## EXAMPLE OF INTEREST RATE SWAP

## Details of Interest Rate Swap Agreement

| Notional principal | \$10,000,000 |
| :---: | :---: |
| Term | 5 years |
| Swap | Member makes fixed payments to AC. Member received floating payments from AC |
| Fixed interest rate | 11\% |
| Floating interest rate | Bankers Acceptance rate (BA) +50 bps Initially set at $10.75 \%$ $(10.75+.50)=11.25 \%$ |
| Margin rate GOC, 3-7 years | 2\% |
| Margin rate for fixed interest rate swap | $2 \%+25 \%$ premium $=2.50 \%$ |
| Margin rate for GOC < 1 year | $1 \% \mathrm{x} \#$ days to reset date/365 $=1 \% \times 90 / 365$ |
| Assumptions |  |
| Three months into the swap agreement | 90 days to next reset date |
| Current market interest rate for fixed swap (term of 4 years, 9 months) | 11.50\% |
| Bankers acceptance interest rate reset | BA + 50 bps |

## Margin Requirements

Margin on fixed rate payments $\$ 250,000$ (10,000,000 x $2 \% \times 1.25)$

Margin on floating rate payments (10,000,000 x $1 \%$ x 90/365)

Margin before offsets
Margin reduction (inventory offsets):

Assume inventory long GOC 8\%, October 1, 2000
Par \$10 million / Market value 99.575 ( $10,000,000 \times 99.575 \times 2 \%$ )

Assume inventory short BA maturity in one month
Par $\$ 9$ million / Market value 99.90
(9,000,000 x $99.90 \times 2 \% \times 1 / 12$ )

Net margin required
$\qquad$

## Market Deficiency Calculation:

Three months into the agreement, the market has changed and the Member must mark to market this swap. Current market interest rate for fixed term interest rate swaps (4 years and 9 months) is $11.50 \%$. The Bankers Acceptance rate is reset to current market rate and therefore requires no mark to market.

## Part 1

| Fixed Rate Differential | $0.50 \%$ |
| :--- | ---: |
| Notional Principal | $\underline{\$ 10,000,000}$ |
| Annual Payment Differential | $\underline{50,000}$ |
| Present Value of $\$ 50,000$ at $11.50 \%$ |  |
| for four years, nine months on a semi-annual basis | $\underline{\$ 175,256}$ |

## Part 2

1. Interest on fixed principal for three months

$$
\$ 10,000,000 \times 11 \% \times 91 / 365=
$$

$$
\$<274,246\rangle
$$

2. Interest on floating principal for three months $\$ 10,000,000 \times 11.25 \% \times 91 / 365=$
$\$<280,479>$
\$<6,233>

## MTM Total

Part 1
175,256
Part 2
<6,233>
$\$ \quad 169,023$

In this example, the current market interest rate has risen, therefore, the fixed rate (in this case, the Client) has a loss. Netted against this loss is the client's right to receive the $\$ 6,233$ accrued interest.

