BANK *Of* ZAMBIA

OFFICE OF THE DEPUTY GOVERNOR - OPERATIONS

November 30, 2009

CB Circular No : 05/2009

To : All Commercial Banks

INTRODUCTION OF OVERNIGHT LENDING FACILITY WINDOW

The Bank of Zambia wishes to formally announce the introduction of an Overnight Lending Facility Window (the OLF). The primary purpose of introducing the OLF is to enhance the operations of our money markets by assuring commercial banks availability of liquidity assistance from the Bank of Zambia. It is the Bank's expectation that the OLF will also serve as another convenient avenue through which monetary policy signals can be conveyed to the economy.

The OLF will be available to commercial banks effective December 01, 2009. It will also complement other existing refinancing facilities at the Bank of Zambia, such as, the Treasury Bills Rediscount Facility and the Intraday Credit Facility.

As in other facilities, banks are however advised to utilise the OLF prudently. The Bank of Zambia will reserve the right to decline extension of credit under this facility.

Kindly find attached hereto the **Rules and Procedures of the Overnight Lending Facility** document detailing the features of this facility. All commercial banks are urged to familiarise themselves with it. If there are any queries or clarifications concerning this matter, kindly contact our Financial Markets department.

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RULES AND PROCEDURES OF THE OVERNIGHT LENDING FACILITY

1. Type of facility

The Bank of Zambia shall provide an Overnight Lending Facility (the OLF).

2. Eligibility

Only commercial banks with settlement accounts at the Bank of Zambia shall be eligible to participate in the OLF

3. Accessibility

Commercial banks shall access an overnight loan by directly applying on a prescribed form (see attached). Banks may also access an overnight loan by lapsing an intraday credit into the following day. In the latter case, unpaid credits obtained under the Intraday Credit Facility shall automatically convert to an overnight loan and collateral against such credits will continue to be held and encumbered by Bank of Zambia until the overnight loan is repaid in full.

4. Collateral Arrangement

All loans or credits obtained at the OLF Window shall be fully collateralised by any or a combination of the following instruments: Treasury bills, Government bonds, and Term deposits/Repos issued under Bank of Zambia Open Market Operations. Only instruments with greater than 7 days to final maturity date will be eligible as collateral. However, collateral arrangements under the Intraday Credit Facility shall remain unchanged.

The Bank will apply haircut margins on the underlying securities to be used as collateral on the OLF. Hair-cuts shall be applied taking into account the *market value* of the securities. Applicable hair-cut margins shall be structured as follows:

Instrument	Remaining Days to Maturity	Hair-cut Over Market Value
Treasury bills	Greater than 7 days	5%
OMO Term Deposits/Repos	Greater than 7 days	5%
Govt Bonds	Greater than 7 days but less than or equal to one year	5%
	Greater than one year but less than or equal to three years	7%
	Greater than three years but less than or equal to five years	10%
	Greater than five years	15%

5. Collateral Account for the OLF

Each participating commercial bank is expected to operate a separate **OLF Securities Account** which shall hold securities encumbered under the OLF arrangement. Banks shall ensure this account has sufficient securities to cover any credits obtained under OLF. Securities so held under this Account shall not be used for any other purpose until the OLF loan is paid off in full.

Securities pledged under the Intraday Credit Facility shall continue to be held for that purpose. In the event that the intraday credit converts to an overnight loan, securities so pledged under the Intraday Credit Facility shall be eligible for use to the extent possible to cover the overnight loan.

6. OLF Interest Rates

A margin of 600 basis points (6 percentage points) shall be added to the previous day's weighted average interbank rate to arrive at the OLF rate. The margin shall be set and changed by the Bank of Zambia as and when it is necessary taking into account the Bank's overall monetary policy stance.

7. Dissemination of the OLF Interest Rate

The OLF interest rate ruling for each day shall be disseminated through the Morning *OMO Statistical Release* that normally announces the BoZ's Open Market Operations

8. Calculation of Interest Payable

Interest payable shall be calculated on a simple interest basis as follows:

$$Interest\ Payable = Loan\ Amount\ \times OLF\ interest\ rate \times \frac{1}{365}$$

9. Operational time

The OLF shall be active towards close of business in order to encourage active trading in the inter-bank market. The OLF shall be opened 45 minutes before the close of the RTGS. Below is the time table for the operations of the OLF.

Operational Time of the OLF

Time	Activity
09.30 - 10.00	• Bank of Zambia's Financial Markets Department communicates to the commercial banks the applicable interest rate on Overnight Lending Facility through the Open Market Operations ***Statistical Release***.
15.15 - 16.00	• Commercial banks apply for an overnight loan through Bank of Zambia's Financial Markets department. Application to be made on Form OLF L1;
16.00 - 16.20	• Subject to adequate collateral, Bank of Zambia provides credits to commercial banks' settlement accounts; • Bank of Zambia diarises the recovery of the overnight loan.
	Following Morning
08.15	• Opening of the RTGS
10.00	• Bank of Zambia automatically settles diarised payments by collecting principal and interest; • Bank of Zambia, upon recovery of funds, returns securities held against the overnight loan.

