and are normally as a result of customer-caused delays, errors in specifications and designs, contract terminations, change orders in dispute or unapproved concerning both scope and price, or other causes of unanticipated additional costs. The contract modification guidance in FASB ASC 606-10-25-11 should be considered to determine if a claim represents an enforceable obligation that should be accounted for in accordance with paragraphs 606-10-32-5 through 32-9 on estimating variable consideration and paragraphs 606-10-32-11 through 32-13 on constraining estimates of variable consideration.

*Estimating variable consideration*

11. FASB ASC 606-10-32-8 discusses two methods for estimating variable consideration. The choice of method is not intended to be a free choice and is dependent on which method the entity expects to better predict the amount of consideration to which it will be entitled. The two methods are:

    a. The expected value method – This method estimates variable consideration based on the sum of probability-weighted amounts in a range of possible consideration amounts. This method may be appropriate when an entity has a large number of contracts with similar characteristics or the range of possible outcomes in any one contract is wide (i.e., generally there are more than two possible outcomes).

    b. The most likely amount – This method estimates the variable consideration based on the single most likely amount in a range of possible consideration amounts. This method may be appropriate if the estimate of variable consideration has only two possible outcomes (for example, an entity is entitled to all of variable consideration upon achieving a performance milestone or none if the performance milestone is not achieved).

    The number of possible outcomes should not cause an entity to automatically use any one method, but rather the method selected should be dependent on which method the entity expects to better predict the amount of consideration to which it will be entitled.

12. FASB ASC 606-10-32-9 requires an entity to apply one method consistently throughout the contract when estimating the amount of variable consideration to which it is entitled. Per FASB ASC 606-10-10-3, the method selected should be applied consistently to contracts with similar characteristics and in similar circumstances. The method should also be applied to types of variable consideration with similar characteristics and in similar circumstances. That is, a single contract may have more than one uncertainty related to variable consideration (for example, a contract with both cost and performance incentives) and depending on the method the entity expects to better predict the amount of consideration to which it is entitled, the entity may therefore use different methods for different uncertainties. In estimating the amount of variable consideration under either of the methods, and as discussed in FASB ASC 606-10-32-9, the entity should consider all the information (historical, current, and forecast) that is reasonably available to the entity and shall identify a reasonable number of possible consideration amounts.

13. The following examples are meant to be illustrative, and the actual determination of the method for estimating variable consideration as stated in FASB ASC 606-10-32-8 should be based on the facts and circumstances of an entity's specific situation. The following examples also assume for illustrative purposes that the constraint principle for variable consideration has been considered.

    - Example 1: A contract is negotiated with a fixed price plus an award fee that is tied directly to delivery by a specified date. The entity has subcontracted a portion of the work. The entity estimates that it will achieve the award fee because the contract is not considered complex, the subcontractor has delivered on similar timelines in the past, and both the entity and subcontractor currently estimate completion up to six months prior to the specified date. In this instance, the entity determines that the expected value method may not provide a predictive estimate of the variable consideration because the contract has only two possible outcomes. The entity's estimate of the total transaction price is therefore the sum total of the fixed price plus the award fee as the most likely consideration amount.

- Example 2: An entity contracts to build a solar energy plant for a customer and receives an incentive fee from the customer that varies depending on objectively determinable key performance indicators (KPIs) associated with energy savings over a 1-year period. The entity has extensive experience determining energy savings under various conditions that impact solar energy. To estimate the incentive fee, management calculates the expected value by using the data available to them to estimate the savings under the various environmental conditions. The entity believes that the estimate determined using this expected value method is predictive of the amount to which it will be entitled because of the wide-range of possible outcomes.
- Example 3: An entity contracts to build a road on January 1 with an agreed-upon completion date of June 30. The contract calls for liquidated damages in the event that contractor-caused delays results in the road not being completed by June 30. In this example, significant judgment is needed in terms of which method the entity expects to better predict the amount of consideration to which it will be entitled as often-times whether the completion date will be met is binary; however the number of days of liquidated damages (i.e., the number of days past the agreed-upon completion date) that will be incurred is often highly variable.

See Appendix A for examples of variable consideration in this industry.

*Constraining estimates of variable consideration*

14. After estimating the transaction price using one of the two methods, an entity is required to evaluate the likelihood and magnitude of a reversal of revenue due to a subsequent change in the estimate. FASB ASC 606-10-32-11 discusses when to include variable consideration in the transaction price and notes that an entity shall include in the transaction price some or all of the variable consideration amount estimated in accordance with ASC 606-10-32-8 only to the extent that it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when the uncertainty associated with the variable consideration is subsequently resolved.

