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09 August, 2001

CB Circular No. 21/2001

To: All Commercial Banks

Dear Sirs/Madams

**OPERATING RULES AND GUIDELINES FOR GOVERNMENT SECURITIES
TENDER AND OFF TENDER TRANSACTIONS**

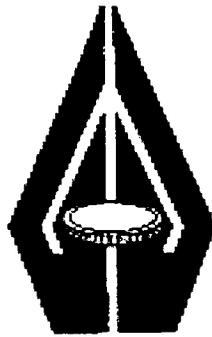
Reference is made to the above subject.

As you may be aware, the Bank of Zambia has taken measures to widen and deepen the market for government securities. The first step in this process was to re-admit non-bank financial institutions on to the primary auctions of government securities in April 1999. In March this year, individuals and corporate entities were re-admitted to the primary auctions of government securities. The Bank of Zambia has also decided to reopen the off tender (non-competitive) window as advised in CB Circular No. 19/2001 dated 23 April 2001. The widening of the government securities market has been necessitated by the need to foster competition, which is vital for efficient price discovery of appropriate interest rates.

To this effect, the Bank of Zambia has revised the Operating Rules and Guidelines for Government Securities Tender & Off Tender Transactions attached herewith. The off tender window will become operational once the Bank of Zambia has engaged an Agent(s) to undertake these transactions on its behalf. The off tender operating agreement will soon be sent out to all commercial banks.

Yours faithfully

Dr Abraham Mwenda
Deputy Governor - Operations



BANK *Of* ZAMBIA

OPERATING RULES AND GUIDELINES

FOR

**GOVERNMENT SECURITIES TENDER AND OFF
TENDER TRANSACTIONS**

Lusaka, June 2001

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INTRODUCTION

The Bank of Zambia as fiscal agent of the Government of the Republic of Zambia issues government securities on behalf of the Government. Currently, Government securities issued are Treasury bills and Government bonds. The securities are issued on a competitive (tender) and non-competitive (off tender) basis. In competitive tenders, successful participants are allocated securities at prices quoted while in non-competitive, participants are price takers (i.e. allocated at a pre-determined price).

The guidelines are structured as follows; Sections A outlines the procedures for the tender (competitive) window transactions, Sections B procedures for off tender (non competitive) transactions and Section C procedures for secondary market transactions.

A. PROCEDURES FOR TENDER (COMPETITIVE) WINDOW TRANSACTIONS

TREASURY BILLS

1.0 Eligibility

- 1.1 Individuals and corporate institutions are eligible to participate in the primary auctions of Treasury bills.
- 1.2 The minimum bid amount is Thirty Million Kwacha (K30 million) face value and thereafter in multiples of Five Million Kwacha (K5 million) face value. The Bank of Zambia reserves the right to change the number of bids and minimum amount required and multiples, as and when deemed necessary. Advance notice will be provided for and such changes made.
- 1.3 The Bank of Zambia maintains and processes all Treasury bills transactions through the Book Entry System (BES), which is the Central Securities Depository. All Treasury bill records are stored and processed electronically. This means that no physical certificate shall be issued for any Treasury bill purchased. Therefore, all participants are required to open an account in the BES by completing and submitting the **CDSBES Form 1**. This form shall be completed in duplicate and is obtainable at the Bank of Zambia.

2.0 Term to maturity

- 2.1 Currently, the Bank of Zambia issues Treasury bills in four maturity categories namely **28 days, 91 days, 182 days and 273 days**.

3.0 Tender procedure

Tender invitation

- 3.1 Treasury bill tenders are held every Thursday at 10:00 hours. In the event that Thursday is a public holiday participants shall be informed accordingly. The announcement of the tender amount at face value shall be made through the national press prior to the tender day.

