

THIRD REPORT OF THE PUBLIC ACCOUNTS COMMITTEE ON THE REPORT OF THE AUDITOR-GENERAL ON THE ROAD DEVELOPMENT AGENCY FOR THE PERIOD JANUARY 2006 TO SEPTEMBER 2009 FOR THE FOURTH SESSION OF THE TENTH NATIONAL ASSEMBLY APPOINTED BY THE RESOLUTION OF THE HOUSE ON 25 SEPTEMBER 2009

Consisting of:

Mr E M Hachipuka, MP(Chairperson); Mr R C Banda, MP; Mr H H Hamududu, MP; Mr C L Milupi, MP; Mr L P M'sichili MP; Mrs A C K Mwamba, MP; Mr L M Mwenya, MP; Mr B Y Mwila, MP and Mr P Sichamba, MP.

The membership of your Committee changed during the Session following the death of Mr R C Banda, MP and the resignation of Mr C L Milupi, MP as a Member of Parliament. Mr V Mwale, MP and Mr E M Munaile, MP respectively were appointed as replacements.

The Honourable Mr Speaker
National Assembly
Parliament buildings
LUSAKA

Sir,

Your Committee has the honour to present its Third Report on the Report of the Auditor-General on the Road Development Agency for the period January 2006 to September 2009.

Functions of the Committee

2 The functions of your Committee are to examine the accounts showing the appropriation of sums granted by the National Assembly to meet the public expenditure, the Report of the Auditor-General on these accounts and such other accounts, and to exercise the powers conferred on them under Article 117(5) of the Constitution of the Republic of Zambia.

Meetings of the Committee

3. Your Committee held eleven meetings to consider the Report of the Auditor-General on the Road Development Agency for the period January 2006 to September 2009.

Procedure adopted by the Committee

4. Your Committee considered both oral and written submissions from the following witnesses:
- (i) the Hon Minister of Works and Supply;
 - (ii) Secretary to the Treasury, Ministry of Finance and National Development;
 - (iii) Controlling Officer – Ministry of Works and Supply;
 - (iv) Mr Walusiku Lisulo, former Chairperson of the Road Development Agency;
 - (v) Director-General of the Zambia Public Procurement Authority;
 - (vi) Chief Executive Officer for the Road Development Agency;
 - (vii) Chief Executive Officer for the National Road Fund Agency;
 - (viii) Managing Director for Raubex Construction Limited, a contractor; and
 - (ix) Partner for Brian Colquhoun Hugh O'Donnell and Partners, an engineering consulting firm.

Your Committee also engaged the services of one of the engineers who were contracted as a group to be part of the Audit Team to provide non financial technical advice.

This Report contains the observations and recommendations of your Committee and includes proposed remedial measures to correct identified financial irregularities and system deficiencies in the road sector.

The Report is in three parts. Part one is the Executive Summary of the Auditor-General's Report. Part two is the background to the Audit Report. Part three is a summary of submissions from witnesses and contains your Committee's observations and recommendations on the Audit Report as a whole and on specific issues raised by the Auditor-General.

PART ONE

EXECUTIVE SUMMARY OF THE AUDIT REPORT

5.The audit of the Road Development Agency (RDA) for the years 2006 and 2009 was conducted in accordance with the provisions of Article 121 of the Constitution of Zambia, Cap 378 of the Laws of Zambia and Public Finance Act No. 15 of 2004.

The objectives of the audit were, among others, to ascertain whether:

- procurement procedures were followed in the award of contracts;
- roads projects were administered in accordance with contract agreements; and
- expenditure was in conformity with the Laws of Zambia.

The following were observed:

a. Annual Plan and Budget

i. Over Commitment

The Agency committed Government to expenditure in excess of money appropriated by Parliament contrary to Section 7(3) of the *Public Finance Act No.15 of 2004*. The over commitments, in 2008, amounted to K1, 015,817,097,718. This resulted in serious cash flow problems in 2009.

ii. Inadequate Provisions for Contracts

Adequate funds were not provided in the budget to cover the contracts. This resulted in delayed payments and completion of works.

b. Procurement Stage

i. Lack of Drawings and Condition Survey

Drawings for the contracts were in most cases either delayed or not prepared and condition surveys were not conducted leading to inadequate interventions and unnecessary variations.

ii. Engineers' Estimates

Contrary to common practice the engineer's estimates were not used when carrying out evaluations. It was, therefore, difficult to ascertain the reasonableness of the bid sums.

iii. Late Engagement of Supervising Consultants

Consultants were mostly engaged later than the starting date of the works contract. In this regard, part of the contract periods were running without supervision.

iv. Negotiation Meetings

RDA did not usually hold contract negotiation meetings despite the inconsistencies in the evaluation and poor contract documents.

v. Poor Quality Contract Documents

- Agreements or contracts are at times not signed and/or have no date.
- Sections indicated as forming part of the contract such as drawings were missing in some cases; and
- Contracts for unpaved roads would have drawings for a paved road.

c. Execution Stage

i. Poor Contract Administration

There were considerable delays in decision making relating to issues raised by Consultants/contractors, which in some cases, led to extension of time and additional costs.

ii. Non Submission of Performance Bonds

The clause on performance bond was not always respected, thereby failing to penalize the contractor in case of none performance.

iii. Delayed Payments to Contractors and Consultants

Some Payments to contractors were delayed resulting in interest charges and standing time.

iv. Irregular Payments

In some cases, payments were made for works not done

v. Irregular Instructions to the Contractors

In some cases, the Agency issued instructions directly to the contractors disregarding the consultants. The instructions were mostly related to payments to RDA staff and servicing of RDA motor vehicles.

vi. Delayed Works

There were very few projects which were completed on time. In most cases the contracts had to be extended and in some cases more than once. There were also cases where RDA instructed the contractors to slow down or stop works because of lack of funds.

vii. Progress Reports

Progress reports were, in a number of cases, not prepared by the supervisors.

viii. Variations

Decisions on variations were in some cases not justified by the contractor and, therefore, unreasonable.

ix. Supervision Funds

In cases where the supervision of the contracts was done by RDA, supervision funds were paid through the contractor, thereby raising issues of objectivity.

x. Poor Quality Works

Poor quality works were observed on most of the contracts reviewed.

d. Analysis and Comments on the Test Results

Analysis of results for road test samples that were collected from eighteen (18) projects as part of the audit for Road Work carried out by the RDA in 2007/2008, revealed the following results:

- 1 **44%** of samples tested did not meet gradation requirements as soil/aggregate particles were either too large or too small than required by specifications. The consequence is the poor bondage, compaction and washing away of particles.
- 2 **75%** of samples tested were too plastic in that the samples had too much clay than required . This would lead to rapid expansion and cracking of the road.
- 3 **67%** of aggregates did not meet the requirements of crushing strength. Poor aggregates easily get crushed by moving loads and leads to fast deterioration of roads
- 4 **81%** of base thickness were thinner than what was specified
- 5 **39%** of surface dressing samples stripped off from the base course
- 6 **82%** of Surface dressing layers were thinner than specified
- 7 **100%** of stabilized samples taken had cement content less than specified
- 8 **50%** of concrete samples tested were weaker than what was specified

PART TWO
INTRODUCTION AND BACKGROUND

AUDIT PARAGRAPHS 1 - 5

6. The Auditor-General reported that the audit of the Road Development Agency (RDA) for the years 2006 to 2009 was submitted to the President for tabling in the National Assembly in accordance with the provisions of Article 121 of the Constitution of Zambia and Cap 378 of the Laws of Zambia.

Audit Objective

The objectives of the audit were, among others, to ascertain whether procurement procedures were followed in the award of contracts and whether, roads projects were administered in accordance with contract agreements and also whether the expenditure was in conformity with the Laws of Zambia.

Scope and Methodology

The Report was a result of an audit carried out at the Road Development Agency. The audit was planned and performed such that sufficient evidence, explanations and all necessary information were obtained to reach reasonable conclusions. In conducting the audit, tests of accounting records maintained at the Agency, the National Road Fund Agency (NRFA) and the Ministry of Works and Supply, such as accounting documents, tender documents, contracts, and certificates of completed works, progress reports and other relevant records were reviewed.

In the course of preparing the Report, the Controlling Officer in the Ministry of Works and Supply was required to confirm the correctness of the facts presented. Where comments were received and varied materially with the facts presented, the relevant items were amended appropriately.

Background

The Government of the Republic of Zambia (GRZ), with assistance from its Cooperating Partners (CPs) that comprised the World Bank (WB), European Commission (EC), Danish Development Assistance (Danida), Japanese International Cooperation Agency (JICA), Nordic Development Fund (NDF), Africa Development Bank (AfDB) and German Development Bank (KfW) developed a Road Sector Investment Programme (ROADSIP). The goal of the programme was to systematically maintain and rehabilitate a core road network and to bring it to a maintainable standard by the year 2013. ROADSIP I covered the period from 1997 to 2007 and was extended to 2013 under ROADSIP II.

In 2002, three (3) new road sector agencies, namely, the National Road Fund Agency (NRFA), the Road Development Agency (RDA), the Road Transport and Safety Agency (RTSA) were created through the enactment of the Public Roads Acts Nos. 11, 12 and 13. The Agencies, which became operational in 2005, have the following functions, among others:

- National Road Fund Agency (NRFA) – responsible for mobilising resources for funding the road sector and administering the Road Fund.
- Road Development Agency (RDA) – responsible for planning, maintaining and managing the core road network which was, previously, the responsibility of the Roads Department under the Ministry of Works and Supply.
- Road Transport and Safety Agency (RTSA) – responsible for road safety, traffic management, motor vehicle registration and drivers licensing.

The total core road network is 40,113 km comprising 3,088 km of Trunk roads, 3,691 km of main roads, 13,707 km of district roads, 5,294 km of urban roads and 14,333 km of primary feeder roads.

Administration

The *Public Roads Act No 12 of 2002* provides, among other things, that the composition of RDA should consist of part time members appointed by the Minister as follows:

- i. a representative of the National Council for Construction;
- ii. a representative of the Zambia National Farmers Union;
- iii. a representative of the National Science and Technology Council;
- iv. a representative of the Engineering Institute of Zambia;
- v. a representative of the Chartered Institute of Transport; and
- vi. representatives of the following:
 - the Ministry of Works and Supply;
 - the Ministry of Communications and Transport;
 - the Ministry of Local Government and Housing;
 - the Ministry of Finance and National Planning;
 - the Ministry of Tourism, Environment and Natural Resources;
 - the Ministry of Agriculture and Cooperatives; and
 - the Attorney-General;
- vii. the Director of the Road Transport and Safety Agency (*ex-officio*);
- viii. the Director of the National Road Fund Agency (*ex-officio*); and
- ix. one other person.

The Chairperson is appointed by the Minister of Works and Supply while the Vice Chairperson is elected by members of the Agency from among themselves.

The Agency reports to the Committee of Ministers on the Road Maintenance Initiative at such times and such places as the Minister of Works and Supply may determine.

The Agency appoints the Director and Chief Executive Officer who is responsible for the day-to-day administration of the Agency and is assisted by Managers for Corporate Services, Construction and Maintenance, Planning and Design; and Heads of Departments. The Director and Chief Executive Officer, Managers and Heads of Departments are appointed on three-year renewable contracts while the rest of staff is appointed on a permanent and pensionable basis.

The current Board was appointed in 2004 for a term of three (3) years and then reappointed in 2007 for another three year term.

PART THREE

CONSIDERATION OF SUBMISSIONS

REVIEW OF OPERATIONS

7. An examination of financial and other records maintained at the Road Development Agency (RDA) Headquarters for the financial years ended 31 December 2006 to 2009 revealed the matters set out below.