15. As discussed in BC215 of FASB ASU 2014-09, if the process for estimating variable consideration already incorporates the principles on which the guidance for constraining estimates of variable consideration is based, then it is not necessary for an entity to evaluate the constraint separately from the estimate of variable consideration.

16. As discussed in FASB ASC 606-10-32-12, determining the amount of variable consideration to include in the transaction price should consider both the likelihood and magnitude of a revenue reversal. An estimate of variable consideration is not constrained if the potential reversal of cumulative revenue recognized is not significant. As explained in FASB/IASB TRG Agenda Ref 25, January 2015 Meeting – Summary of Issues Discussed and Next Steps, paragraph 49 states:

    > TRG members generally agreed that the constraint on variable consideration should be applied at the contract level. Therefore the assessment of whether a significant reversal of revenue will occur in the future (the constraint) should consider the estimated transaction price of the contract rather than the amount allocated to a performance obligation.

    The levels of revenue reversals that are deemed significant will vary across entities depending on the facts and circumstances. If the entity determines that it is probable that the inclusion of its estimate will not result in a significant revenue reversal, that amount is included in the transaction price.

17. As discussed in BC218 of FASB ASU 2014-09, when an entity applies the guidance for constraining estimates of variable consideration, the entity might determine that it should not include the entire estimate of the variable consideration in the transaction price because it is not probable that doing so would not result in a significant revenue reversal. FinREC believes that certain types of variable consideration, (e.g., consideration associated with claims or unapproved change orders) only after consideration of the above, may therefore be recorded when settled or received. However, the entity might determine that it is probable that including some of the estimate of the variable consideration in the transaction price would not result in a significant revenue reversal. In these instances, the entity should include some, but not all of the variable consideration in the transaction price. That is, the entity is required to estimate the amount of variable consideration applying the constraint guidance and should not default to a conclusion to include no amount of variable consideration in the transaction price without a fulsome analysis.

18. Factors to consider in assessing the likelihood and magnitude of the revenue reversal (collectively referred to as an entity's confidence level in assessing the revenue reversal in the analysis below) include, but are not limited to, any of the following as indicated in ASC 606-10-32-12:

| Factors in FASB ASC 606-10-32-12 | Considerations |
|---|---|
| The amount of consideration is highly susceptible to factors outside the entity's influence. Those factors include volatility in a market, the judgment or actions of third parties, weather conditions, and a high risk of obsolescence of the promised good or service. | • Reliance on suppliers / subcontractors with a history of missing deadlines.<br>• History of union strikes that impact the timing of satisfaction of performance obligations.<br>• Requiring substantive third-party (e.g., customer, regulator) approval to meet certain milestones under the contract when the entity does not have predictive experience with that party or type of milestone.<br>• Contract fulfillment involving travel, performance, or communication over well-documented areas of risk (i.e., "tornado," hurricanes, or earthquakes). |
| The uncertainty about the amount of consideration is not expected to be resolved for a long period of time. | • Contracts with disputes, claims, or unapproved change orders that are expected to take a long period of time to resolve.<br>• Variable fees that are expected to be earned for long periods of time. |
| The entity's experience (or other evidence) with similar types of contracts is limited, or that experience (or other evidence) has limited predictive value. | • History of similar projects that have been unsuccessful.<br>• Lack of experience with similar types of contracts and variable consideration amounts.<br>• Competing in a new market capability or technology. |
| The entity has a practice of either offering a broad range of price concessions or changing the payment terms and conditions of similar contracts in similar circumstances. | • Pattern of contract renegotiation with resulting pricing reductions subsequent to the commencement of the project.<br>• Note: Change orders (modifications of scope and/or price of the contract) are common in the engineering and construction industry. FinREC believes that change orders should generally be evaluated as a contract modification and are not necessarily a "price concession" contemplated by this factor in the standard. |
| The contract has a large number and broad range of possible consideration amounts | • Significant volatility in the amount of possible consideration amounts (e.g. an award fee based on key performance indicator (KPI) scores between zero and 100, where the entity has no experience of obtaining average KPI scores within a narrow range. |

19. The following examples are meant to be illustrative, and the actual conclusion should be based on the facts and circumstances of an entity's specific situation. An entity also should consider positive and mitigating factors that support the assertion that a significant reversal of cumulative revenue recognized will not occur.

