

# FRS Equity Strategies

Outsourcing, Consulting, and Corporate Training for Equity Compensation

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## Using Equity Edge: To Comply with FAS123(R) using version 6.0, 6.2 and 7.0

The new FAS 123(R) regulations require companies issuing equity awards to calculate and amortize the related compensation expense for those employee<sup>1</sup> equity awards vesting and/or granted on or after their FAS 123(R) adoption date. For public companies, adoption is the first fiscal year beginning after June 15, 2005 and includes equity awards granted or vesting after the adoption date. For private companies, adoption is the first fiscal year beginning after December 15, 2005 and includes equity awards granted after the adoption date (paragraph 83 of FAS 123R: "Nonpublic entities...shall continue to account for any portion of awards outstanding at the date of initial application using the accounting principles originally applied to those awards (either the minimum value method under Statement 123 or the provision of Opinion 25 and its related interpretive guidance).") Using Equity Edge, you can calculate your grant date valuation and the expense related to those awards.

### Determining your Valuation Model Factors

- FAS 123(R) does not stipulate or endorse any one type of valuation model to be used. In fact, there are multiple choices available to companies today when choosing a valuation model, including lattice (or open-form) models, the Black-Scholes (or closed-form) method, and the Monte Carlo method. Whichever method your company chooses, the model should consider six factors: exercise price of the option, fair market value, the expected term of the option, expected volatility, the risk-free interest rate, and expected dividend yield of the underlying stock.

### **Exercise Price and Fair Market Value**

These two factors are fairly self-explanatory; the **exercise price**, often referred to as the grant price or strike price, is identified as the price at which the equity award is offered to the optionee. The **fair market value** is identified as the stock price (as defined by the Board of Directors) on the date of grant. Equity Edge will automatically identify both of these factors in the valuation process.

### **Expected Term**

As an Equity Edge user, you have the ability to determine the **expected term** factor for use with your FAS 123(R) valuation each fiscal period. With just a little manipulation of a few existing Equity Edge Reports, you can determine the expected term to be used as the valuation model input.

Three different types of experience make up expected term:

1. Options exercised;
2. Options vested at cancellation; and
3. Outstanding options.<sup>2</sup>

Options Exercised – Run an Expected Term report for the time period under examination, which should include the fiscal period for which you are currently valuing. Each line item must be given a weighting.

You can achieve this weighting by multiplying the Expected Term From Option Date by Shares Exercised; once weighted, divide total Weighted Exercised Shares by Shares exercised to arrive at an expected term for options exercised. This will be the first input in determining your overall expected term for the fiscal period.

For private companies or companies with little historical data to consider, SAB 107 provides a simplified method for “plain vanilla”<sup>3</sup> options to calculate expected term: one-half of the combined total of the vesting term plus the original contractual term (i.e. an option with a one year vest and a five year contractual term would yield a 3 year expected term using the simplified method). Originally SAB 107 was only to be relied upon until December 31, 2007, however, if a company does not have sufficient historical data, the FASB staff has continued to allow use of the simplified method.

Options Cancelled – Run an Options Cancelled report for the time period under examination, which should include the fiscal period for which you are currently valuing. Again, each line item must be given a weighting. You can achieve this weighting by multiplying the number of years each vested<sup>4</sup> cancelled option was outstanding prior to cancellation by the shares cancelled; once weighted, divide total Weighted Cancelled Shares by the number of vested shares cancelled to arrive at an expected term for options cancelled. This will be the second input in determining your overall expected term for the fiscal period.

Options Outstanding – Run an Options Outstanding by Price report as of the last day of the fiscal period for which you are currently valuing. Again, each line item must be given a weighting. You can achieve this weighting by determining the option life to date, then multiplying the option life to date by the Shares Outstanding. Once weighted, divide total Weighted Outstanding Shares by Share Outstanding to arrive at an expected term for options outstanding. This will be the third and final input in determining your overall expected term for the fiscal period.

At this point, you may find that optionees need to be stratified based on different experiences, or FAS groups. Using different expected term assumptions for different groups of employees will provide you with a better estimate of exercise behavior; different groups of employees (such as management and non-management, or employees grouped by geographic location or age) may have different tendencies to exercise earlier or later.