FINANCE AND ADMINISTRATION

AUDIT PARAGRAPH 6

a. **Questionable Composition of Committees**

In order to enhance the quality and efficiency of decisions made by the board, three committees were established; administration and finance, technical and audit committees.

It was observed that the Chairperson of the Finance and Administration Committee was also the Chairperson of the board. In addition, it was observed that the full sitting of the Finance and Administration Committee also constituted a quorum of the Board.

Although in his response dated 9 March 2010, the Controlling Officer stated that "the Board, however, at its meeting of 20th meeting held on 7 May 2009 resolved to reduce the size of the Administration and Finance Committee with the Chairperson different from the Board Chairperson. As of 9 March 2010, the resolution had not been implemented.

b. **Irregular Payment of Internet Bills for the Chairman**

Although the Agency provided the Chairman with an office with internet services, it was observed that in January 2007 and March 2008, the Agency paid K1, 416,743 and K1, 273,000 respectively for the provision of internet services at the Board Chairman's private premises.

The payments of amounts totalling K2, 689,743 in respect of internet services at the Board Chairman's private premises was irregular.

c. **Irregular Payment of Insurance Premiums for Board Members**

In June 2007 and August 2008, the Agency paid K17, 390,625 and K20, 446,875, respectively, to NICO Insurance for group personal accident policy for board members without authority from the Minister. It was further noted that the facility was not available to staff who were fully involved in the day to day operations of the Agency.

Although in his response dated 9 March 2010, the Controlling Officer stated that the correspondence from the Board Chairman and the response from the Minister of Works and Supply was submitted to the auditors, the authority had not been availed as of 10 March 2010.

d. **Irregular Sale of Personal to Holder Motor Vehicles**

Contrary to Management Conditions of Service, in March 2009, management sold five (5) motor vehicles to five (5) officers without obtaining authority from the Board as shown in the table below.

Name	Price K	Mileage	Registration No.
Director & CEO	33,593,967	87,738	ABF 3303
Former Director & CEO	57,079,500	87,738	ABH 1878
Commercial & Technical Services - Senior Manager	40,390,359	85,535	ABH 725
Former Corporate Services Manager	39,302,910	55,000	ABH 3279
Construction & Maintenance - Senior Manager	40,722,159	95,233	ABH 723

Further, as can be seen from the table above, the motor vehicles' tachometers had not clocked 100,000 km as stipulated in the Management Condition of Services.

Although in December 2009, management sought for retrospective Board authority to have the sale approved, the Board rejected the proposal. It was observed, however, that out of the five (5) motor vehicles sold, three (3) had been returned to the Agency while two (2) were still in the custody of the two employees who were no longer with the Agency.

e. Irregular Use of Fuel

The Agency maintained a fuel account with Total (Z) Ltd. The fuel was drawn using tom cards allocated to the Agency. An examination of records and inquiries made with management relating to the purchase and usage of fuel revealed the following:

- the account was not reconciled during the period under review. In this regard, it was observed that during the period March 2007 to April 2008, fuel costing K70, 306,610 had been charged to the Agency using tom cards not registered with the Agency;
- in May and June 2009, fuel in amounts totalling K28,262,205 was drawn without requisitions; and
- the Agency did not maintain a fuel register and relied on information from the supplier statements, the statements from the supplier only indicated the card numbers and did not indicate the vehicle registration numbers, thus, it could not be ascertained whether all drawings reflecting in the statements were made by the Agency.

Although in his response dated 9 March 2010, the Controlling Officer stated that the records which showed that the card was allocated to the pool were availed to the auditors for inspection, the documents had not been availed.

f. Irregular Drawing of Fuel

- i. Although the contract of employment for the manager corporate services expired on 1 July 2009, the Agency did not withdraw his tom card. In this regard, it was observed that during the period July to August 2009, the former manager drew fuel costing K6, 099,038. As of December 2009, only an amount of K4, 181,112 had been recovered leaving a balance of K1, 917,926 outstanding. It is not clear how the Agency will recover the balance since the former manager had since been paid his benefits.
- ii. During the period April 2007 to February 2009, the former Director and CEO, whilst on forced leave, irregularly drew fuel costing K86,914,219 from an RDA account despite having being paid amounts totalling K37,960,000 as fuel allowance for the same period.

g. Unretired Imprest

Contrary to Financial Regulation No. 96, imprest in amounts totalling K19, 118,705,403 issued to the Agency by NRFA for various road activities during the period 2004 to 31 December 2009 had not been retired.

SUBMISSION BY THE CONTROLLING OFFICER, MINISTRY OF WORKS AND SUPPLY, AND ROAD DEVELOPMENT AGENCY MANAGEMENT

The Controlling Officer, Ministry of Works and Supply, in conjunction with Road Development Agency Management, submitted as detailed below.

(a) **Questionable Composition of Committees**

The Public Roads Act No. 12 of 2002, First Schedule, Part I and Section 5 (1-4) provides that "(1) *The Agency may, for the purpose of performing its functions under this Act, constitute any committees as it considers necessary and may delegate to any committees such of its functions as it considers fit. (2) The Agency may appoint as members of a committee, persons who are, or are not, members of the Agency, except that at least one member of a committee shall be a member of the Agency. (3) A person serving as member of a committee shall hold office for such period as the Agency may determine. (4) Subject to any specific or general direction of the Agency, a Committee may regulate its own procedure*".

The committees were, therefore, appointed in line with the Public Roads Act. The Board and its sub-committees had since been dissolved. The recommendations would be taken into account when appointing members to the Finance and Administration Committee.

On the concern that there appeared to be no difference between the Board and the Committee on Finance and Administration, as it appeared that the Chairman was submitting to himself, the Controlling Officer pledged to rectify the anomaly.

(b) **Irregular Payment of Internet Bills for the Chairman**

The RDA had reasoned that since the Chairman was not at the RDA offices on a full time basis, there was need for regular communication between RDA and the Board Chairman through intra mail and telephone, particularly, in the formative stages of the RDA. It was, therefore, reasoned as prudent to pay the internet bill of K112, 073 per month or K2, 689,743 for two years. Internet services were not localised or limited to 'private premises' as services could be accessed from anywhere.

He, however, reported that the amount of K2, 689,743 had been refunded through cheque number 01-00-53 dated 16th December 2009 and records were availed to the Auditors for inspection.

(c) **Irregular Payment of Insurance Premiums for Board Members**

The authority of the Minister of Works and Supply was given in his response to the request made by the Chairman of the Board when he requested the Minister's authority for the Agency to pay allowances and insurance, among others. In his response, the Minister only addressed the contentious issue of the rate of allowances payable. It was, therefore, understood that all the other issues requested were approved by the Minister as required by law. The insurance was to cover the Board members against accidents when they travelled on RDA duties on inspection of roads and road projects for which they were responsible.

On why the Board went ahead to pay insurance premiums for Board members when the referenced letter dated 4 October 2004 from the Minister did not contain any authority and rather that he undertook to consult further on the matter, the Controlling Officer reported that the Board merely based their action on what the Minister addressed on the rate of allowance payable to them. He agreed that there was need for express authority from the Minister on paying insurance premiums for the Board members.

(d) **Irregular sale of Personal to Holder Motor Vehicles**

A request was made to purchase the motor vehicles, but this was rejected and the Board only approved the sale of other vehicles. The vehicles were not sold to management staff. At the time of audit, there were no letters of offer ever written to constitute a legal sale. In addition, the motor vehicle registration books had not been changed. At that time, the Board had not yet considered the matter of sale of motor vehicles. The memo written by the Manager – Corporate Services was to only make provisions for possible payment for vehicles in the computation of gratuities; this did not amount to sale of vehicles.

Although the vehicles had not yet reached 100,000km on the tachometer, authority was sought from the Board for management staff to buy the vehicles since the same were not allocated to management as they took up their appointments. Some of the vehicles were only allocated to management when they were three

months into their contracts. Yet other vehicles could not reach the 100,000km on the tachometer because they were involved in accidents and had remained in garages for more than six months. The seeking of Board approval in December 2009 was procedural as no vehicles could be purchased without approval of the Board.

Arising from the decision not to sell the personal to holder vehicles, one of the Managers has sued the Agency demanding that he be allowed to purchase the vehicle notwithstanding the mileage because it was not given to him at the start of the contract.

It was, therefore, clear that no three vehicles were returned as they never left the RDA and were available for inspection. Only one vehicle was affected by the court case. Vehicle registration books showed that there was no change of ownership.

On whether the three vehicles which were to be sold to management had indeed been returned upon the Board rejecting the request, the Controlling Officer submitted that none of the vehicles was sold at all. He reiterated that only one vehicle was still with the former employee who has instituted legal action over the same. The other vehicle was still in the garage since being involved in an accident.

(e) **Irregular use of Fuel**

The RDA Internal Report of 17 June 2008 on fuel management showed that four tom cards numbers 3598, 4527, 4523 and 4533 on which fuel with a total value of K70, 306,610 could not be accounted for. Following Board directive, management followed up this matter with Total Zambia Limited through a letter dated 30 September 2009 in which a claim of K70, 306,610 from Total Zambia was made.

Total Zambia Limited in their response stated that tom card number 3598 was received by the former Operations Manager. This was the one on which K23, 962,302 worth of fuel was drawn and later allocated to the pool of RDA vehicles. Records which show that the card was allocated to the pool were availed to the Auditors for inspection. Fuel on the card was for RDA activities.

Cards numbered 4523 and 4527 were collected by the former Administrative Officer of RDA. K13, 246,032 and K32, 758,975 worth of fuel was drawn on card numbers 4523 and 4527, respectively. Fuel on those cards was used on RDA activities.

Although card number 4533 was issued to RDA, no fuel was drawn on it.

The Auditor's recommendations on fuel requisitions were noted. Fuel drawings were now accompanied by requisitions. In addition, the Agency had opened a fuel register and all drawings would be reconciled before payments were made to provide further comfort that the Agency only pays for fuel consumed.

(f) **Irregular Drawing of Fuel**

Only K1, 917,927 was recoverable from the former Corporate Services Manager out of a total of K6, 099,038 owed by the Officer. However, the Officer has taken the matter of his retirement to court.

The tom card allocated to the former Director's office and was intended to service two motor vehicles with registration numbers ABH 2911 and ABH 1878. When the former Director proceeded on leave, the tom card was used to service vehicles as a pool card.

Although that was the position, the former Director has since refunded the whole amount of K86.9 million.

On why management did not deduct the whole amount from the former Corporate Service Manager's benefits, but left out the balance of K1, 917,926, the Controlling Officer reported that they had intended to do it in two instalments. However, they could not write to the former manager to clear the balance as he has taken the matter of his retirement to court.

On why the former Director paid back K86.9 million when he had not drawn fuel to that amount when he was on forced leave, the Controlling Officer reported that he was the former Director referred to. He stated that he made the payment because he was told to do so. He added that he would be glad if the money he had paid was refunded.

(g) **Unretired Imprest**

This was not personal or individual imprest, but project related imprest for implementing road works. The Auditor-General observed that the RDA had unretired imprest amounting to K19, 118,705,403 given by the National Road Fund Agency (NRFA) for various road activities during the period 2004 to 31 December 2009. The correct figure to be reported on was K19, 446,692,111 as tabulated below.