- Example 4: An entity has a three-year, fixed-fee contract for $10M to perform certain environmental clean-up efforts. In addition, the contract price may be increased by up to $2M if the entity is able to meet two performance targets. Specifically, the entity is entitled to an additional $1.4M if it completes the work on or before 3-years from the contract start date. The entity expects, based on history with similar contracts, that it will earn the $1.4M. The remaining $0.6M can be earned by the entity if it is able to limit workforce turnover to certain agreed-upon targets as shown in the table below:

| Workforce turnover percentage (contract specific) | Incentive fee available |
|---|---|
| 0%-1% | $600,000 |
| 2-3% | $300,000 |
| Greater than 3% | $0 |

This is the first time this entity has worked in this geographical area and therefore the contractor and client will meet periodically to determine progress towards the workforce turnover criterion.

The entity determined that there is one performance obligation and that satisfaction of that performance obligation occurs over three years as control transfers. The entity uses the cost-to-cost input method to measure progress on the contract.

Although the contractor has not worked in this particular geographical region, it considers its extensive experience with similar contracts and types of variable consideration when determining which amount, if any, of the $0.6M incentive fee to include in the transaction price. Based on its history with workforce turnover on similar contracts and its understanding of jobs data in this geographic region, the contractor determines that it is probable that it will limit workforce turnover to less than 3% but it is not probable that it will limit workforce turnover to less than 1% (based on the fact that it does not have experience with the workforce in this particular region).

Therefore, the entity concludes that $0.3M of the turnover-related variable consideration is the "most likely amount" to which it expects to be entitled and includes that amount in the transaction price when calculating revenue because the entity has also concluded it is not probable that a significant reversal in the amount of cumulative revenue recognized will occur when the uncertainty associated with the variable consideration is subsequently resolved.

The entity reassesses this criterion each reporting period to determine if turnover experience is better or worse. At the end of year two, the contractor is near completion of the contract and it becomes probable, given that the job is so near conclusion that turnover on the contract will be less than 1%. Therefore, the entity revises its estimate of variable consideration to include the entire $600,000 incentive fee in the transaction price because at this point it is probable that a significant reversal in the amount of cumulative revenue recognized will not occur when including the entire variable consideration in the transaction price.

The following illustrates the impact of changes in variable consideration in example 4.

| | | | | |
|---|---|---|---|---|
| Fixed consideration | A | $ 10,000,000 | | |
| Estimated costs to complete | B | $ 9,000,000 | | |
| | | Year 1 | Year 2 | Year 3 |
| Total estimated variable consideration - completion date | C | $ 1,400,000 | $ 1,400,000 | $ 1,400,000 |
| Total estimated variable consideration - workforce turnover | D | $ 300,000 | $ 600,000 | $ 600,000 |
| Total estimated variable consideration | E | $ 1,700,000 | $ 2,000,000 | $ 2,000,000 |
| Costs incurred | F | $ 2,000,000 | $ 6,000,000 | $ 1,000,000 |
| Fixed revenue | G=A*F/B | $ 2,222,222 | $ 6,666,667 | $ 1,111,111 |
| Variable revenue | H=E*F/B | $ 377,778 | $ 1,400,000 | $ 222,222 |
| Contract Margin | J=G+H-F | $ 600,000 | $ 2,066,667 | $ 333,333 |
| | | 23% | 26% | 25% |

- Example 5: An entity enters into a contract to design and build a pharmaceutical production facility for $100M. Estimated costs are $90M. As the contract progresses, due to customer-caused delays (i.e., delays outside the control of the contractor), the expected cost of the contract far exceeds original estimates, although the contract overall will have a positive margin. The contractor submits a claim as permitted in the contract to recover "not at fault" costs incurred by the contractor. The customer, in turn, submits a counterclaim. Claims of this nature are typical in these types of contracts and history suggests that resolution in favor of the contractor is probable (although the amounts are often "net" settled inclusive of the counterclaim, and can vary).

Claims (a) are inherently susceptible to factors outside the entity's influence (most often the judgment of an unrelated third-party); (b) can take long period of time to resolve; and (c) include possible outcomes that often involve a broad range of possible consideration amounts. In addition, claims are often "net" settled inclusive of customer counterclaims. While there is evidence in this fact pattern supporting successful resolution of claims, this experience on a stand-alone basis may not be sufficient to support a conclusion that it is probable that the claimed amount of revenue would not be subject to significant reversal when the uncertainty is resolved and additional factors would need to be considered to make a final determination.