10. Determination of Market Value

The market value (*MV*) of securities pledged as collateral shall be equal to the overnight loan principal plus the relevant hair-cut margin. The face value commensurate with this market value shall be determined to the nearest K100,000 as follows:

a. Treasury bills

The required face value (F) of Treasury bills shall be determined by application of the following formula:

$$MV \times \left(1 + \frac{rn}{365}\right)^{w} = F$$

Where MV is the required market value of the security being pledged, which equals the OLF loan amount plus the hair-cut margin

r is the *current* weighted average yield rate in decimal obtaining on the most recent Treasury bill auction;

n is the original number of days to maturity as at issue date;

w is number of days between settlement date and final maturity date divided by the Treasury bill's original number of days to maturity (n); and

F is the face value of the security to be pledged as collateral.

Example:

Consider a transaction with the following features:

Amount to be borrowed:	5,000,000
Security to be pledged:	182 days Treasury bill
Settlement Date:	2 November 2009
Treasury bill Maturity Date:	7 December 2009
Original Number of Days to Maturity:	182
Current Yield Rate on a 182-day Treasury bill:	12%
Applicable Hair-cut Margin:	5%

With these features, the security's market value (MV) consideration will be

5,000,000 + 5% of 5,000,000 = 5,250,000;

With 35 days between the settlement date and maturity date, $w = \frac{35}{182} = 0.1923$,

the required face value (F) of the security will be calculated as follows

$$F = 5{,}250{,}000 \times \left(1 + \frac{0.12 \times 182}{365}\right)^{0.1923}$$

$$= 5{,}309{,}001.68.$$

The securities to be delivered to the nearest K100,000 will then be K5,300,000.

b. Government bonds

The required face value (F) of Government bonds shall be determined by application of the following formula:

$$F = \left[\frac{MV}{\left(\frac{C/2}{\left(1+\frac{r}{2}\right)^{w}} + \frac{C/2}{\left(1+\frac{r}{2}\right)^{1+w}} + \frac{C/2}{\left(1+\frac{r}{2}\right)^{2+w}} + \cdots + \frac{1+C/2}{\left(1+\frac{r}{2}\right)^{n+w}} \right)} \right]$$

Where ***MV*** is the required market value of the security being pledged, which equals the OLF loan amount plus the hair-cut margin

C is the coupon rate in decimal originally applied to the bond at issue date

r is the *current* weighted average yield rate in decimal obtaining on the most recent Government bonds auction;

n is the total number of coupon periods remaining after the next coupon payment;

w is number of days between settlement date and the next coupon payment date divided by the original number of days in coupon period; and

F is the face value of the security to be pledged as collateral

Example:

Consider a transaction with the following features

Amount to be borrowed:	5,000,000
Security to be pledged:	2 year Government bond
Coupon rate:	4.5% (i.e. half of 9% annual coupon rate)
Settlement Date:	2 November 2009
Next Coupon Payment Date:	7 December 2009
Original Number of Days in Coupon Period:	182
Current Yield Rate on a 2 year Govt bond:	16%
Applicable Hair-cut Margin:	5%

With these features, the security's market value (MV) consideration will be;

5,000,000 + 5% of 5,000,000 = 5,250,000.

With 35 days between the settlement date and the next coupon payment date, $w = \frac{35}{182} = 0.1923$,

the required face value (F) of the security will then be calculated as follows:

$$F = \left[\frac{5{,}250{,}000}{\left(\frac{0.09/2}{\left(1+\frac{0.16}{2}\right)^{0.1923}} + \frac{0.09/2}{\left(1+\frac{0.16}{2}\right)^{1+0.1923}} + \frac{0.09/2}{\left(1+\frac{0.16}{2}\right)^{2+0.1923}} + \frac{1+0.09/2}{\left(1+\frac{0.16}{2}\right)^{3+0.1923}} \right)} \right] = 5{,}580{,}508.94\ .$$

The face value of bonds to be delivered to the nearest K100,000 will then be K5,600,000.

c. BOZ OMO Term Deposits/Repos

The required value (*V*) of OMO instruments shall be determined by application of the following formula;

$$V = MV \times \left(1 + \frac{r \times d}{365}\right)$$

Where **_MV_** is the required market value of the Term deposit being pledged, which equals the OLF loan amount plus the hair-cut margin;

_r_ is the *previous* business day's weighted average interbank rate (obtained from the *OMO Statistical Release*); and

_d_ is number of days between settlement date and the maturity date of the instrument so pledged.

With regard to this instrument, the value (*V*) shall include principal and the interest payable at maturity.

Example:

Consider a transaction with the following features

Amount to be borrowed:	5,000,000
Security to be pledged:	60 days OMO Term deposit
Settlement Date:	2 November 2009
OMO Term Deposit Maturity Date:	7 December 2009
Previous day's Interbank Rate:	10%
Applicable Hair-cut Margin:	5%

With these features, the value of the deposit consideration will be;

$$5{,}000{,}000 + 5\% \text{ of } 5{,}000{,}000 = 5{,}250{,}000$$

With 35 days between the settlement date and the final maturity date of the deposit, $d = 35$, the required value (V) of the security will then be calculated as follows

$$V = 5{,}250{,}000 \times \left(1 + \frac{0.1 \times 35}{365}\right) = 5{,}300{,}345.46$$

The value of the Term deposit/repo to be delivered to the nearest K100,000 will then be K5,300,000