



CHICAGO MERCANTILE EXCHANGE INC.

Clearing House Advisory Notice

Volume 02-61

September 3, 2002

TO: Clearing Member Firms
Attention: Operations Managers, Back-Office Managers, Margin Managers

FROM: Clearing House Department

SUBJECT: Corporate Event Processing at CME for OneChicago Security Futures

Introduction

OneChicago will shortly publish a detailed reference document regarding the effect of corporate events on its security futures products. This advisory supplements the OneChicago document. It explains the mechanics of handling corporate events in the CME clearing system, for CME firms electing to clear their OneChicago trades at CME.

OneChicago, OCC and CME will coordinate the handling of corporate events affecting the underlying equities of single-stock futures. Such corporate events will be applied to single-stock futures in the same way, and with the identical effect, at both OCC and CME. It is important to note that the exact manner of processing each corporate event is always determined on a case-by-case basis.

From a mechanical point of view, corporate events affecting single-stock futures can be broken out into three general categories: stock splits, extraordinary dividends, and other events such as mergers and spinoffs.

Corporate events are always applied in clearing before business begins on the effective date of the event. For example, if February 7th is the effective date of a corporate event, the clearing cycle finishes normally on February 6th and is not affected by the event. The impact of the event is reflected in the beginning of day positions on February 7th.

Stock Splits

For stock splits or stock distributions, we define the **split ratio** as the number of shares that a holder of the stock would have after the split, divided by the number of shares that the holder had before. The simplest case is where one share before the split becomes two shares after. This is called a "two for one" split, and the split ratio is two over one, or two.

We define an **integral split** as one where the split ratio is a positive integer beginning with two. For example, a two for one split, a three for one split, a four for one split, etc.

A **non-integral split** is one where the split ratio is not an integer. Simple examples are three for two splits (split ratio = 3/2) and four for three splits (split ratio = 4/3). Another example is a reverse split. For example, three shares become one share – a "one for three" split, with split ratio = 1/3. A stock dividend – for example, for every 100 shares you had, you get 5 more – is another example of a non-integral split.

Integral Splits

An integral split is handled as follows:

- The start-of-day price is adjusted down by dividing it by the split ratio, and rounding the result normally to the nearest tick.
- The start-of-day position quantity is adjusted up to the value obtained by multiplying it by the split ratio.

Note that the underlying ratio, and hence the contract value factor, do not change. A future on 100 shares before such a split, would still be a future on 100 shares after the split, and the contract value factor would remain at 100.

For example, a three for one split (split ratio = $3/1 = 3$), with a future that settled on the previous day at 100.00 USD per share:

- The start of day price is calculated by dividing 100.00 by 3, yielding 33.33333333 etc., and rounding this to the nearest tick, yielding 33.33.
- The adjusted start of day position quantities are obtained by taking the previous day end-of-day quantities and multiplying by 3.
- The underlying ratio and the contract value factor are held constant at 100.00.

Non-integral Splits

A non-integral split is handled as follows:

- The symbol is changed. For example, **MSFT1C** would become **MSFT2C**. Analogously, the two-byte clearing code would be changed -- for example, **MS** might become **MT**.
- The position quantity is not affected, but the underlying deliverable of this new symbol is determined by multiplying the underlying deliverable of the original symbol by the split ratio, and truncating any fractional part of this result. This new value for underlying deliverable becomes the new value for the contract value factor.
- The start-of-day price for the new symbol is determined by dividing the end-of-day price for the old symbol by the split ratio, and rounding the result normally to the nearest tick.

Note that the method of determining the adjusted start-of-day price is the same for both integral and non-integral splits: divide the previous day's end-of-day price by the split ratio, and round normally to the nearest tick.

For example, a four for three split (split ratio = $4/3$), with a future that settled on the previous day at 100.00 USD per share:

- The start of day price for the new symbol is determined by dividing 100 by $4/3$, yielding 75.00. In this example, no further rounding is needed.
- The underlying deliverable for the new symbol is determined by multiplying 100 by $4/3$, yielding 133.333333 etc., and then truncating this to 133. The contract value factor for the new symbol is analogously defined as 133.

Extraordinary Cash Dividends

Extraordinary cash dividends are dividends outside of the routine practice of periodic dividend payments.

Extraordinary cash dividends will be handled by reducing the start-of-day price by the amount of the extraordinary cash dividend.