	K	K	Comment
Unretired Imprest¹	19,446,692,111		
Retirements made:			
Various Retirements		10,300,000,000	<i>This amount has been retired. Records to prove this are with NRFA</i>
Casual Worker Wages		863,000,000	<i>This is a subject of DEC investigation. Files are still with DEC</i>
Requisition - Anchorage		67,500,000	<i>Payments made by NRFA based on source documents</i>
Requisition - Ultimate Travel		7,679,700	<i>Payments made by NRFA based on source documents</i>
Requisition - M. Keith Industries		51,537,412	<i>Payments made by NRFA based on source documents</i>
Reimbursements -1		355,929,999	<i>Reimbursements based on original documentation</i>
Reimbursements -2		1,045,000	<i>Reimbursements based on original documentation</i>
*On-going Works		7,800,000,000	<i>This amount relates to on-going works. Once completed, retirements will be made accordingly</i>
Total		19,446,692,111	

*Imprest worth K7.8 billion related to on-going works on:

- (a) Great North Road from Serenje to Mpika [K2.6 billion];
- (b) Luanshya to Kafulafuta [K1.5 billion];
- (c) Kalulushi to Lufwanyama [K0.3 billion]; and
- (d) some drainage structures among others in various provinces [K4.4 billion].

The RDA had clarified with NRFA that the latter was in possession of K10.3 billion worth of retirements. This was another of the usual misleading and distortion of facts by the NRFA. For the same period, an amount of K863 million (wages for casual workers in various provinces) was a subject of investigations by the Drug Enforcement Commission (DEC) and the retirement would only be given to the Road Fund once the files had been returned to the RDA.

K67, 500,000, K7, 679,700 and K51, 537,412 paid out to Anchorage, Ultimate Travel and M. Keith Industries Ltd, respectively, were based on actual source documents sent to NRFA. Therefore, there was no need for the RDA to make a separate retirement. The amount of K355, 929,999 and K1, 045,000 were reimbursements made by NRFA directly to the concerned parties. The K355, 929,999 was money borrowed from the Permanent Secretary, Luapula under promotion of Tourism, the repairs on the Pedicle Road and the K1, 045,000 was a claim for subsistence allowances. This amount would be retired once the respective works were completed and reports generated.

SUBMISSION BY THE FORMER CHAIRPERSON OF THE ROAD DEVELOPMENT AGENCY

The former Chairperson of the RDA, in his response to the issues that were raised in the Audit Report, stated as set out below.

a. Questionable Composition of Committees

The Road Development Agency Act (Public Roads Act, 2002 – No 12 of 2002) was very clear and instructive in the matter of Committee of Agency as follows: First Schedule (SECTION 3) Part 1 (Administration of Agency) Paragraph 5 (1 – 4) “5 (1) The Agency may, for the purpose of performing its functions under this Act, constitute any committees as it considers necessary and may delegate to any committees such of its functions as it considers fit”.

The Government of the Republic of Zambia, through the Ministry of Transport and Communications commissioned a consultancy to carry out institutional study of the Road Sector (RDA, NRFA, and RTSA). The final study report accepted by the Government included, among other issues, guidance and recommendations of appropriate committees recommended for the various boards.

Among the recommendations accepted and implemented by the Road Development Agency Board were the formation of the following committees:

- (i) Executive Committee comprised three persons (Chairperson of Board, Permanent Secretary of the host Ministry (Ministry of Works and Supply) and Director and Chief Executive Officer of the Agency. The functions of this Committee were proposed in that study report as to guide the administrative and financial aspects in between Board meetings;
- (ii) Technical Committee to guide matters of Road programmes and technical issues of the Agency in between Board meetings; and
- (iii) Audit Committee – to oversee and establish oversight financial systems of the Agency and other duties.

In the course of time, as the Agency progressed, the Road Development Agency Board felt the composition of the Executive Committee was inadequate for such a critical activity and resolved to expand it to include all the representations from the ministries accredited to the Board with Chairman of the Board as chair. This was all in accordance with the provision of the law.

Further, members of the Board received training on Corporate Governance the consequence of which led to continued refining of Board and Committee structure.

b. Irregular payment of internet bills for the Chairman of the Board

The internet service in question, was not established at the Chairman’s private premises, but was rentals of internet address which the Chairman established for purposes of specific connectivity with Road Development Agency. The payments in question were not requested or sanctioned by the Chairman, but were paid in error by management as the correspondence including bills related to the same were directed via the Road Development Agency address. Upon realising the mistake and error the matter was quickly rectified.

c. Irregular payment of Insurance Premium for Board Members

The Road Development Agency set up a sub-committee from among their number to carry out a survey of Board Welfare from existing institutions, with a view for the Board to seek authority from the Minister on the most appropriate level of Board Welfare for the Road Development Agency

The net effect was that after consultations between the various host ministries, the general items were harmonised to cover all the three Agencies in the Road Sector. The specific item related to Road Development Agency Board (extensive oversight of projects across Zambia) was deemed to have fallen in place together with the general items was not only standard practice but a minimum humane consideration for a group of people rendering voluntary service to a common cause (prospects of fatal accident in the course of duty).

d. **Irregular Sale of Personal to Holder Motor Vehicles**

The Road Development Agency at its 21 Board meeting held on the 22 September 2009 upheld the recommendation from the Administration and Finance Committee not to sell the personal to holder vehicles which had not registered a 100,000 km on the tachometer at the date of expiry of the respective contract of service for the affected officer. An alternative was offered to the affected officers. The Board further resolved to amend future contract of service agreements to opportunity beyond the first time.

e. **Irregular use of Fuel**

There had been suspicions on the use of fuel and these suspicions were formulated well before the audit under review. Internal Audit processes were already completed before this audit commenced and the net effect was that the Board directed Road Development Agency Management to act as follows;

- (i) surcharge the fuel company (Total (Z) Ltd for all fuel drawn on unauthorised tom cards as connivance was suspected between employers of RDA and those of Total (Z) Ltd;
- (ii) surcharge all officers who have drawn fuel without authority or beyond the authorised limit, and
- (iii) improve the system so that in the future there is single point accountability.

The Audit Report had failed to acknowledge the existing and on-going process to arrest the scourge and effect recoveries.

f. **Unretired Imprest**

All funds allocated to their regional offices in the provinces to deal with issues such as performance contracts, emergencies and routine maintenance required to be appropriately retired. A system of quarterly reports and procedure for retirement of imprest was well established but had neither worked well or efficiently.

The exercise seemed to be open to manipulation and abuse, hence, the apparent difficulties in getting the paying agent (NRFA) to accept some of the supporting documentation as submitted from time to time. This matter was ongoing and the Board of Road Development Agency had adopted a Zero Tolerance to malpractice in this area and had instructed management to effect immediate recoveries from all officers failing to retire imprest. Going forward, it would be necessary to improve on the oversight auditing of the regional activities and to work out acceptable standards of documentation. The matter was ongoing and the concerns expressed were genuine.

The Auditor-General's Report ought to have acknowledged the on-going efforts to resolve this issue.

g. **Road Programmes**

An aspect which had not been appreciated in the Audit Report, was the phenomenon of big projects which, of necessity, had to stretch over two or three Annual Work Plans, but had to be committed in full in the beginning with cash flow management spread over several Annual Work Plans.

After critically analysing the Audit Report, the following would be observed:

- the net effect of failed projects rolled over from one annual work plan to the other on account of the financing gap. In the period of the Audit (2006 — 2009) this had been ignored;
- the effect of programmes starting in one Annual Work Plan and completing in the other had been ignored; and
- the effect of Medium Term Expenditure Framework (MTEF) which was applicable to projects which extend beyond one year and overlapped several Annual Work Plans had been ignored.

The fundamental error of ignoring the factors above, had led to a situation where a cumulative financial commitment carried over from the past on account of funding gaps combined with financial commitments rolled-over forward on programmes spanning beyond one operating Annual Work Plan if considered against the financial limits of one operating year had created the illusion called "over commitment".

The greatest challenge that would continue to dog the Road Sector remained the lack of sufficient, sustainable and reliable funding dedicated to the Road Sector.

The Road Development Agency did not enter into commitments beyond the express wish of Government.

h. Technical Issues in the Auditor General's Report

It was observed that the engineers that were hired to provide technical investigation and reports did not accredit themselves to the Engineering Institution of Zambia or involved them at any level. The methods used in their various probes could be verified or confirmed in so far as meeting local standard practice was concerned. Therefore, their conclusions remain doubtful.

i. Issues Periphery, but Relevant to the Audit

Donor Funded Road Programmes

The image that had emerged out of the analysis of the Annual Work Plans for the year 2006, 2007, 2008 and 2009 indicated that releases from pledged amounts for each year had been sliding. In recent times, some donors had pulled out of programmes they committed themselves to under very suspicious circumstances.

Donors had been very regular and thorough with oversight activities for programmes they supported through quarterly missions. The Road Development Agency had always engaged and co-operated with these regular oversight supervision missions as could be testified by the usual mission end output. In some cases, specific programmes were audited as and when required by the donors themselves as a matter of regular procedure.

Status reports were issued regularly and circulated to all stakeholders.

In some cases, donors had carried out programmes directly by themselves and the net result had been less than satisfactory such as emphasis of the Shoprite bypass in Mongu, Senanga Road, wash away, Senanga — Kalongola Pontoon Road, Bridge between Kaoma and Kalumwange Farming Block. All these were done within the audit period under review but strangely, none of the programmes had been cited in the Audit Report.

j. RDA Board's Oversight Activities on Management and RDA Programmes

The Road Development Agency had been very rigorous with oversight activities through regular committee and Board meetings (twenty-two Board meetings in six years and most Board Committees had met in as many times). Board members had been on oversight missions to programmes in Southern Province, Western Province, North-Western Province, Central Province, Copperbelt Province, Luapula Province and Eastern Province and in as far as financial resources allowed. The Chairman of the Agency had been an integral part of all ministerial oversight missions over and above missions in his own cognisance and had covered the entire network many times. A procedure for reporting activities of the Agency to the Minister of Works and Supply was agreed and followed strictly (fortnightly).

This was over and above the many and regular consultative meetings across the spectrum of stakeholders in the Road Sector.

The Chairmen of the three Boards (RDA, NRFA and RTSA) formed a Committee of Chairmen and used the platform to track activities of the three Agencies as well as a platform for preparing submission to the committee of Ministers.

k. Challenges of Existing Institutional Arrangements

With regard to the above, the arrangement and working relationship between RDA and NRFA was antagonistic and at best could be described as a struggle for power and dominance with NRFA actively undermining the efforts of RDA. The Committee of Chairmen tried very hard to harmonise the relationship between the two Agencies without much success. The matter was pending before the Committee of Ministers to resolve through policy. A typical example which was mentioned in the Auditor-General's Report was the purchase of Mongu-Kalabo Road Camp to facilitate the continuing activities of Mongu-Kalabo Road Project. This noble request for a noble objective was deliberately frustrated and turned down by NRFA as wasteful expenditure on the understanding that the transaction

involved the purchase of land, buildings and equipment which was outside the mandate to finance.

Meanwhile, the unsecured Mongu-Kalabo Road Camp was home to bridge structures secured for the Road Project at a cost of K17 billion. The purpose and reason for securing the camp at an agreed sum of K1.69 billion was in part to secure the bridge components and other materials in excess of K20 billion and to provide premises for the next contractor on the project. The conclusion on the term wasteful expenditure in the Auditor-General's report in this matter did not put premium to the greater overall good and the insulation and protection of greater public resources (the syndrome of pennywise and pound foolish).

I. Auditing of RDA

The Auditor-General had been the Auditor of the Road Development Agency and had carried out yearly regular audits since inception. The Special Audit in question ought to have been a summation of their previous audits in the relevant audit period. In contrast, the tone and content of the Special Audit seemed to imply that they had never been to the Road Development Agency to carry out audits.