Lodging of applications

- 3.2 Each maturity category has its own application form namely **BOZ FORM TB1** (28 days), **BOZ FORM TB2** (91 days), **BOZ FORM TB3** (182 days) and **BOZ FORM TB4** (273 days). These forms can be obtained from the Bank of Zambia, Financial Markets Department.
- 3.3 Duly completed application forms bearing the applicant's signature (two authorized signatories for corporate institutions) must be deposited in the tender box marked "**TREASURY BILL TENDER BOX**" at the Bank of Zambia by 10:00 hours on the tender day. Applicants may also file in applications by facsimile on number 221774 or 222932. However, original copies must be submitted by 10.30 hours on the tender day.
- 3.4 For participants without clearing accounts at the Bank of Zambia, each application must be accompanied by the guarantee form **BOZ-ST-G** signed by authorized signatories from the settlement bank. Note that the details on form **BOZ-ST-G** should be the same as those indicated on **CDSBES Form 1**.
- 3.5 Participants shall be allowed to submit up to a maximum of Four (4) bids, one (1) per maturity category per tender.
- 3.6 Once the tender box has been opened, no application form can be withdrawn. Written notification to withdraw an application should be made before 10:00 hours on the auction day.

Pricing mechanism and allotment

- 3.7 The Bank of Zambia applies the multiple price system (Dutch auction) to price Treasury bills. This means that each successful bidder is allocated Treasury bills at the price he/she has quoted. Awards will be made by accepting the highest bid prices (lowest yield rate) until the amount is exhausted. However, the Bank of Zambia reserves the right to exclude bids that are not consistent with market fundamentals

The Bank of Zambia shall pro-rate bids at the cut-off price. This means that the Bank of Zambia will issue Treasury bills up to the amount advertised on each maturity category at face value. If bids at the cut-off price exhausting the amount on offer exceed the face value on offer, the Bank of Zambia will proportionally allocate amounts of Treasury bills at the cut-off price, such that the amount on offer is exhausted.

- 3.8 The Bank of Zambia reserves the right to change the pricing mechanism as and when deemed necessary. Adequate notice will be given to all participants for any change in the pricing mechanism.

Announcement of results

- 3.9 Individual results of the tender shall be announced to participants on Fridays through issuance of award notices to successful bidders and rejection notices to unsuccessful bidders. In the event that Friday is a public holiday participants shall be informed accordingly.

- 3.10 A consolidated summary of the tender results shall be published in the national press on Mondays.

- 3.11 Statements showing a participant's holdings by tender shall be available upon request.

Settlement procedure

- 3.12 Settlement for all Treasury bills awarded is on Monday (T + 4 - four days from the auction date). Any changes to settlement date shall be advised to all participants.

- 3.13 Settlement of Treasury bills awarded shall be through commercial bank's current accounts at Bank of Zambia. All participants without clearing accounts at Bank of Zambia should make settlement arrangements with their respective banks prior to the auction date (refer to 3.4). Commercial banks shall give authority to use their respective current accounts at the Bank of Zambia by duly completing and signing Form **BOZ-ST-G**.

Maturity proceeds

- 3.14 On maturity date, the Bank of Zambia shall credit the maturity proceeds to the current accounts held at the Bank of Zambia. For participants without clearing accounts at the Bank of Zambia the maturity proceeds will be credited according to the settlement details indicated on the **CDSBES**

Form1. Please note that individuals/corporate institutions shall use the same commercial bank for settlement and maturity proceeds.

3.15 At maturity, the investor will be paid the face value less withholding tax.

4.0 Charges

Handling fees

4.1 The Bank of Zambia charges handling fees for all primary Treasury bill transactions. The charge is applied on the discount earned. Currently, the handling fee is 2 percent. The Bank of Zambia reserves the right to change this fee as and when deemed necessary.

Tax

4.2 Income earned on Treasury bills is subject to tax as per current tax regulations. The tax is deducted at source upon maturity. Currently, the withholding tax rate is 15% for corporate institutions and 25% for private individuals. The Bank of Zambia issues withholding tax certificates according to the holders of record at maturity date.

4.3 All participants that are exempt from paying withholding tax must provide a tax exemption certificate from the Zambia Revenue Authority (ZRA).

4.4 Interest earnings will be subject to tax regulations as set by the Government of the Republic of Zambia from time to time.