While often times claim revenue will be recorded in full when amounts are either received or awarded, it could be probable that some portion of the claim will not result in a significant revenue reversal, such as when contractual terms clearly demonstrate an enforceable right to receive payment from a customer for certain situations (e.g., objectively determinable customer-caused delays).

*Updating estimates of variable consideration*

20. Given the long-term nature of many engineering and construction contracts, it is common for circumstances to change throughout the contract. Circumstances change as contract modifications occur, as more experience is acquired, as additional information is obtained, as risks are retired or additional risks are identified, and as performance progresses on the contract. The nature of accounting for long term contracts is a process of continuous refinements of estimates for changing conditions and new developments. FASB ASC 606-10-32-14 requires that the estimated transaction price should be updated for changes in circumstances at each reporting period. As part of updating the transaction price, an entity would evaluate the factors listed in ASC 606-10-32-12. In addition, when updating the estimated transaction price, an entity should consider whether there is a revision to the measure of progress (for example, estimated costs to complete the contract) as stated in FASB ASC 606-10-25-35.

21. The following example is meant to be illustrative, and the determination of the method for updating estimates of variable consideration should be based on the facts and circumstances of an entity's specific situation.

    - Example 6: An entity enters into an engineering, procurement, and construction (EPC) contract for the design and construction of an industrial manufacturing facility for a fixed price of $100M plus an award/penalty fee of +/-$5M tied directly to certain objective metrics around quality, schedule, and productivity (i.e., the variable fee/penalty could increase or decrease the overall consideration received by the contractor). The contractor was inexperienced in this type of project and potential turnover in key positions was a concern. Accordingly, when bidding the contract, the entity did not expect to successfully attain positive metrics tied to the award fee/penalty and estimated a penalty of $5M. The most likely transaction price at the start of the contract was therefore $95M. As the contract neared completion, the contractor became confident that all key metrics were going to be met or exceeded. Based on this updated information, the entity concludes that they will not be in a positon of incurring a penalty, but rather benefit from the full potential award and it is probable that a significant reversal in the cumulative amount of revenue will not occur when the uncertainty is resolved; therefore the entity includes the $5M award fee in the transaction price. The most likely transaction price is therefore updated to $105M and a cumulative catch-up adjustment in revenue is recorded.

**Appendix A: Examples of types of variable consideration**

| Type | Description |
|---|---|
| Award fee | Reimbursed for costs plus a fee consisting of two parts: (a) a fixed amount that does not vary with performance; and (b) an award amount based on performance in areas such as quality, timeliness, ingenuity and cost-effectiveness. The amount of award fee is based upon a subjective evaluation of the contractor's performance judged in light of criteria set forth in the contract. |
| Claims | Claims are amounts in excess of the agreed contract price (or amounts not included in the original contract price) that the contractor seeks to collect from customers or others for: customer-caused delays; errors in specifications and designs; contract terminations; change orders in dispute or unapproved as to both scope and price; or other causes of unanticipated additional costs. |
| Cost incentive/penalties | Provides at the outset for a firm target cost, a firm target profit, a price ceiling (but not a profit ceiling or floor), and a formula (based on the relationship that final negotiated total cost bears to total target cost) for establishing final profit and price (for example, 50/50 share of overruns or underruns). |
| Economic price adjustment | Provides for revision of the contract price based on the occurrence of specifically defined economic contingencies, for example, increases or decreases in either material prices or labor wage rates. |
| Billing rate adjustments | Resultant variability due to change in billing rates. For example, use of interim versus final billing rates and the potential effect of pricing/contract based on forward pricing rate proposal or forward pricing rate recommendation rates in absence of forward pricing rate agreement. |
| Performance incentive/ penalties | Incentive to the entity to surpass stated contract or product performance targets by providing for increases in the profit to the extent that such targets are surpassed and for decreases to the extent that such targets are not met. |
| Price adjustment or redetermination clauses | Volume considerations or price adjustments based on actual quantities or deliveries on indefinite-delivery indefinite-quantity (IDIQ) contracts; contract terms that include price re-determination clauses (for example, a contract that provides for price redeterminations either upward or downward at stated intervals during the performance of the contract based on agreed upon criteria, which may include management ingenuity and effectiveness during performance) |
| Unpriced change order | A modification of an original contract where the work to be performed is defined, but the adjustment to the contract price is to be negotiated later. |

Comments should be received by September 1, 2016, and sent by electronic mail to Fred Gill at fgill@aicpa.org, or you can send them by mail to Fred Gill, Accounting Standards, AICPA, 1211 Avenue of the Americas, NY 10036.