SUBMISSION BY THE HONOURABLE MINISTER OF WORKS AND SUPPLY

The Honourable Minister of Works and Supply, in his submission, stated that he was in agreement with what the Controlling Officer at the Ministry of Works and Supply had submitted, therefore, his duty was just to respond to specific points of clarification.

He informed your Committee that prior to the release of the Report of the Auditor-General on the Road Development Agency, he met officials from the Cooperating Partners who informed him that the report that would be released by the Auditor-General had a negative picture on the operations of the Road Development Agency (RDA). A few weeks later, the press carried out articles relating to the RDA Report by the Auditor-General. He complained that all these articles were being issued before the Auditor-General released the Report to the Government.

The Minister stated that since the Report was being discussed in the press, by some Cooperating Partners and members of the public, he felt duty bound to issue a ministerial statement in Parliament in order to protect the image of the RDA. He explained that the Ministerial Statement was not aimed at undermining or discrediting the Report but rather wanted matters put in the correct perspective.

The Minister submitted that the main problem that he had noted which affected the work of RDA was that it had a very sour relationship with the National Road Fund Agency (NRFA). He explained that RDA fell under the supervision of the Ministry of Works and Supply, while the NRFA fell under the Ministry of Finance and National Planning. As a result of the two institutions having different supervisors with varying personalities, there was no harmony between the two institutions. The Committee of Ministers that is responsible for supervising the various government independent organs had failed to resolve the standoff between the two institutions due to what the Minister termed as "problems relating to ethnicity".

The Minister stated that other challenges that had been hindering the proper performance of the RDA included the backlog of work that the Agency had inherited from the defunct National Roads Board. He explained that until 2009 when the budget circle changed, RDA received funding for the various road projects late and as such work would spill into the following year. He explained that at that time moneys would be appropriated by Parliament around March – April of each year and the NRFA would only release the money in the second quarter of the year. Work would then only commence around August – September of each year and would then stall around November when the rain season started. This according to the Minister meant that road works were only done for a period of only three to four months in each year. This situation led to a huge backlog of uncompleted road works.

The Minister submitted that coupled with the meager resources that were appropriated for each of the roads meant that the same roads were being worked on for several years such as the Mutanda – Chavuma and the Choma – Chitongo Roads.

The Minister explained that the RDA had serious problems aligning its annual work plans with the Medium Term Expenditure Framework (MTEF) budgeting format. He stated that while MTEF budget circle was three years, the RDA had annual work plans whose priorities changed from one year to another. He said the two budget and planning systems were at variance and as such made implementation of projects very difficult. He said as a result, it

was hard for the RDA to avoid having a backlog of work as well as financial commitments.

The Minister also informed your Committee that the RDA Board had not been involved in the approval of contracts. He submitted that the management of the RDA did not involve the Board in the execution and implementation of contracts. Your Committee, however, advised the Minister that it was important that the Board must start giving oversight to the management and that management must be given ceilings over contracts that they could approve while others must be approved by the Board. Through such procedures, the RDA would be seen to be operating in a much more transparent and accountable manner.

The Minister further informed your Committee that Cooperating Partners had laid down rules on how road projects must be implemented. Among the said rules, was the need for the RDA to appoint independent contractors to work on road projects. Others included the requirement that a separate entity be employed for designing the road from the entity that would be supervising the road works. The Minister stated that due to the nature of the Government's obligations such as fulfilling people's social and economic needs, it had at times constructed roads without regard to the rules set up by the cooperating partners. He stated that the Government had also at times constructed roads in circumstances where there are natural disasters or emergencies that require immediate servicing of road infrastructure. He emphasised that the role of the Government was to provide service to its people and that for as long as moneys were being used to service people's needs and not people's pockets, then Government was comfortable.

The Minister, in his submission, stated that he was concerned that foreign engineers that were contracted to be part of the Audit Team were not registered with the Engineering Institution of Zambia and therefore could not legally operate in Zambia. The Auditor-General clarified that the engineers were not registered when they first came to Zambia in 2009. They later on registered and were issued with certificates.

The Minister, in his submission, stated that the major challenge that RDA faced was inadequate funding to the Institution. He explained that RDA had over the years requested for K3,000 billion as its annual grant but was only being allocated K1,500 billion. He explained that this amount was supposed to be shared among all districts so that all roads are worked upon. However due to the small resource envelope, only a few roads could be worked on in a given year. The Minister thus proposed devising a format for developing roads on a regional rotation format as the method that RDA had been employing was that of working on roads that needed critical attention.

The Minister further submitted that the lack of sufficient funds meant that the RDA could not in all instances engage critical personnel such as Clerks of Works. As a result most of the contractors do not have personnel that supervise on quality assurance. This has resulted in most instances on poor workmanship and inferior materials being used.

The Minister further stated that despite the various problems that RDA was facing, his Ministry would work hard to ensure that if there were any people who had embezzled funds, then they would be prosecuted while if there were any irregularities in the operations of the Agency, then corrective measures would be undertaken as a matter of urgency. He assured your Committee that correct procedures would be undertaken in the future during the implementation of road projects.

The Minister further assured your Committee that a new Board was being re-constituted. He reaffirmed the Government's commitment to ensuring that road development programmes were initiated by the people on the ground at the District Development Coordinating Committee (DDCC) level so that there was agreement on the development projects that must be undertaken by each region. This according to the Minister would help the RDA to streamline and properly budget for roads that need to be developed over a period of time.

The Minister, in his concluding remarks, also assured your Committee that his Ministry would critically study issues that needed law reform and present them to the Ministry of Justice for onward presentation to Parliament. He stated that the immediate ones were on the need to harmonise the Public Procurement Act with the Financial Regulations as well as aligning the MTEF budget cycle with the annual plans that RDA produced.

The Minister apprised your Committee that, while the appointment of the new Chairperson of the RDA may be perceived as inappropriate since he was a partner in an engineering consulting firm, which from time to time was awarded contracts by RDA, the cardinal point to note was that RDA needed to be headed by a qualified engineer. He further explained that where there may be conflict of interest, the Public Procurement Act was clear on the procedure to follow.

COMMITTEES OBSERVATIONS AND RECOMMENDATIONS

Questionable Composition of Committees

Your Committee resolves to await progress on the matter since the Controlling Officer had made an assurance to rectify the anomaly.

Irregular Payment of Internet Bills for the Chairman

Your Committee observes that the amount in question of K2, 689,743 had been refunded as a way of rectifying the anomaly. The Controlling Officer and RDA Management are advised to desist from engaging in such practices.

Irregular Payment of Insurance Premiums for Board Members

Your Committee notes that the taking up and payment of the insurance premiums was irregular as it was never authorised by the Minister of Works and Supply. The Controlling Officer, Members of the Agency and Management are warned not to engage in such practices.

Irregular sale of Personal to Holder Motor Vehicles

Your Committee is comforted by the fact that the Board rejected the request as it was against guidelines. Despite the rejection, one of the vehicles was still sold and this was irregular. The Controlling Officer and Members of the Agency are urged to ensure that their decisions are adhered to by Management and staff. Progress should be reported on the case that is in court.

Irregular use of Fuel

Your Committee resolves that the matter should be closed subject to verification.

Irregular Drawing of Fuel

Your Committee notes that the former RDA Director has paid back K86.9 million for fuel he drew and resolves that this particular issue should be closed. However, progress should be reported on the recovery of K1, 917,926 from the former Corporate Services Manager.

Unretired Imprest

Your Committee are concerned that various amounts of imprest in the sum of K19, 118, 705, 403 given out in the last five years has remained outstanding. This is highly irregular. Your Committee resolves that the RDA, NRFA and Office of the Auditor-General should reconcile the figures.

PROCUREMENT OF CONTRACTS

AUDIT PARAGRAPH 7

8. The Auditor-General reported as set out hereunder.

a. Adequacy of Bid Period

The Public Procurement Regulations of 2005, require that the bidding period must be between four (4) and eight (8) weeks. It was observed that the majority of bidding periods had been twenty-five (25) days irrespective of project size.

b. Appointment of Evaluation Committee

There were no criteria for the appointment/composition of the evaluation committee. In this regard, it was observed that the members of the committee were mainly appointed from the planning and design department. In most cases, the evaluation committee comprised three (3) engineers from planning and design department namely, the principal engineer and two (2) engineers, thereby casting doubt on the objectivity and effectiveness of the committee.

It was further observed that the procedure for appointment and approval of the evaluation committee was not formalised as only handwritten notes were used to nominate the members of the evaluation committee.

c. Bids Responsiveness

There was a high percentage of submissions which were judged to be non-responsive at the administrative stage and, thus, eliminated from further evaluation. An analysis of fourteen (14) small contracts, where the bidders tended to be more inexperienced revealed that the average rejection rate was 41%. In some cases

the rejection rate was as high as 65%.

This high percentage indicated that either the bidders had not understood the bidding documents or that the evaluators were being too restrictive in their judgment, especially for the smaller bidders.

d. Consistency in Application of the Evaluation Criteria

The evaluation committees were on a number of occasions inconsistent in their application of the evaluation criteria. For instance, during the evaluation of the Nakatindi Road M10 project, a bidder was eliminated because his wages were lower than the legal minimum, while another committee for the construction of Muombe culverts project, a bidder who stated that his wages were lower than the legal minimum, was allowed to proceed, on the basis that he would be forced to obey the law if he won the contract.

e. Over Procurement

A provision of K1,200 billion was provided in the 2008 budget comprising K685 billion from local sources and K515 billion from external sources. A total of K670.4 billion was released from the Treasury while the Cooperating Partners funded a total of K264.199 billion bringing total releases to K934.59. A total sum of K842.42 billion was spent in 2008 and a sum of K92.17 billion was carried forward to 2009.

In 2009, a provision of K1, 356.84 billion comprising of K715.45 billion local resources and K641.396 billion external resources was provided in the annual work plan. As of September 2009, the Government had released a sum of K693.34 billion whilst the Cooperating Partners had released a total of K88.06 billion.

2008	Budget K' Billion	Releases K' Billion	Expenditure K' Billion	Balance K' Billion
GRZ	685.00	670.40	675.11	
Donor	515.00	264.19	167.31	
Total	1,200.00	934.59	842.42	92.17
As at August 2009 the following were the releases and expenditure:				
GRZ	715.45	693.34	753.90	
Donor	641.39	88.06	137.51	
Total	1,356.84	781.40	891.41	

According to the *Public Finance Act of 2004* 7(3), every controlling officer is charged with the duty of planning and controlling the expenditure of public funds under the controlling officers control thereby not committing the Government to expenditures in excess of money appropriated by Parliament.

The issues set out hereunder were observed:

i. Over Commitment of Funds

Contrary to the Appropriation Act of 2008 and the Public Finance Act No. 15 of 2004, it was observed that the Agency committed the Government to expenditures in excess of money appropriated by Parliament. The approved budget provision for the year 2008 on local resources was K685 billion while the Agency committed Government to contracts in the sum of K1.643 billion, resulting in an over commitment of K1, 015 billion.

It was also observed that five (5) road projects in amounts totalling K182, 455,297,524 were procured outside the 2008 work plan and authority to procure these projects was not availed for audit.

ii. Unauthorised Budget Variations

Contrary to Financial Regulation No.31, which states that Controlling Officers should obtain authority from the Secretary to the Treasury to vary funds, the Agency varied funds in amounts totalling K10,000,000,000 from M18 (Sakala via Lufwanyama to Ingwe) to other projects without authority.

Further, it was observed that the Agency varied funds in amounts totalling K43, 069,310,029 relating to six (6) projects without approval from the Board.

iii. Inadequate Budget Provision

Whereas certified works in respect of thirty- eight (38) projects rolled over from previous years amounted to K207,368,650,817, only K113,600,288,000 was provided for in the 2009 budget resulting in an overrun of K93,768,362,817 as shown in the table below.