GOVERNMENT BONDS

5.0 Eligibility

5.1 Individuals and corporate institutions are eligible to participate in the primary auctions of Government bonds.

5.2 The minimum bid amount is Thirty Million Kwacha (K30 million) face value and thereafter in multiples of Five Million Kwacha (K5 million) face value. The Bank of Zambia reserves the right to change the minimum amount required and multiples, as and when deemed necessary. Advance notice will be provided for changes in the minimum and incremental amounts.

5.3 The Bank of Zambia maintains and processes all Government bond transactions through the Book Entry System (BES), which is the central securities depository. All Government bond records are stored and processed electronically. This means that no physical certificate shall be issued for any Government bond purchased. Therefore, all participants are required to open

an account in the BES by completing and submitting the CDSBES Form 1. This form shall be completed in duplicate and is obtainable at the Bank of Zambia.

6.0 Term to maturity

6.1 Currently, the Bank of Zambia issues Government bonds in three maturity categories namely 12 months, 18 months, and 24 months.

7.0 Tender procedure

Tender invitation

7.1 Government bond tenders are held on Fridays every four to six weeks after the latest auction. The specific dates of the bond tender shall be announced in the national press. In the event that Friday is a public holiday participants shall be informed accordingly. The announcement of the tender amount shall be made through the national press two weeks prior to the tender day.

Lodging of applications

- 7.2 Each maturity category has its own application form namely FM-RS-BA 1 (12 months), FM-RS-BA 2 (18 months) and FM-RS-BA 3 (24 months). These forms can be obtained from the Bank of Zambia, Financial Markets Department.
- 7.3 Duly completed application forms bearing the applicant's signature (two authorized signatories for corporate institutions) must be deposited in the tender box marked "GOVERNMENT BOND TENDER BOX" at the Bank of Zambia by 10:00 hours on the tender day.
- 7.4 For participants without clearing accounts at the Bank of Zambia, each application must be accompanied by the guarantee form BOZ-ST-G signed by authorized signatories from the settlement bank. Note that the details on form BOZ-ST-G should be the same as indicated on CDSBES Form 1.
- 7.5 Participants shall be allowed to submit up to a maximum of Four (4) bids, one (1) per maturity category per tender.
- 7.6 Once the tender box has been opened, no application form can be withdrawn. Written notification to withdraw an application should be made before 10:00 hours on the auction day.

Pricing mechanism and allotment

- 7.7 The Bank of Zambia applies the multiple price system (Dutch auction) to price Government bonds. This means that each successful bidder is allocated at the yield rate he/she has quoted. Awards will be made by accepting the lowest yield rates (highest bid prices) until the amount is exhausted. However, the Bank of Zambia reserves the right to exclude bids that are not consistent with market fundamentals.

The Bank of Zambia shall pro-rate bids at the cut-off yield rate. This means that the Bank of Zambia will issue bonds up to the amount advertised on each maturity category at face value. If bids at the cut-off price exhausting the amount on offer exceed the face value on offer, the Bank of Zambia will proportionally allocate amounts of bonds at the cut-off price, such that the amount on offer is exhausted.

- 7.8 The Bank of Zambia reserves the right to change the pricing mechanism as and when deemed necessary. Adequate notice will be given to all participants for any change in the pricing mechanism.

Announcement of results

- 7.9 Individual results of the tender shall be announced to participants on Fridays through issuance of award notices to successful bidders and rejection notices to unsuccessful bidders. In the event that Friday is a public holiday participants shall be informed accordingly.
- 7.10 A consolidated summary of the tender results shall be published in the national press on the Monday after each tender.
- 7.11 Statements showing a participant's holdings by tender shall be available upon request.

Settlement procedure

- 7.12 Settlement for all Government bond awarded is on Monday (T + 3 - three days from the auction date). Any changes to settlement date shall be advised to all participants.
- 7.13 Settlement of Government bonds awarded shall be through commercial banks' current accounts at the Bank of Zambia. All participants without clearing accounts at Bank of Zambia should make settlement arrangements with their respective banks prior to the auction date (refer to 7.4). Commercial banks shall give authority to use their respective current

accounts at the Bank of Zambia by duly completing and signing Form **BOZ-ST-G**.

