PRICE DETERMINATION PROCESS

1. DAILY FUTURES MARK TO MARKET (MTM) PRICE

- MTM for the day, which is also referred to as the daily settlement price, will rely on a random sample selected any time in the last 5 minutes of trading at the discretion of the exchange.
- In line with the existing grain mtm procedure, based on the random snapshot selected, the MTM price is a function of referencing the last traded price unless there is a better bid or lower offer. If the closing bid is above the last traded price this will then be used MTM, alternatively if the offer is lower than the last traded price then the offer will be used as the MTM.
- Then to recognize the liquid expiries within the MTM process, the most liquid expiry per product meeting the Volume Weighted Average Price (VWAP) criteria is selected as the reference from which all other expiries are adjusted by the spread difference, the following applies:
  - An expiry will be considered liquid on the trading day for the purpose of determining the MTM if 50 or more contracts trade during the last 15 minutes of a trading session
  - The spot month will not be included in the VWAP calculations and therefore never eligible to be considered liquid
  - Should multiple expiries per product meet this criteria, only the most liquid non spot month will be selected as the reference expiry month
  - Only on screen traded activity will be taken into account when determining the VWAP
  - Please note the VWAP will not be taken into consideration on the day should the following occur, in which case the random snapshots will prevail:
    1. where at least one expiry of the contract series is MTM at the daily price limit,

    or

    2. when the VWAP has resulted in the MTM for any of the expiries of the contract series to be outside of the daily price limits.
- Once the reference VWAP value is determined, it becomes the reference price from which all the other expiries are adjusted by the spread difference. This is done in order to maintain the same spread relationship amongst the contract expiries before and after the VWAP is recognized. In the event that no product has any expiries meeting the VWAP criteria, the random snapshot as selected will prevail without any further adjustments

2. FINAL SETTLEMENT VALUE (FSV)

Upon expiry of the BEEF contract on Last Trading Day, settlement shall take place in cash based on the Final Settlement Price (FSP) calculated by JSE. Since one contract shall be equivalent to 1000 kg, the final settlement value (FSV) is therefore

$$FSV = 1000xNxFSP$$

Where N is the number of contract held at expiration. Last Trading Day is the last Wednesday of the expiry month.

3. WEEKLY SETTLEMENT PRICE (WSP) AND FINAL SETTLEMENT PRICE (FSP)

The WSP is simply the weighted average weekly price per kilogram of A2 and A3 class beef per contributing abattoir, as supplied by the Red Meat Abattoirs Association for the last two weeks preceding Last Trading Day.

Thus, for i=1…n contributors in a typical week:

$$WSP = \beta_{A2} \sum_{i=1}^{n} \omega_{iA2} P_{iA2} + \beta_{A3} \sum_{i=1}^{n} \omega_{iA3} P_{iA3}$$

Where the weights:

$$\omega_{iA2} = \frac{Total\ average\ mass\ of\ A_2\ class\ sold\ by\ contributor\ i}{Sum\ total\ of\ A_2\ average\ mass\ in\ one\ week}$$

$$\omega_{iA3} = \frac{Total\ average\ mass\ of\ A_3\ class\ sold\ by\ contributor\ i}{Sum\ total\ of\ A_3\ average\ mass\ in\ one\ week}$$

$$\beta_{A2} = \frac{Sum\ total\ of\ A_2\ average\ mass\ in\ one\ week}{Grand\ total\ of\ A_2\ and\ A_3\ average\ masses\ in\ one\ week}$$

$$\beta_{A3} = \frac{Sum\ total\ of\ A_3\ average\ mass\ in\ one\ week}{Grand\ total\ of\ A_2\ and\ A_3\ average\ mass\ in\ one\ week}$$

And

P_{iA2} and P_{iA3} are A2 and A3 average prices in rand per kilogram for contributor i.

Therefore if we denote the last week of price information prior to Last Trading Day as d, then the **Final Settlement Price** obtained over the preceding two weeks is:

$$\boldsymbol{FSP} = \sum_{j=(d-1)}^{d} \theta_j WSP_j$$

Where,

$$\theta_j = \frac{Total\ average\ mass\ of\ A_2 and\ A_3\ in\ week\ j}{Grand\ total\ of\ A_2\ and\ A_3\ average\ masses\ in\ both\ weeks}$$

4. **PRICE INFORMATION PROCESS**

a. For each of the relevant beef class, A2 or A3:
   i. the number of carcass units is multiplied by the corresponding weighted average mass to obtain the total kilograms sold in that class category for each contributing abattoir; and
   ii. the resulting product in i. above is then multiplied by the corresponding weighted average selling price, to obtain the total Rands sold in that class category for that reporting period.

b. For each transaction week:
   i. the Total Kilograms sold in the relevant class categories (i.e., the results from a.i., above) are aggregated to obtain the Total Kilograms sold per class for that week; and
   ii. the Total Rands sold in the relevant class categories (i.e., the results from a.ii, above) are aggregated to obtain the total Rands sold per class for that week.
   iii. Weekly Settlement Price (WSP) for the week is obtained by dividing Total Rands (in b.ii. above) by Total Kilograms (obtained in b. i. above) for class A2 and class A3 and then taking an average.

c. For the last two weeks preceding Last Trading Day:
Settlement Price of week I is added to Settlement Price of week II on a volume-weighted basis of total average carcass masses over the two-week period. The result is the **Final Settlement Price.**

d. **Final Settlement Value = Nominal *N* Final Settlement Price,** where N is number of contracts held at expiration.