Contract	Name of Contractor	Contract Period	Contract price K	Provision K	Variance K
Bauleni Turn off to State Lodge and Selected Roads primary in Nyumba Yanga	Raven works Construction	Six (6) months commencing 1 July 2008	18,199,114,715	10,000,000,000	8,199,114,715
By pass road from Kafue to Chilumbulu Road	Rankin Engineering Consultants	Nine (9) months commencing 25 February 2008	14,637,211,088	8,000,000,000	6,637,211,088
Selected Chalala Road, Mosi-o-Tunya, part of Shantumbu Road	Brian Colquhoun, Hugh O'Donell and Partners (BCHOD)	Eight (8) months commencing 7 November 2008	36,896,223,626	14,500,000,000	22,396,223,626
D176 Ngwerere to Chisamba and D573 Ngwerere to Lusaka Int. Airport	Raubex Construction Ltd	Six (6) months commencing 15 July 2008	13,037,826,849	7,000,000,000	6,037,826,849
Twin Palm, Ibex Hill-Kabulonga, Avondale-Kabulonga Roads	Ng'andu UWP Consulting	Twelve (12) months commencing 9 September 2009	57,545,581,878	16,500,000,000	41,045,581,878
Lusaka Int. Airport Turn off to Luangwa Bridge	Raubex Construction Ltd	Eighteen (18) months commencing 10 July 2008	80,168,600,476	38,030,000,000	42,138,600,476
45km of Selected City Roads in Lusaka Province	Road and Paving Zambia Ltd	Eight (8) months commencing 10 September 2008	77,741,065,600	20,500,000,000	57,241,065,600
Luansobe-Mpongwe Road 50km	China Henan Int. Cooperation Ltd	Twelve (12) months commencing 27 October 2009	90,097,344,487	20,000,000,000	70,097,344,487
Limba Lamba Road	China Geo Engineering	Four (4) months Commencing 30 September 2008	9,487,974,892	7,500,000,000	1,987,974,892

iv. Cash Flows Projections

Although the cash flow statement showed a deficit of K33.576 million, an analysis of the 2009 Work Plan revealed that the projections were not realistic in that:

- The cash flow did not take into account two hundred and ten (210) new projects costing K194.839 billion approved in the 2009 Work Plan. It was noted that out of the new projects planned for 2009, contracts costing K55.022 billion had been signed as of August 2009.
- Projects with a completion date of earlier than July 2010 were projected to be paid in 2011. Projects such as the Luwingu – Kasama Road, Choma – Chitongo Road, Serenje – Samfya-Mansa Road, and Luansobe-Mpongwe Road.

SUBMISSION BY THE CONTROLLING OFFICER AND ROAD DEVELOPMENT AGENCY MANAGEMENT

In response, the Controlling Officer in conjunction with RDA Management submitted as set out below.

a. Adequacy of Bid Period

The then Zambia National Tender Board Act, Cap 394 Section 34(2) stated that *“an offer to tender shall be submitted within a period of:*

- (a) Not less than four weeks after the date of publication of invitation to tender, or*
- (b) Not less than eight weeks after the date of publication of the invitation to tender in case of tenders invited from outside Zambia”*

All the tenders referred in the Audit Report were advertised in Zambia, therefore it was (a) above which applies and not (b) as these tenders were only invited in Zambia.

Invitations to tender (adverts) were given to newspapers for publication on Thursdays and were expected to be advertised on Friday and bids were expected to be deposited on the fourth Friday from the date of first publication. However, in some cases, the invitation was only published on the following Monday or latest Tuesday. This sometimes resulted in the advert running for twenty-five or twenty-six days. Notwithstanding the shortage of two or three days, the floatation would have completed the full four week cycle as required by (a) above.

Submission by the Director-General of the Zambia Public Procurement Authority

The Director-General submitted that if it had been established that formal tenders were invited with bidding period of less than the minimum four (4) weeks, then the query was valid.

In order to provide further guidance on adequacy of bidding period with respect to project size, the draft Public Procurement Regulations state that the minimum bidding period for amounts between K500 million and K5 billion (goods and non-consulting services) and between K500 million and K50 billion (works) shall be four (4) weeks. Above K5 billion for goods and non-consulting services, and above K50 billion for works, the minimum bidding period shall be six (6) weeks.

b. Appointment of Evaluation Committee

The then Zambia National Tender Board Act, gave no guidance on who should be on the Evaluation Committee. Therefore, while competence by the Evaluation Committee was of essence, the product of the evaluation, that is, the Evaluation Report was the most important because it had to meet requirements as stipulated by the then Zambia National Tender Board Act, Section 41 and now the Zambia Public Procurement Authority Act No. 12 of 2008. The Evaluation Committee was appointed on an *ad hoc* basis and the fact that the approvals were observed by the auditors albeit handwritten, showed the procedure existed and was forward. They, however, note the observation of the Auditor-General.

On why the composition of the Committee was limited to engineers and not other professionals like accountants, the Controlling Officer reported that the main task of the Committee was to look into technical aspects of projects. It was therefore felt that this was adequate.

Submission by the Director-General of the Zambia Public Procurement Authority

The Director-General submitted that the Zambia National Tender Board Act and its successor, the Public Procurement Act, do not provide guidelines on the appointment and composition of an evaluation committee.

In order to correct the situation, guidelines on the appointment and composition of an evaluation committee had now been included in the draft Public Procurement Regulations. The draft Regulations state that a Controlling Officer or Chief Executive Officer shall appoint an evaluation committee for each procurement requirement. The regulations also state that the number of members of an evaluation committee shall not be less than three (3). It further states that members of the evaluation committee shall have skills, knowledge and experience relevant to the procurement requirement, which may include:

- *technical skills relevant to the procurement;*
- *end-users representation;*
- *procurement and contracting skills;*
- *financial management or analysis skills; and*
- *legal expertise.*

c. Bids Responsiveness

The then Zambia National Tender Board Act, Section 41 stated that “(1) A tender Committee shall ensure:

- that the criteria used in evaluating tenders is fully consistent with information given in the tender documents;*
- that tenders are scrutinised for completeness in accordance with sub-paragraph (2) of paragraph 39; and*
- that the period, not exceeding twenty one days, within which an evaluation should be submitted to it for consideration is stated.”*

The RDA observed the above requirements in (a) and (b) which in some cases resulted in some or all bids rejected. The RDA had conducted several workshops to help contractors prepare responsive bids and this was the only way to help.

Had the evaluators been too lenient, the audit would have raised other issues of subjectivity and alleged favouritism. The right things were done and the onus of preparing a responsive bid remained with the bidders.

Submission by the Director-General of the Zambia Public Procurement Authority

The Director-General submitted that an evaluation of bids was usually conducted over four (4) stages – Preliminary (Administrative), Technical, Financial and Post qualification. Evaluation criteria in each of these stages had to be strictly applied on all bids. He said regrettably, it had been a common feature for the more inexperienced bidders to fail to meet the criteria at the administrative stage. In fact, a study undertaken by Zambia National Tender Board in 2008 using the OECD-DAC Methodology of Assessment revealed that 77% of bids failed to reach the final stage of evaluation.

The Zambia Public Procurement Authority had in the past participated in capacity building programmes to train suppliers and contractors in the preparation of responsive bids. This was an on-going activity and Zambia Public Procurement Authority had provided for more capacity building programmes in the PEMFA work plan to train more suppliers and contractors in this area.

d. Consistency in Application of the Evaluation Criteria

The evaluation criteria was clearly indicated in all bidding documents and adhered to during the evaluation. In the event that all the bids were non-responsive, depending on the urgency of the work, a tender might be annulled and authority was sought from the relevant authority to negotiate with the bidder with technical capacity to undertake the works provided the bidder was able to provide additional information to mitigate the deficient bid earlier submitted.

In an event that all the bids are non-responsive, depending on the urgency of the works, a tender may be annulled and authority is sought from the relevant authority to negotiate with the bidder with technical capacity to undertake the works provided the bidder is able to provide additional information to mitigate the deficiency in the bid earlier submitted.

Each criterion was specifically designed to select a suitable contractor for the works, and where all bids are non-responsive, the Evaluation Committee may waive certain criteria which do not disadvantage any of the participating bidders and this did not amount to inconsistency in the application of the evaluation criteria.

The Controlling Officer further stated that it was the case on the Muombe culverts projects, where all bidders were non-responsive and the Evaluation Committee decided that the application of labour wage rate could be negotiated with the contractor with technical capacity to carry out the works.

Submission by the Director-General of the Zambia Public Procurement Authority)

The Director General in his submission on the matter stated that the Tender Regulations issued under Statutory Instrument No.151 of 1995 of the Zambia National Tender Board Act, stated as follows: under Regulation 41(i) (a):

“A tender committee shall ensure that the criteria used in evaluating tenders are fully consistent with information given in the tender documents.”

The Public Procurement Act of 2008, Section 50(3), further states as follows:

“No methodology or criteria, other than those stated in the solicitation document, shall be taken into account and all criteria shall be applied equally to all bids.”

In the previous and current law, provisions were made to the effect that an evaluation shall be based on the criteria stated in the respective tender documents and that all criteria should be applied equally and consistently to all bids.

(e) Over Procurement

i. Over Commitment of Funds

The projects procured in 2008 along with carryover projects from previous years (Kasama – Luwingu road from 2001) amounted to K1.643 trillion. All projects procured in 2008 were part of the Approved Annual Work Plan for 2008, including the provision for emergencies from which a few projects were procured in order to restore accessibility. The rationale was that road projects straddled more than one fiscal year and that the projects would benefit from resources to be availed according to the Medium Term Expenditure Framework (MTEF).

The letter referenced MF/10/1/4 dated 18 November 2008 from the Budget Office guided that *“the purpose of the Government introducing the Medium Term Expenditure Framework (MTEF) was to budget within a period of three years so that if needs could not be met in one year, then the same could be catered for in the subsequent years. Your needs-budget should therefore be framed within this principle and timeframe”*

For the road sector the following resources were projected:

Budget Ceilings [2009-2011]				
Year	2009	2010	2011	TOTAL
	K' billion	K' billion	K' billion	K' billion
Fuel Levy	278.031	293.323	310.922	882.276
Road User Charges	138.107	146.393	155.030	439.530
GRZ Share	212.327	472.677	601.606	1286.610
TOTAL	824.000¹	912.393	1,067.558	2,803.951

Note: 1: The Green Paper had initially an estimate of K824 billion for 2009. The advance procurement was partially based on the initial provision figure for 2009. The figure was revised downwards on 7 January 2009 to K628.465 bn.

From the Table above, it should have been possible to complete all the projects by end of 2010 or latest by 2011. Cash-flow problems were indeed experienced during 2009 arising from the reduced MTEF budget and the withdrawal of donor funding for which other local funds were used to pay donor funded projects in Central and North Western Provinces amounting to K70 billion.

Most of the procurements for 2008 were advance procurement targeting the budget for 2009 so that work could commence immediately after the rains. In that way funds would be completely utilised as opposed to funds being surrendered to the Treasury as was the case in previous years.

Funds were appropriated by Parliament on a yearly basis, but road projects took longer than one year. That was why the Agency in preparing its Annual Work Plan prioritised the on-going projects before new ones were commenced.

In the year (2010), the Government had provided additional funds to complete the old projects of Kasama – Luwingu, Kasempa – Kabompo and Choma – Chitongo Roads.