Interest/maturity proceeds

- 7.14 On maturity or interest payment date, the Bank of Zambia shall credit the maturity or interest proceeds to the current accounts held at the Bank of Zambia. For participants without clearing accounts at Bank of Zambia the maturity /interest proceeds will be credited according to the settlement details indicated on the **CDSBES Form 1**. Please note that individuals/corporate institutions shall use the same commercial bank for settlement and maturity/interest proceeds.
- 7.15 At maturity, the investor shall be paid the face value and the last coupon.
- 7.16 Currently, the coupon payments are made semi-annually (i.e. every six months).

8.0 Charges

Handling fees

- 8.1 The Bank of Zambia charges handling fees for all primary Government bond transactions. The charge is applied on the total coupon amount. Currently, the handling fee is 2 percent. The Bank of Zambia reserves the right to change this fee as and when deemed necessary.

Tax

- 8.2 Currently, income earned on Government bonds is not subject to tax. Note that interest earnings are subject to tax regulations as set by the Government of the Republic of Zambia from time to time.

B. PROCEDURES FOR OFF TENDER (NON-COMPETITIVE) WINDOW TRANSACTIONS

TREASURY BILLS

9.0 Eligibility

- 9.1 Individuals and corporate institutions with the exception of commercial banks are eligible to participate in the off tender of Treasury bills.
- 9.2 The minimum bid amount is One Million Kwacha (K1 million) face value and thereafter in multiples of One Million Kwacha (K1 million) face value. The Bank of Zambia reserves the right to change the minimum amount required and multiples, as and when deemed necessary. Advance notice will be provided for changes in minimum and increments.
- 9.3 The maximum bid amount is Twenty Nine Million Kwacha (K29 million) face value. Participants with amounts in excess of K29 million face value should apply on the competitive window. Refer to the rules and guidelines on the competitive window as outlined under Section A above.
- 9.4 Off tender transactions shall be conducted through the Bank of Zambia's authorized Agent(s). For further details, investors wishing to participate on the off tender window should contact the Agent(s).
- 9.5 Participants shall be allowed to submit only one (1) application per maturity category per off tender.
- 9.6 The Bank of Zambia maintains and processes all Treasury bill transactions through the Book Entry System (BES). All Treasury bill records are stored and processed electronically. This means that no physical certificate shall be issued for any Treasury bills purchased. However, the Bank of Zambia shall issue award notices to all successful participants through the Agent(s).
- 9.7 All Treasury bills issued on the off tender shall be credited to the customers' account of the Agent(s) in the BES. The Bank of Zambia shall notify the Agents of the total amount of Treasury bills credited to their customers account.

10.0 Term to maturity

- 10.1 Currently, the Bank of Zambia issues Treasury bills in four maturity categories namely 28 days, 91 days, 182 days and 273 days.

11.0 Application procedure

- 11.1 Treasury bill off tender sales shall be held every Friday. In the event that Friday is a public holiday participants shall be informed accordingly.
- 11.2 Participants should submit applications to the Bank of Zambia Agent(s) by Thursday. The Agent(s) shall in turn submit a detailed list of all applicants to the Bank of Zambia for processing by 10 00 hours every Friday.
- 11.3 Once the list is submitted to the Bank of Zambia no alterations shall be accepted. Withdrawal of applications should be made before the Agent(s) submit the list to the Bank of Zambia.

Pricing mechanism and allotment

- 11.4 The Bank of Zambia shall allocate Treasury bills at a pre-determined weighted average price from the previous competitive auction.
- 11.5 The Bank of Zambia reserves the right to change the pricing mechanism as and when deemed necessary. Adequate notice will be given to all participants of any change in the pricing mechanism.

Settlement procedures

- 11.6 Settlement for all Treasury bills awarded shall be on Mondays. Any changes to the settlement day shall be advised to all participants through the Agent(s).
- 11.7 All Treasury bills awarded shall be settled through the Agent(s) current account at the Bank of Zambia. Participants should ensure that funds are lodged with the Bank of Zambia Agent(s) at the time of submission of applications.
- 11.8 The Agent(s) shall issue receipts for all the monies received clearly stating that the money is for the purchase of Treasury bills on the off tender window. For more details on settlement procedures contact the Bank of Zambia's Agent(s).