Once you have calculated each experience factor, a simple average of the three for each FAS grouping should give you a starting place to determine your expected term. This method uses past experience to predict future expectations, so you may choose to adjust for unusual circumstances such as a large group of terminations (as in the case of a reduction in force or a divestiture of a subsidiary), or terminations for cause.

### ***Expected Volatility and Risk-Free Interest Rate***

Once the expected term factor has been identified, you can determine the matching volatility and risk-free interest rate.

**Volatility** most frequently refers to the standard deviation of the change in value of a financial instrument (in this case, your company's stock) within a specific time horizon. In accordance with FAS123(R), the time horizon in valuing your equity awards should be matched to your expected term. There are different ways to measure volatility (sometimes referred to as actual or realized volatility). The most common is close-to-close volatility. This is the annualized standard deviation for the closing stock price over a given period of time.

Run a Market Values report for the time period under examination. To calculate the historical daily volatility over the examination period, using the Date and Market Value columns, apply the formula below to each day's fair market value, where  $n$  is the time period,  $x_t$  is the daily difference between closing prices, and  $A$  is the average closing price over the period ( $n$ ). The period is equal to the number of trading days in a year, usually 252 days.

$$\sqrt{\frac{1}{(n-1)} \sum_1^n (x_t - A)^2}$$

A private company may use the “calculated value method” when it is not practicable to estimate the expected volatility of its share price. Statement 123R, paragraph A43 states that a nonpublic entity may be able to identify similar public entities for which share or option price information is available and may consider the historical, expected, or implied volatility of those comparative companies in estimating expected volatility.

In theory, the **risk-free rate** is the minimum return an investor can expect for any investment since he or she would not bear any risk unless the potential rate of return is greater than the risk-free rate. In practice, however, the risk-free rate does not exist, since even the safest investments carry a very small amount of risk. Thus, the interest rate on U.S. Treasury bills is often used as the risk-free rate. This can be obtained at the Federal Reserve’s website, [www.federalreserve.gov](http://www.federalreserve.gov). You should look for the treasury constant maturity rate that most closely matches your expected term.

### ***Dividend***

Under FAS 123(R), the **dividend** yield assumption should reflect your company’s historical dividend yield, and be adjusted for expectations that future dividend yields might differ from recent ones.

## **Inputting your Valuation Model Factors and Running Expense Reports**

Once your factors have been identified, you will need to create a “forecast” in Equity Edge using these factors, and then apply that forecast to all equity awards granted in the fiscal period.

You should create a separate forecast for each FAS group you have identified, as well as a separate forecast for your ESPP. Once each forecast has been created, identify the equity awards that fall under that specific forecast, and value them accordingly. As a check, you can run the Valuation of Options Granted report to ensure that you have correctly applied the right forecast to your new equity awards. You are now ready to run your expense reports.

For employee and outside Director equity awards, run the Expense Allocation Recognition report. Based on your FAS groups, you may want to run this report with different filters that include or exclude certain optionees. If you have previously entered FAS Group, department, or cost center data into Equity Edge, you have the ability to sort based on that information, which will simplify the expense allocation process.

### ***Equity Edge Reports Referenced in this Article***

Options Cancelled – run for the time period under examination

Expected Term – run for the time period under examination

Options Outstanding by Price – run as of the last day of the reporting period in question

Market Values – run for the time period under examination

Expense Allocation Recognition – run for the reporting period in question

Valuation of Options Granted – run for the reporting period in question

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<sup>1</sup>Expensing equity awards made to non-employees is addressed in EITF 96-18 (“Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring, or in Conjunction with Selling, Goods or Services”, FASB Abstract Issue No. 96-18, [www.fasb.org](http://www.fasb.org)). These grants are marked-to-market at each vest, rather than being valued at grant. See FRS article “EE Application Briefs: Accounting for Non-Employee Options”.

<sup>2</sup>Some independent auditors will not consider outstanding options as part of the expected term calculation. You should check with your audit team to ascertain their requirements for your expected term calculation.

<sup>3</sup>“Plain vanilla” options meet the following criteria:

- Share options are granted at-the-money;
- Exercisability is conditional only on performing service through the vesting date;
- If an employee terminates service prior to vesting, the employee would forfeit the share options;
- If an employee terminates service after vesting, the employee would have a limited time to exercise the share options (typically 30-90 days); and
- The share options are nontransferable and nonhedgeable.

<sup>4</sup>Equity Edge does not currently identify vested/unvested cancelled shares; this must be done offline.