The funds that were appropriated by Parliament as stated in the 2008 yellow book consisted of a combination of funds from the Cooperating Partners (CPs), GRZ and Fuel Levy plus other road users charges (Road Fund). Activities under the cooperating partners and GRZ were itemised as budget lines where as those for Road Fund were presented as a lump sum. The Road Fund was managed as a basket resource, whose details of activities, were contained in the Annual Work Plan that was approved by the RDA Board. The 2008 Annual Work Plan presented activities that were to be undertaken using funds from the other Cooperating Partners and GRZ. The Annual Work Plan presented on an annual basis an ambitious set of road activities that promulgates the Agency's mission as network manager of over 67,000 km road. Those activities included: construction, rehabilitation, periodic maintenance and routine (cyclic) maintenance. The projects included a combination of strategic and or tactical on-going and new projects. Project management and implementation calls for estimates of funds that must be expended over the period of project activities. Those estimates were prepared in the form of cash flows that predicted the financial performance of the project life. In reality, the implementation was often non linear and slippages were inevitable and often encountered. The direct impacts were that project performance periods and consequently cash flow projections, must be stretched to completion.

The Annual Work Plan was executed on a rolling basis that called for the commitment of projected cash flows for the respective year under consideration. Balances on contracts that were carried over from previous years were, therefore, spread over the contract duration. The planning effort thus ensured that resources that had been made available for the fiscal financial year should support the cash flows that had been proposed for the particular fiscal year. For example, the 2008 Annual Work Plan provided K 1,200 billion in road activities, out of which K695 Billion was to be financed from the Road Fund and Government of the Republic of Zambia (GRZ) under local resources. The Green Paper had initially provided an estimate of K824.051 Billion for 2009. The procurement in advance was partially based on that projection for 2009. The figure was revised downwards by the Ministry of Finance and National Planning, on 7 January 2009 to K628.465 Billion. For most of 2008, there were very positive prospects for increased funding to the road sector and to investment in infrastructure generally from the revenues of the 'windfall taxes'.

Road projects took longer than a given fiscal year and often rolled over into subsequent years. It was imprudent and hardly realistic to sign contracts equal to the amount of funds shown in the Annual Work Plan of a particular year when it was known that the project would require a longer implementation period. It was for this reason that the preparation of an Annual Work Plan considered on-going projects first before new projects were programmed. It was proposed that the Public Finance Act No. 15 of 2004 7(3) should be amended to take care of the fact that road and other infrastructure projects often take longer than one fiscal year to implement.

Therefore, the basis of analysis for projects committed in 2008 should be the projected cash flow that showed the financial performance over the project period against the financial resources that were made available during that year. The basis of comparison could not be the value of the awarded contracts since some projects were executed over a rolling period. For that reason, cash flow projections were proposed and marked against budget provisions to determine commitment for a particular year as proposed in the reconciliation report that was presented to the Auditors. It should be observed that the cash flow projections were made in line with the Medium Term Expenditure Framework (MTEF) figures that were provided by the Ministry of Finance and National Planning in January 2009 which provided guidance on resources that were available for the period 2009-2011.

Merely subtracting the local resources of K685billion for 2008 from the contract sums of K1, 643 billion did not consider the fact that some of the projects had rolled over from previous years while other projects were continuing into 2009 and 2010. In addition, it must be noted that the basis of analysing projects committed in 2008 should be the projected cash flow. Most importantly, the figure above also included amounts that had been committed on previous long term government contracts that were funded under limited funding per year.

Highlights on the five (05) Projects totalling K182, 455,297,524 and the respective justifications for their procurement

Project Name	Comment
Batoka – Maamba D775	The project did appear in the 2008 Annual Work Plan though no funds were allocated; it was initiated as an emergency following the collapse of major culverts.
Periodic maintenance of Nansanga farm block roads	Procured in 2008 in advance for implementation in Annual Work Plan under Programme 2, 2.4 Agriculture Farm Blocks, Item 2.1
25km of selected Lusaka City Roads	Procured under 2008 Annual Work Plan, Programme 13: Road Infrastructure Development, Upgrading Works, and Item 1.13: Chilenje South linking Kafue Road.
Luansobe - Mpongwe Road	Procured under Programme 7 budget line 1.12
Periodic maintenance of Kusefya Pang'wena Road – Pacific Parts	The project appeared under Programme 15: Road Infrastructure Rehabilitation and Arrears, 4. Traditional Ceremonies-Road Maintenance, Item No. 4.8- Northern, though with No budget allocation. It was however procured as an emergency to facilitate the head of state to attend the Kusefya Pang'wena.

Corrective Actions

The total value of contracts under local resources [GRZ and Road Fund] as at 31 March 2010 was K 2,983,953,916,357.54 representing 416 contracts as shown in the table below. The value also included the reported K1,643 billion of procured projects in 2008. The source of the information was RDA's records and the disbursements as reported by the NRFA as at 31 March 2010 and published in the print media. From the total of K2,980 billion, 298 contracts worth K1,060,857,456,994.68 were successfully completed at a total cost of K776,558,432,434.62 with savings worth K284,299,024,560.06.

It was important to note that the RDA had no further contractual obligations on those contracts and they, therefore, did not constitute any further commitments to the Government. There were also twenty-five contracts terminated due to poor performance by the contractors worth K182,833,401,777.65 and nine contracts were suspended. Again there, it was important to note that the Government had no further commitments on these contracts. Thus, the only commitments were on on-going projects.

As at 31 March 2010, the RDA had eight-two on-going projects with total contract sums of K1,734,553,363,812.37 of which K661,845,986,210.98 had been paid leaving a commitment of K1,072,707,377,601.39. (On-going Projects as at 31 March 2010). A large proportion of the amount included capital projects such as the Kasama-Luwingu, Kabompo-Chavuma, Choma-Chitongo and the Chipata-Mfuwe Roads.

RDA Projects Status as at 31st March 2010

Project Status	Contract Sums [K]	Disbursement: From Start of Project to 31st March, 2010 [K]	Saving/(Commitment) [K]
1. Complete	1,060,857,456,994.68	776,558,432,434.62	284,299,024,560.06
2. On-going	1,734,553,363,812.37	661,845,986,210.98	(1,072,707,377,601.39)
3. Suspended	2,041,052,513.00	554,282,945.31	1,486,769,567.69
4. Terminated	182,833,401,777.65	121,387,315,354.95	61,446,086,422.70
5. [See note 3]	3,668,641,259.84	-	3,668,641,259.84
Grand Total	2,983,953,916,357.54	1,560,346,016,945.86	

Proposed Liquidation of the Commitment on Road Projects
Commitments on On-Projects

The current commitment on all running projects funded through local resources as at 31 March 2010 was K1,072,707,377,601.39 as established in the above table after careful analysis of all the projects that RDA was overseeing. Road Projects often rolled over from one financial year to the next depending on the duration and complexity of the works. The RDA thus in preparing its annual work plans took that into account and tried as much as possible to allocate adequate cash-flows to oversee the completion of these projects.

The table below shows how the RDA intends to liquidate the K1,000 billion commitments on local resources using the available resources for 2010.

Proposed Liquidation the K1 Trillion Commitments on Local on Resources

	Amount (K)	Comments
A Savings on Completed Projects	284,299,024,560.06	See note [2]
B Commitment on Ongoing Projects	1,072,707,377,601.39	See note [2]
Liquidation of the Commitment on Projects		
C Supplementary Funding to complete Old On-going Projects	500,000,000,000.00	See note [4]
D Local Resource Budget (AWP 2010)	852,000,000,000.00	
E Payments already made using LR(s) as at 31 st March 2010	(179,882,525,331.23)	See note [5]
F Total Available Resources for 2010 beyond 31st March 2010	1,172,117,474,668.77	[F-B]
Surplus/(Deficit) at 31st Dec 2010	99,410,097,067.38	

Notes:

1. Payments were as up to 31st March 2010.
2. There were no further commitments on completed and terminated projects.
3. Item (5) in the previous table was a provision for printing, advertisements in print media and Axle Load Control. (Source NRFA Disbursements for the 1st quarter of 2010).
4. Being Amount provided to ensure the completion of old ongoing major projects in 2010: Kasama-Luwingu, Kabompo - Chavuma & Choma - Chitongo Capital Projects as well as cover eligible payments under the contract for the up-grading of the Chipata – Mfuwe Road in Eastern Province.
5. The amount was derived from the published NRFA Spreadsheet for the 1st quarter of 2010 and the RDA payment records.

The 2010 Annual Work Plan has a total budgetary provision of K852 billion for local resources and there has also been an injection of K500 billion from the Treasury to oversee the completion of the three major projects: Kasama-Luwingu, Choma-Chitongo and Kabompo-Chavuma Road [Those funds

were also intended to cover eligible payments under the contract for the up-grading of the Chipata–Mfuwe Road in Eastern Province]. There thus was a total of K1,172,117,474,668.77 available as local resources after discounting the K179,882,525,331.23 already disbursed as at 31 March 2010. The available resources thus outweigh the commitments of K1,072,707,377,601.39 on on-going projects leaving a surplus of K99,410,097,067.38.

From the analysis above, the reported over-commitment was going to be liquidated accordingly with the local resources. Their earlier projection had forecasted liquidation of this amount in 2011, however, the need to complete the old on-going projects has been recognised through supplementary funding of K500 billion which would see the commitment diminished in 2010.

When asked why the Road Development Agency overcommitted the funds as opposed to what was approved or appropriated by Parliament, the Controlling Officer reported that they went by the spirit of Medium Term Expenditure Framework (MTEF) which advocated for a three year planning cycle. The idea was aimed at putting a project over a period of about three years. They however, had problems going by the spirit of the MTEF because contractors kept on pestering them for the release of funds for the extra works done in one fiscal year. As a way forward, the Controlling Officer would direct the RDA to restrict their expenditure on road projects to one fiscal year as by law required.

On where the pressure was coming from for RDA to go beyond what was appropriated by Parliament, the Controlling Officer reported that pressure came from the huge road network they needed to work on. He explained that Zambia had 67,000km of road network. Of these, 40,000km dealt with core road networks. Further, demands from the public and Members of Parliament to work on their roads was another source of pressure. He also stated that the previous budget cycle gave RDA only three working months. That led to RDA returning money to the Treasury as it could not be used as intended due to the short period in which to carry out the works.

On how RDA was going to manage the over committed works, the Controlling Officer reported that there was need to agree with contractors in order to request them to slow down their works and conform to funds available.

Submission by the Secretary to the Treasury

The Secretary to the Treasury in his submission on the matter agreed with the findings of the Auditor-General. He further stated that prior to the audit, the Ministry of Finance and National Planning held meetings with the Road Development Agency (RDA) and the National Road Fund Agency (NRFA), to understand why the RDA over committed the Government without backing the contracts with resources and without agreeing on how the issue could be resolved as it was costing Government huge sums of money, due to its failure to liquidate payment certificates.

The problem of over commitment was also caused by thinly spreading of resources on projects, the non-disbursement of funds by donors in some instance; and domestic revenue shortfalls.

The Treasury was sourcing for extra resources beyond the 2010 budgetary provisions that would partly be used to accelerate and complete works on some roads.

Further, the Ministry would release in full the funds in the 2010 budget to ensure that there was no shortfall in financing certificates that were programmed to mature in 2010.

Further, the Treasury would ensure that the spreading of resources thinly on roads had been stopped. RDA should contract only few roads that fit the resource envelope. Contracts should only be signed where a road project was adequately funded to avoid over commitment.

The Treasury has also issued instructions to RDA to ensure that all new contracts should be cleared by the Treasury prior to signing.