Maturity proceeds

- 11.9 On maturity, the Bank of Zambia will credit the face value less withholding tax to the Agent(s) current account(s) at the Bank of Zambia

12.0 Charges

Handling fees

12.1 The Bank of Zambia charges handling fees for all primary Treasury bill transactions. The charge is applied on the discount earned. Currently, the handling fee is 2 percent. The Bank of Zambia reserves the right to change this fee as and when deemed necessary.

Tax

12.2 Income earned on Treasury bills is subject to tax as per current tax regulations. The tax is deducted at source. Currently, the withholding tax rate is 15% for corporate institutions and 25% for private individuals. The Bank of Zambia shall issue a withholding tax certificate to the Agent(s) who in turn shall issue individual tax certificates to their client(s).

12.3 All participants that are exempt from paying withholding tax must provide a tax exemption certificate from ZRA to the Agent(s).

12.4 Interest earnings will be subject to tax regulations as set by the Government of the Republic of Zambia from time to time.

GOVERNMENT BONDS

13.0 Eligibility

13.1 Individuals and corporate institutions with the exception of commercial banks are eligible to participate in the off tender of Government bonds.

13.2 The minimum bid amount is One Million Kwacha (K1 million) face value and thereafter-in multiples of One Million Kwacha (K1 million) face value. The Bank of Zambia reserves the right to change the minimum amount required and multiples, as and when deemed necessary. Advance notice will be provided for changes in minimum and increments.

13.3 The maximum bid amount is Twenty Nine Million Kwacha (K29 million) face value. Participants with amounts in excess of K29 million face value should apply on the competitive window. Refer to the rules and guidelines on the competitive window as outlined under Section A above.

- 13.4 Off tender transactions shall be conducted through the Bank of Zambia's authorized Agent(s). For further details, investors wishing to participate on the off tender window should contact the Agent(s).
- 13.5 Participants shall be allowed to submit up to a maximum of Four (4) bids, one (1) per maturity category per off tender.
- 13.6 The Bank of Zambia maintains and processes all Government bond transactions through the BES. All Government bond records are stored and processed electronically. This means that no physical certificate shall be issued for any Government bond purchased. However, the Bank of Zambia shall issue award notices to all successful participants through the Agent(s).
- 13.7 All Government bonds issued on the off tender shall be credited to the customers' account of the Agent(s) in the BES. The Bank of Zambia shall notify the Agent(s) of the total amount of government bonds credited to their customers' account.

14.0 Term to maturity

- 14.1 Currently, the Bank of Zambia issues Government bonds in three maturity categories namely **12 months, 18 months and 24 months.**

15.0 Application procedure

- 15.1 Government bond off tender sales shall be held on Friday every four to six weeks based on the previous competitive auction. In the event that Friday is a public holiday participants shall be informed accordingly.
- 15.2 Participants shall submit applications to the Bank of Zambia's Agent(s) by Thursday. The Agent(s) shall in turn submit a detailed list of all applicants to the Bank of Zambia for processing by 10 00 hours on Friday.
- 15.3 Once the list is submitted to the Bank of Zambia no alterations shall be accepted. Withdrawal of applications shall be made before the Agent(s) submit the list to Bank of Zambia.

Pricing mechanism and allotment

- 15.4 The Bank of Zambia shall allocate Government bonds at a pre determined weighted average annual yield rate from the previous competitive auction.
- 15.5 The Bank of Zambia reserves the right to change the pricing mechanism as and when deemed necessary. Adequate notice will be given to all participants of any change in the pricing mechanism.

Settlement procedures

- 15.6 Settlement for all Government bonds awarded shall be on Mondays. Any changes to the settlement day shall be advised to all participants through the Agent(s).
- 15.7 All Government bonds awarded shall be settled through the Agent(s) current account(s) at the Bank of Zambia. Participants should ensure that funds are lodged with the Bank of Zambia Agent(s) at the time of submission of applications.
- 15.8 The Agent(s) shall issue receipts for all the monies received clearly stating that the money is for the purchase of Government bonds on the off tender window. For more details on settlement procedures contact the Bank of Zambia's Agent(s).