For example, with a future that settled at 100.00 USD per share on the previous day, and for which the underlying stock had a 20 USD per share extraordinary cash dividend:

- The adjusted start-of-day futures price is reduced by subtracting 20.00 from 100.00, yielding 80.00.
- If the future settled that day at 80.00, there would be no settlement variation that day on the start-of-day position.

Note that neither the symbol nor the clearing code would change.

Other types of corporate events

OneChicago's corporate events document enumerates the handling of other types of events such as those stemming from mergers between companies, acquisitions by one company of another, or spin-off's by one company of another, etc.

From a mechanical point of view, such events may result in the following:

- The symbol may change.
- The underlying deliverable may change, and/or may include cash-in-lieu of fractional shares.
- The settlement date of the future may be moved up (if there were a 100% cash merger where all stock is converted to cash), and/or the future may convert from physical delivery to cash settlement.

Examples of changes to the underlying deliverable:

- A future on 100 shares of A, becomes a future on 60 shares of A and 32 shares of B.
- A future on 100 shares of A, becomes a future on 100 shares of A, 12 shares of B, and \$25 in lieu of fractional shares.

Cash payments in lieu of fractional shares will be added together with normal variation and premium amounts, and will be banked normally. This will occur at the end-of-day settlement cycle on the physical delivery day, *ie*, the third business day following the maturity date of the future. The long futures position will receive (collect) the cash-in-lieu, and the short will pay.

For example, the OneChicago future will mature ("expire") on the third Friday of the contract month. In CME terminology, this is the "futures settlement date." The physical delivery date is the third business day following -- *ie*, the following Wednesday. That is the date on which the cash-in-lieu will be included in the end-of-day settlement cycle.

Obtaining information about corporate events

The CME will publish notices of upcoming corporate events affecting OneChicago futures and how they will be handled in clearing. On the evening prior to the effective date (the "ex date"), this information will also be published in a machine-readable data file.

The new "Corporate Events" position adjustment type

A new type of position adjustment, the **Corporate Events Adjustment**, will be used to effect changes to start-of-day positions associated with corporate events.

For integral splits, this adjustment will adjust the start-of-day position quantities upward. For non-integral splits, the adjustment will transfer the position from the original product to the new product with a different underlying deliverable.

For example, suppose the previous day ending position was long 20 and short 30 for a particular futures contract affected by a 3 for 1 integral stock split:

- The adjusted start-of-day position will be three times the previous end-of-day position, or long 60 and short 90.
- Accordingly, a corporate events adjustment will be automatically created to increase the start-of-day long position by 40 (60 minus 20) and to increase the start-of-day short position by 60 (90 minus 30).

Another example: a 4 for 3 non-integral split, where a MSFT1C futures contract on 100 shares becomes a MSFT2C futures contract on 133 shares:

- One corporate events adjustment would be applied to the MSFT1C contract, to take the position down to zero.
- A second corporate events adjustment would be applied to the MSFT2C contract, to replace the position on this new contract.

Corporate Events and the Trade Register

The **Trade Register Report** and the **Trade Register Datafile** (often referred to as the MRTR – the “machine-readable trade register file”) will show the effects of corporate events:

- Where a corporate event has resulted in an adjustment to the start-of-day price, the “previous-day settlement price” field will show that adjusted price.
- Where a corporate event adjustment has been applied, there will be a new line showing this adjustment.
- Where cash-in-lieu of shares is being banked on the physical delivery date of the future, this will be shown in the “Cash Adjustment” field. This is the same field used for cash adjustments for CME's new TRAKRSSM futures. The meaning of this field has been broadened to include **any** cash adjustment associated with a contract.

The details of corporate event adjustments will also be viewable on-line via the **Clearing 21 Positions module**.

New Corporate Events reports

In addition to the Trade Register Report and the Trade Register Datafile, there will be a new report, the **Corporate Events Activity Report**, which will provide a detailed audit trail of the effect of corporate events on a firm's positions.

This report will typically be available in the very early morning hours on the effective date of the event.

Another new report, the **Corporate Events Forecast Report**, will be available at approximately 10:30 pm every night. It will show the detailed expected effect of corporate events occurring within the next five business days, if current positions affected were maintained until the effective date and the contract settled on the day prior to the effective date at its current settlement price.

To summarize: the Corporate Events Activity Report will show exactly how just-applied corporate events have affected your positions. The Corporate Events Forecast Report will allow you to anticipate how upcoming corporate events will affect your positions.

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