Submission by the Chief Executive of the National Road Fund Agency

The Chief Executive Officer of the NRFA submitted that as a funding agency, they were also concerned with expenditures. In December 2008, they received huge bundles of already signed contracts, which were above budget allocation for that year. They immediately wrote to RDA advising them against committing the Government to expenditure outside the budget. This matter was further discussed at length with the Ministry of Works and Supply, the RDA and cooperating partners in the road sector. However, denial of over-procurement of contracts by RDA was what compelled the cooperating partners to advocate for audit of the sector to establish the true position on over-procurement in the sector during the year 2008. This position had since been confirmed by the Audit Report.

The issue on over commitment was discussed with the RDA, unfortunately the situation was not normalised. The matter was later taken over by the Ministry of Works and Supply in defence of the RDA.

The impact or consequence of this over-commitment had been that from as early as March 2009 to date, the NRFA had been failing to pay contractors' certificates on time. Certificates have been accumulating at an alarming rate because release of funds by the Ministry of Finance and National Planning (though current with annual budget projections) were not able to match with huge certificate claims coming in for payment. Many outstanding certificates that NRFA had failed to pay on time were now accruing interest, which meant additional expenditure over and above budget for nothing. They considered this outcome as an inefficient and irresponsible way of utilising scarce resources which amounted to mismanagement of financial resources.

On corrective action, they communicated with the RDA to suspend some projects until the issue was resolved but they had gone ahead signing new contracts. As at 7 June 2010, there were pending certificates amounting to over K204 billion which could not be paid due to the over commitments.

On the question of whether the RDA Board was approving contracts, the Chief Executive submitted that as a member of the previous RDA Board, there was not a single time he could recall when the Board approved any road contracts. What was presented to the Board were Annual Work Plans and contracts signed by the RDA Chief Executive Officer. The Executive Director further submitted that the RDA could approve road projects up to K30 billion.

Submission by the Director-General, Zambia Public Procurement Authority

The Director-General in his submission on the matter stated that in Public Procurement, it was recognised that implementation of some projects could occur over a period exceeding one financial year. In which case, expenditure committed on a contract in one financial year may be paid over a period exceeding the financial year in which it was committed. Further, in recognising such multi-year contracts, the Public Procurement Act, under Section 42(i) (d) requires procuring entities to integrate their expenditure programme with their procurement plans. The draft Public Procurement Regulations further state that annual procurement plans for a procuring entity, shall include details of any committed or planned procurement expenditure under existing multi-year contracts.

The Director-General revealed that compliance on the submission of procurement plans was poor. As at June 2010, only five institutions had complied with the requirement to submit their plans to the Zambia Public Procurement Authority.

Therefore, while the public procurement law allowed for commitment of expenditure on multi-year contracts the Public Finance Act did not. To correct the situation, there was need to harmonise the Public Procurement Act and the Public Finance Act on the provisions for commitment of expenditure on multi-year contracts.

ii. Unauthorised Budget Variations

On the variation of funds from M18 (from Sakala Farms Via Lufwanyama to Ingwe) without authority from the Secretary to Treasury, the RDA suggested to NRFA that funds could be varied from M18 to cover the pending IPC on the OPRC Package 3 in Luapula Province. This suggestion was made following a decision to use force account rather than contracting as the funds provided in the Yellow Book for M18, were not enough for contracting. It was the paying Agent's duty to seek authority from the Secretary to Treasury before making payments as suggested.

The RDA would liaise with the sister Agency to ensure that NRFA sought authority from Secretary to Treasury is obtained to vary funds before they pay.

With regard to the six projects financed from the Road Fund, subsequent Board approval was sought and granted to vary funds for projects that rolled over into 2009. As at end of December 2008, there was no reported over expenditure in the road sector. In fact according to the NRFA audited accounts, there was K 67 Billion that was rolled over into 2009 from 2008.

In future all variations of road funds [Fuel Levy/ORUC] would be made on approval of the RDA Board and for GRZ funds, RDA would specifically request the NRFA to seek authority from Secretary to the Treasury before any payments were made.

Submission by the Secretary to the Treasury

The Secretary to the Treasury in his submission on this particular matter stated that it was a requirement under the Public Finance Act of 2004 that any variation of public funds should be approved by the Treasury. By RDA varying funds without the approval of the Treasury, they were in breach of the legal provision.

The Treasury would enforce the provision of the Act to ensure that in future, procedure was followed when varying funds. To this effect, the Ministry would monitor closely the quarterly reports provided by NRFA to ensure that there were no such breaches by RDA. If such actions happened, the Controlling Officer would be sanctioned as provided for under the Public Finance Act.

Submission by the Chief Executive Officer, National Road Fund Agency

The Chief Executive Officer of the NRFA submitted that this was done without their knowledge and the NRFA Board never approved it. There were a lot of these upward variations, which also contributed to over commitments. Corrective action was that no payment would be made to unauthorised budget variations.

iii. Inadequate Budget Provision

The preparation of the Annual Work Plan was based on the premise of a rolling budget with basket funding. Project implementation was in most times covered over period of more than one year. Whilst this was the case, the Road Fund had been operated on a basket fund approach where funds on slow moving/stalled projects were utilised on fast moving projects with Board authority. This ensured that funds are utilised within the fiscal year and were not rolled over or surrendered back to the Treasury.

In future, adequate project implementation time would be provided along with sufficient funds to cover cash-flows for the year.

The status of the projects highlighted by the Auditor-General is shown below.

Submission by the Secretary to the Treasury

The Secretary to the Treasury in his submission agreed with the findings of the Audit Report. This was caused by thinly spreading of resources on projects; the non-disbursement of funds by donors in some instance and domestic revenue shortfalls.

In order to deal with this perennial problem, The Treasury had an agreement with RDA that contractors should execute works only to the extent of the financing provided for under the budget and as programmed in the RDA Annual Work-Plan. This had, however, not worked well as evidenced from the over commitment.

The Treasury would ensure that it adequately budgeted for anticipated works to be carried out in each particular year. It would further ensure that budgeted funds were fully released according to the Annual Work-Plan.

Further, the RDA would be asked to develop a framework that would help it monitor the performance of the budget against progression of work so that budget provisions were not exceeded.

Submission by the Chief Executive Officer of the National Road Fund Agency

The Chief Executive Officer of the NRFA submitted that this issue was discussed with the RDA and were told that they were going to talk to contractors to execute work only within the budget. The NRFA Board advised RDA to provide enough funds to critical projects and suspend some of them but the advice was ignored.

iv. Cash Flows Projections

The cash-flow statement that was prepared showing a deficit of K33.576 million did in fact take into consideration planned new projects for 2009 although these were mostly of smaller values. Out of the total amount classified as new projects, K 38.6 billion was reserved for activities under RTSA and NRFA. Some projects took long to procure whilst others were co-dependent with activities on donor sponsored activities i.e. STROMAS roll out. For example due to lengthy procurement, two major GRZ projects with provisions of K60.599 billion (MFEZ and Chipata-Mfuwe) were moved for implementation in 2010. Feasibility studies and some small scale civil works do not have sufficient cash flows to support engagement of contractors and would be carried out using force account. Additionally some funds classified as new were for supervision/monitoring/ RDA capital expenditure.

It was a historical fact that the Government had undertaken projects in the past for which funds were never adequately provided for to complete the works. The RDA has had to make extensions on project cash-flow projections to fit within the figures from the Treasury. It was not a hidden fact that the Annual Work Plans have been insufficiently funded over the years. The Government had however, provided sufficient funding in 2010 to oversee the completion of the long standing old projects.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

a. Adequacy of Bid Period

Your Committee observes that this is a question of how the law on procurement is interpreted. Your Committee resolves that the matter should be closed as clearer provisions have been included in the draft procurement regulations.

b. Appointment of Evaluation Committee

Your Committee observes that currently, there is no legal provision specifying who should be appointed on an evaluation committee. The matter should however be closed since this weakness is being addressed by the Zambia Public Procurement Authority.

c. Bids Responsiveness

Your Committee notes that the Zambia Public Procurement Authority is actively carrying out capacity building programmes for small scale suppliers and contractors. The matter should therefore be closed.

d. Consistency in Application of the Evaluation Criteria

Your Committee observes that the criteria for evaluating bids for procurement are specific and not necessarily applied uniformly on different tenders. The matter should therefore be closed.

e. Over Procurement

i. Over Commitment of Funds

Your Committee notes that in the fiscal year 2008, the RDA committed the Government to road works contracts in sum of K1,643 billion against an authorised budget provision of K685 billion resulting in an over commitment of K1,015 billion. The over commitment is only on local funds and not donor funds

Your Committee therefore urges the Ministry of Finance and National Planning, Ministry of Works and Supply, the Committee of Ministers and the two Agencies (RDA and NRFA) to reach a common understanding and find a solution with the Secretary to the Treasury leading the process. Progress should be reported. The Controlling Officer is further urged to caution RDA for flouting the Public Finance Act.

ii. Unauthorised Budget Variations

Your Committee observes that there is need for the Road Development Agency and the National Road Fund Agency to work in harmony. Failure to do so will result in a lot of anomalies in the way public funds are utilised. Already, issues of imprest and variations cannot be normalised because each institution accuses the other as the cause of the irregularity.

For purposes of accountability, your Committee urges the Controlling Officer to immediately seek the intervention of the Secretary to the Treasury and resolve the matter on the variations.

On the issue of approval of the Board to vary funds, your Committee resolves that the matter should be closed subject to verification.

iii. Inadequate Budget Provision

Your Committee observes that this type of query is likely to be recurring every year as long as the national resource envelope remains small. However, the current situation suggests that the Road Development Agency Annual Work Plans are not synchronised with the resources under the control of the National Road Fund Agency. The Controlling Officer is strongly advised to adhere to his assurance to your Committee that road projects will be linked to available resources in a particular year.

iv. Cash Flows Projections

Your Committee resolves that the cash flow figures should be reconciled.

MANAGEMENT OF CONTRACTS

AUDIT PARAGRAPH 8

9. The Auditor-General reported as set out below.

a. Omission of Auditor-General's Clause

Contrary to Section 8 of the Public Audit Act, which required all contracts that involve expenditure of the public funds to have a provision empowering the Auditor-General to have access to and examine all books, records, papers relating to the contract, the Agency did not make a provision in the contracts outlined hereunder.

Contract	Contract Price K
Bauleni Turn-Off to State Lodge and selected roads in Nyumba Ya	18,199,144,715
By pass road from Kafue to Chilumbulu Road	14,637,211,088
Mpongwe District: St Antony Road, Lot 7	569,927,875
Kemuz-Teka Farm to Silangwa Road	1,932,202,140

b. Non-availability of Designs / Drawings during Tendering

The purpose of designs/drawings was to comprehensively identify the scope and cost of the project and eliminate inappropriateness, inefficiency, error, omission, fault or other defects during implementation and use. The designs were the major input in the preparation of the engineer's estimates and the Bill of Quantities (BOQs).

The absence of designs/drawings led to preparation of inaccurate BOQs which in turn led to variations in the contract, re-scoping of works and extensions of time thereby delaying completion of projects.

It was observed that there were sixteen (16) contracts with a total contract sum of K644, 062,439,475 for which designs/drawings were not prepared at the time of tendering the works. The contracts involved are detailed below.