Interest/maturity proceeds

- 15.9 On maturity/interest payment date, the Bank of Zambia shall credit the maturity/ interest proceeds to the current account of Bank of Zambia's Agent(s). Interest on government bonds is paid semi-annually (i.e. every six months).

16.0 Charges

Handling fees

- 16.1 The Bank of Zambia charges handling fees for all primary Government bond transactions. The charge is applied on the total coupon amount. Currently, the handling fee is 2 percent. The Bank of Zambia reserves the right to change this fee as and when deemed necessary.

Tax

- 16.2 Currently, income earned on Government bonds is not subject to tax. Note that interest earnings are subject to tax regulations as set by the Government of the Republic of Zambia from time to time.

C. PROCEDURES FOR SECONDARY MARKET TRADING OF GOVERNMENT SECURITIES

17.0 REDISCOUNTING OF BILLS PURCHASED ON A COMPETITIVE BASIS

Commercial banks

- 17.1 The minimum rediscountable amount at the Bank of Zambia is Fifty Million Kwacha (K50 million) face value and thereafter in multiples of Five Million Kwacha (K5 million). Currently, commercial banks' monthly rediscount limit is 10% of paid up capital plus reserves at the ruling penalty rates. The penalty rates applicable are 0.64% on price, 0.73% on income and 0.84% on cost. Rediscounts above the monthly limit shall be subject to a higher price penalty of 7%. For further details on the rediscount calculation refer to **Appendix A**. The Bank of Zambia reserves the right to change the monthly limit and rediscount penalties as and when deemed necessary.
- 17.2 Rediscount applications should reach the Bank of Zambia by **15:00 hours on any business day**. The Bank of Zambia reserves the right to reject any application not conforming to set rediscount guidelines.
- 17.3 Application forms for rediscounts can be obtained from the Bank of Zambia, Financial Markets Department.
- 17.4 After processing the rediscount application, the Bank of Zambia shall issue a rediscount notice.
- 17.5 Rediscount proceeds shall be credited to the current account of the respective commercial bank

Non bank financial institutions

- 17.6 The minimum rediscountable amount at the Bank of Zambia is Fifty Million Kwacha (K50 million) face value and thereafter in multiples of Five Million Kwacha (K5 million). The maximum amount rediscountable at the Bank of Zambia is One Hundred Million Kwacha (K100 million) at the ruling penalty rates. The penalties rates applicable are on the price (0.44%), income (0.53%) and cost (0.64%). Rediscounts in excess of K100 million shall be subject to a higher price penalty of 7%. For further details on the rediscount calculation refer to **Appendix A**. The Bank of Zambia reserves the right to change rediscount penalties as and when deemed necessary.

17.7 Rediscount applications should reach the Bank of Zambia by 15:00 hours on any business day. The Bank of Zambia reserves the right to reject any application not conforming to set rediscount guidelines.

17.8 Application forms for rediscounts can be obtained from the Bank of Zambia, Financial Markets Department.

17.9 After processing the rediscount application, the Bank of Zambia shall issue a rediscount notice.

17.10 Rediscount proceeds shall be credited to the current account of the participants' settling bank as indicated on CDSBES Form 1.

18.0 REDISCOUNTING OF BONDS PURCHASED ON A COMPETITIVE BASIS

18.1 Government bonds are not rediscountable at the Bank of Zambia.

18.2 Secondary trading of Government bonds takes place at the Lusaka Stock Exchange (LuSE). Investors wishing to participate in secondary market trading of Government bonds should contact LuSE for details.

19.0 REDISCOUNTING OF BILLS PURCHASED ON A NON-COMPETITIVE BASIS

19.1 Treasury bills purchased on the off tender window shall not be directly rediscountable at the Bank of Zambia. Investors wishing to sell Treasury bills in the secondary market shall do so through the Bank of Zambia's Agent(s). The Agent(s) shall facilitate all secondary market transactions and submit to the Bank of Zambia every Monday by 10:00 hours an electronic return indicating changes in individual holdings of Treasury bills. For further details contact the Bank of Zambia's Agent(s).

