I. Reopening of Bond Issue

Reopening a Bond issue is issuing additional amounts of a previously issued Bond. Reopened Bonds have the same maturity date and interest rate as the original bonds, but they are sold on different dates and usually at a different price.

II. Formula to Calculate Price per $100

$$PRICE = \left[\frac{redemption}{\left(1+\frac{yld}{frequency}\right)^{\left(N-1+\frac{DSC}{E}\right)}}\right] + \left[\sum_{k=1}^{N}\frac{100 \times \frac{rate}{frequency}}{\left(1+\frac{yld}{frequency}\right)^{\left(k-1+\frac{DSC}{E}\right)}}\right] - \left(100 \times \frac{rate}{frequency} \times \frac{A}{E}\right)$$

- where:
  - DSC = number of days from settlement to next coupon date.
  - E = number of days in coupon period in which the settlement date falls.
  - N = number of coupons payable between settlement date and redemption date.
  - A = number of days from beginning of coupon period to settlement

$$DSR = E - A$$

$$T1 = 100 * \frac{rate}{frequency} + redemption$$

$$T2 = \frac{yld}{frequency} * \frac{DSR}{E} + 1$$

$$T3 = 100 * \frac{rate}{frequency} * \frac{A}{E}$$

$$Price = \frac{T1}{T2} - T3$$

To determine the dirty (gross) price (SETTLEMENT PRICE) of a security, one would need to derive the amount to be settled and accrued interest has to be added.

The amount of accrued interest is for any settlement is:

Accrued Interest = Amount of next coupon due * (number of days between settlement date and previous coupon date) / (number of days between next coupon date and previous coupon date)

Settlement Price is therefore the price of the bond calculated using PRICE ()+ Accrued Interest.
No difference between the dirty (gross) price and the clean price occurs, if the settlement date is the issuance date or any coupon payment date.