19.2 The Agent(s) may present Treasury bills to the Bank of Zambia for rediscounting in line with the rediscounting guidelines.

20.0 REDISCOUNTING OF BONDS PURCHASED ON A NON-COMPETITIVE BASIS

20.1 Government bonds are not rediscountable at the Bank of Zambia. Secondary trading of Government bonds takes place at the Lusaka Stock Exchange (LuSE). Investors wishing to participate in secondary market trading of Government bonds should contact LuSE for details.

21.0 PROCEDURES FOR SECONDARY TRADING OF TREASURY BILLS

- 21.1 Movement of Treasury bills traded in the secondary market shall be effected in the BES. To effect the movements, participants shall be required to complete **Form BOZ-ST-T** in triplicate.
- 21.2 Duly completed transfer forms must be submitted to the Bank of Zambia, Financial Markets department by 14:30 hours on any business day.
- 21.3 Transfers shall be limited to authorized dealers defined in the BES.
- 21.4 The Bank of Zambia shall provide proof of Treasury bill movements by issuing a Sale/Purchase certificate or Repo/Reverse certificate.
- 21.5 Participants who have concluded secondary trades in Government bonds through LuSE shall submit authorized transaction Forms from LuSE to facilitate the updating of the primary register.

All concerned parties shall strictly adhere to these rules and guidelines. The Bank of Zambia reserves the right to make revisions to these guidelines as and when deemed necessary.

Contact Details

**Director
Financial Markets Department
Bank of Zambia
P.O Box 30080
LUSAKA
Tel. (260 – 1) 225008
Fax. (260 – 1) 221189**

**Assistant Director – Securities & Market Operations
Financial Markets Department
Bank of Zambia
P.O Box 30080
LUSAKA
Tel. (260 – 1) 223593
Fax. (260 – 1) 221189**

**Manager – Securities Trading
Financial Markets Department
Bank of Zambia
P.O Box 30080
LUSAKA
Tel. (260 – 1) 222932 / 221774
Fax. (260 – 1) 222932 / 221774**

**Director – Regional Office
Bank of Zambia
P.O Box 71511
NDOLA
Tel. (260 – 2) 611638
Fax (260 – 2) 614251**

Appendix A

The Treasury Bills Rediscount Formulation

The method used to calculate the rediscount price is based on either the book value or the present value of the Treasury bills being rediscounted selecting which ever is less. Subtracting tax payable and penalty amount obtain the net proceeds from the rediscount. The following are the steps to be followed and formulae used in the book entry and trading system.

STEP 1. Calculate both the book value and the present value of the Treasury bills being rediscounted.

BOOK VALUE

$$BV = C(1 + r_0)^{\frac{n}{365}}$$

Where

- BV = book value
- C = initial cost of the bill being discounted
- r_0 = the yield rate at which the bill was initially issued
- n = number of days to date of rediscount

PRESENT VALUE

$$PV = \frac{FV}{(1 + r)^{\frac{t}{365}}}$$

Where

- PV = present value
- FV = face value of the T-bill being rediscounted
- r = the yield rate on the most recent tender
- t = remaining number of days to maturity

STEP 2. Determine the rediscount price by comparing the values calculated in step 1

REDISCOUNT PRICE

$$\begin{aligned} \text{RDP} &= \text{BV if } \text{BV} < \text{PV} \\ \text{RDP} &= \text{PV if } \text{PV} < \text{BV} \end{aligned}$$

Where RDP = Rediscount price

STEP 3. Calculate the income to be taxed by finding the difference between the rediscount price and the initial cost of the Treasury bills

INCOME TO BE TAXED

$$Y = RDP - C$$

Where

Y = income

C = initial cost of the bill being rediscounted.

RDP = rediscount price.

STEP 4. Calculate the withholding tax payable to Zambia Revenue Authority (ZRA) by multiplying the income calculated in Step 3 by the tax rate applicable.

TAX PAYABLE

$$T = sY$$

Where

T = tax in Kwacha

s = applicable tax rate

Y = income

STEP 5. Calculate the income, price and cost penalties as follows:

PENALTIES

(i) **Income penalty**

$$IP = FV \times (P - COP) \times IPR$$

Where IP = income penalty

FV = face value

P = current Price

COP = cut-off price

IPR = income penalty rate

(ii) **Price penalty**

$$PP = FV \times \frac{P}{100} \times PPR$$

Where PP = price penalty

FV = face value

P = current price

PPR = price penalty rate

(iii) Cost penalty

$$CP = FV \times \frac{COP}{100} \times CPR$$

Where CP = cost penalty
FV = face value
COP = cut off price
CPR = cost penalty rate

STEP 6. Calculate the net proceeds

$$NP = RDP - (T + TP)$$

Where

NP = net proceeds
RDP = rediscount price
T = tax in Kwacha
TP = total penalty amount which is equal to the sum of the income, price and cost penalties.

Example

On 13th March 2000, a commercial bank purchased K50.0 million worth of 91-day Treasury bills at a cut-off price of K91.7000. This implies a yield rate of 36.3045% and the cost price of K45.85 million. On 8th May 2000, fifty-six (56) days later, the central bank rediscounted the bill for the commercial bank at the normal penalty rate.

CALCULATING BOTH THE BOOK VALUE AND THE PRESENT VALUE

$$\begin{aligned} BV &= C(1+r)^{\frac{n}{365}} \\ &= 45,850,000.00(1+0.363045)^{\frac{56}{365}} \\ &= 45,850,000.00 * 1.048665964 \\ &= 48,081,334.46 \end{aligned}$$

$$\begin{aligned} PV &= \frac{FV}{(1+r)^{\frac{t}{365}}} \\ &= \frac{50,000,000.00}{(1.0335553)^{\frac{35}{365}}} \\ &= \frac{50,000,000.00}{1.028133942} \end{aligned}$$

$$= 48,631,795.88$$

THE REDISCOUNT PRICE

The rediscount price, therefore, is the book value, the lesser of the two values.

$$RDP = BV = 48,081,334.66$$

INCOME TO BE TAXED

$$\text{Income to be taxed } Y = RDP - C$$

$$Y = 48,081,334.66 - 45,850,000.00$$

$$= 2,231,334.46$$

TAX PAYABLE

$$\text{Tax} = Yt = 2,231,334.46 * 0.15$$

$$= 334,700.17$$

Note that the price of the rediscount,

$$P = \frac{RDP}{FV}$$

$$= \frac{48,081,334.46}{50,000,000.00}$$

$$= 96.1627$$

The three penalties are calculated as follows:

Income Penalty

$$IP = FV (P - COP) * IPR$$

$$= 50,000,000.00(96.1627 - 91.7000) / 100 * 0.33 / 100$$

$$= 7,363.46$$

Price Penalty

$$PP = FV * \frac{P}{100} * PPR$$

$$=50,000,000.00*0.961627*0.22/100$$

$$=105,778.97$$

Cost Penalty

$$CP = FV * COP * CPR$$

$$= 50,000,000.00 * 0.917 * 0.44 / 100$$

$$=201,740.00$$

$$\text{Total Penalty (TP)} = IP + PP + CP$$

$$= 314,882.43$$

$$\text{Net Proceeds} = RDP - TP - T$$

$$= 48,081,334.46 - 314,882.43 - 334,700.17$$

$$= 47,431,751.86$$

A bank that rediscounts over and above its monthly limit (15% of its capital plus reserves) suffers a price penalty rate of 7%.

For instance,

$$\text{Price Penalty} = 50,000,000.00 * 0.961627 * 0.07$$

$$= 3,365,694.50$$

Total Penalty would therefore be,

$$\text{Total penalty} = 7,363.46 + 201,740.00 + 3,365,694.50$$

$$= 3,574,766.96$$

$$\text{Net Proceeds with 7\% price penalty} = 48,081,334.46 - 3,574,766.96 - 334,700.17$$

$$= 44,171,867.33$$