Contract	Contract Price K
By pass Rd from Kafue/Lumumba to Chilumbulu Rd	14,637,211,088
Ngwerere to Chisamba (D176) & Ngwerere to Intl Airport(D753)	13,037,826,849
Palabana Rd (D153) & state Lodge (D156)	2,848,430,750
Lusaka Intl Airport to Luangwa Bridge (T004)	80,168,600,476
Selected city Rds in Lusaka Province	77,741,065,600
Luansobe to Mpongwe Rd	90,097,344,487
St Anthony Rd, Mpongwe District	569,927,875
Town centre-Roan Mpatamatu Rd	24,328,222,699
Kamfinsa Rd(D249)	14,215,874,275
Lusitu Bridge along M15	7,786,786,786
Monze-Niko-Chitongo & Hamusonde-Maala Rd	24,670,539,465
Choma -Chitongo Rd	164,572,767,310
Chipata Townships Rd	34,379,087,318
Petauke to Chilongozi Rd & Ukwimi Sonja	26,933,372,884
Lumwana to Mwinilunga	67,907,796,063
Mansa to Fiyongoli Farm Block	167,585,550
Total	644,062,439,475

SUBMISSION BY THE CONTROLLING OFFICER, MINISTRY OF WORKS AND SUPPLY, AND RDA MANAGEMENT

The Controlling Officer, Ministry of Works and Supply in conjunction with the RDA Management submitted as set out hereunder.

a. Omission of Auditor-General's Clause

The Auditor-General's comments were noted and the RDA would endeavour to include this Clause in all future contracts.

b. Non-availability of Designs / Drawings during Tendering

The purpose of designs/drawings was well captured in the Auditor's Report, however, variations were not always due to inaccurate BOQs or indeed absence of designs/drawings. All the details of geometric profiles and cross sections were adequately detailed in the specifications of the bidding document. For drainage structures, standard drawings were made available. These details were important to contractors for pricing of bids. The assessment of gravel roads for periodic maintenance was carried out as a rapid visual method in view of the limited implementation period of the budget cycle in the Annual Work Plan. Consequently standard cross section drawings were used to arrive at estimated quantities and cost. There were no drawings required for vegetation control and grading. Re-gravelling was done to restore to standard cross-section. It was common practice for some of the detailed drawings to be done during the implementation stage.

However, the Procedures Manual being developed by the RDA would further assist in the planning of roads. A checklist would be included in the Procedures Manual that would help to ensure that all aspects of the contract such as drawings were included. The table below highlights the projects for which the Auditor-General had requested drawings which were subsequently provided.

Contract	Contract Price K	Comment
<i>By pass Rd from Kafue/Lumumba to Chilumbulu Rd</i>	14,637,211,088	<i>This was a design and build project for v drawings were not necessary at bidding stage.</i>
<i>Ngwerere to Chisamba (D176) & Ngwerere to Intl Airport (D753)</i>	13,037,826,849	<i>Periodic maintenance; Standard Drawings availed to the Auditors</i>
<i>Palabana Rd (153) & State Lodge (d156)</i>	2,848,430,750	<i>Periodic maintenance; Standard Drawings availed to the Auditors</i>
<i>Lusaka Intl Airport to Luangwa Bridge (T004)</i>	80,168,600,476	<i>Periodic maintenance; Standard Drawings availed to the Auditors</i>
<i>Selected city Roads in Lusaka Provinc</i>	77,741,065,600	<i>Standard Drawings were availed to the Auditors</i>
<i>Luansobe to Mpongwe Rd</i>	90,097,344,487	<i>Standard cross sectional and drainage struc Drawings were availed to the Auditors</i>
<i>St Anthony Rd, Mpongwe District</i>	569,927,875	<i>Standard Drawings were availed to the Auditors</i>
<i>Town centre-Roan Mpatamatu Rd</i>	24,328,222,699	<i>Standard Drawings were availed to the Auditors</i>
<i>Kamfinsa Rd (D249)</i>	14,215,874,275	<i>Standard Drawings were availed to the Auditors</i>
<i>Lusitu Bridge along M15</i>	7,786,786,786	<i>Standard Drawings were availed to the Auditors</i>
<i>Monze-Niko-Chitongo & Hamusoni Maala Rd</i>	24,670,539,465	<i>Periodic maintenance; Standard Drawings availed to the Auditors</i>
<i>Choma-Chitongo Rd & Ukwimi Sonja</i>	164,572,767,310	<i>Standard Drawings were availed to the Auditors</i>
<i>Chipata Townships Rd</i>	34,379,087,318	<i>Standard Drawings were availed to the Auditors</i>
<i>Petauke to Chilongozi Rd & Ukwimi S</i>	26,933,372,884	<i>Standard Drawings were availed to the Auditors</i>
<i>Lumwana to Mwinilunga</i>	67,907,796,063	<i>Periodic maintenance; Standard Drawings availed to the Auditors</i>
<i>Mansa to Fiyongoli Farm Block</i>	167,585,550	<i>Standard Drawings were availed to the Auditors</i>
Total	644,062,439,475	

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

a. Omission of Auditor-General's Clause

While appreciating the assurance from the Controlling Officer, your Committee urges him to direct the RDA Management to take disciplinary action on officers responsible for this serious omission.

b. Non-availability of Designs / Drawings during Tendering

Your Committee finds the development of a procedures manual for the RDA a progressive initiative. From the audit queries, it is evident that a lot of procedures are *ad hoc* resulting in many omissions. The Controlling Officer and RDA Management are requested to report progress on the Procedures Manual.

LUSAKA PROVINCE

AUDIT PARAGRAPH 9

10. The Auditor-General reported as set out hereunder.

a. Design and Construction of Selected Chalala Roads, Mosi-O-Tunya Road Extension, Part of Shatumbu Road and South of Chilenje South Newly Constructed Road Parallel to Zesco Pylons Based on Integrated Construction Unit (ICU) Method of Works

In September 2008, the Zambia National Tender Board (ZNTB) conveyed its authority to the Roads Development Agency (RDA) for the award of a contract to Brian Colquhoun, Hugh O'Donnell and Partners (Z) (BCHOD) for the design, supervision and construction/upgrading of selected Chalala roads, Mosi-o-tunya

road extension and part of Shantumbu road and south of Chilenje South based on Integrated Construction Unit (ICU) method of works. The contract price was K36, 896,223,626 inclusive of VAT and the contract was expected to be completed within period of eight (8) months. The contract was signed on 21 October 2008 and was to start on 7 November 2008 and end on 3 August 2009.

The scope of works included consulting services for the design, supervision, and construction/upgrading of 15.3km selected roads in Lusaka Province.

The following were observed:

i. Poor Contract Management

As of June 2009, 15.4km earthworks had been done and an amount of K14, 143,540,178 had been certified. According to the minutes for the project management meeting held on 19th June 2008, RDA informed the Consultant that payments on the project would be delayed because the paying agency had no resources. The RDA's Chief Executive Officer therefore, instructed that the project would be funded only up to K10 billion and works to be done to this extent only. Further, RDA requested the contractor for a price for maintenance works.

To this effect the contractor (BCHOD) informed the meeting that the maintenance would not completely protect the works from deterioration and that there would be additional costs to remedy the damage that would be occasioned to the incomplete road sections.

On 18 September, 2009, a variation order No 2, was submitted for the extension of time as a result of the order to suspend the works. The application for extension of time was with cost, time related costs, maintenance or gravel re-dumping costs and re-mobilization totalling to K5, 941,011,000 for a period of three months (94 days).

ii. Delayed Implementation

Although the duration of the project was eight (8) months commencing 7 November 2008 and ending on 3 August 2009, as of October 2009, only 37% of the works had been done and the contractor had been paid K14,143,540,178.

iii. Physical Inspection

A physical inspection revealed that the sub base layer was constructed and was not protected from traffic. This led to damaging of the surface and loss of material. The work would have to be made good at unnecessary additional cost resulting into wasteful expenditure of public funds.

b. Periodic Maintenance of Road D176 Ngwerere to Chisamba and D753 Ngwerere to Lusaka International Airport In Lusaka (TB/CE/031/07)

On 4 March 2008, the Zambia National Tender Board conveyed its authority to the Roads Development Agency (RDA) for the award of a contract to Raubex Construction Limited for the Periodic maintenance of D176 Ngwerere to Chisamba and D753 Ngwerere to Lusaka International Airport at a contract price of K13, 037,826,848.75 with a completion period of six (6) months. The contract was signed on 1 June 2008 and was to start on 15 June 2008 and end on 15th November 2008.

The Scope of works comprised clearing and grabbing-88km, drainage clearing, repairs and installations, road formation-88Km, gravelling-73,000m³, installations of road signs-29No, landscaping and grassing(Planting grass)

The project was supervised by the Road Development Agency -Lusaka Regional Office.

As of October 2009, a total of K8, 515,183,464 had been paid to the contractor representing 65% of the contract sum.

The following were observed:

i. Delayed Completion of Works

As of September 2009, the works had not been completed despite the contractor having been awarded an extension of time.

RDA did not claim liquidated damages resulting from the delay in completing the works as stated in the contract which would have amounted to a maximum of K1,303,782,683 (10% of value of contract price).

ii. Physical Inspections and Test of Materials

Quality of Materials Used

The quality of gravel used was varying. In some cases big stones were found on the road indicating that some of the selected material had much bigger stones resulting in the quality of the road being compromised.

Plasticity and gradation tests carried out on a borrow pit sample revealed that the plasticity of gravel sample was too high (PI>6%) and the gradation did not fit in SATCC grading envelope.

The road structures at some places were not provided with erosion control measures as noted in some areas along the road. The erosion has also affected part of the road.

Drainage Structures

A test of the strength of the concrete using the Schmidt Hammer revealed that there was a significant variation when compared with what was specified i.e. 25 N/sq.mm (Newton per square millimetre). Results ranged from less than 10 to as high as 42 N/sq.mm.

An inspection of culverts revealed that there were various damages on the structures such as cracks and breakages. Some culverts had silted while others had not been provided with headwalls.

c. Emergency Periodic Maintenance of Palabana and State Lodge Roads in Chongwe District of Lusaka Province, Tender No.RDA/SP/0011/08

In June 2008, the Agency awarded a contract to Mango Tree Construction Company for the emergency periodic maintenance of Palabana (D153) Road (12Km) and State Lodge (D156) Road (8Km) at a contract price of K2, 848,430,750 for a period of two and half (2.5) months. The contract was signed on 12 June 2008 and was to start on 2 July and end on 17 September 2008. The scope of works included road formation, gravelling, drainage and installation of roads signs and the project was supervised by Chongwe District Council.

Though the works had been completed and the contractor had been paid in full as of October 2009, the following were observed:

i. Variations

On 25 August 2008, a certificate of practical completion of the works was handed over to RDA by Chongwe District Council as the supervisor of the works. During the period of the defect liability, stone pitching which had been constructed on the downstream side of the road was washed away. In this regard, a variation order No.2 amounting to K64,500,000 was approved on 6 February 2009 making use of the contingency amount in the bill of quantities. However, there was no report done by the supervising engineer to establish whether the wash away was as a result of poor workmanship by the contractor or an act of God.

It was also observed that the variations were made after the completion date of the contract (17 September 2008) and after a practical completion certificate had been issued. This was contrary to standard contract management practices as variation orders were issued during the period of the contract before the certificate of practical completion was issued.

ii. Overpayment on Certificate Claims

Although the amount due to the contractor's in respect of fixed obligations was K385, 000,000, the Agency paid K393, 000,000 resulting in an overpayment of K8, 000,000.

It was also observed that there was no evidence of approval that the contractor obtained for four (4) extra prefabricated culverts at a cost of K69, 300,000 bringing the total billed amount on this item to K277, 200,000. The original billed quantity for the 900mm diameter was twelve (12) units costing K207, 900,000.

Furthermore, it was observed that included in the contractor's claim of K2, 848,430,750 was an amount of K23,375,000 in respect of employer's representative allowances, accommodation and maintenance of the supervisors vehicle. However, there was no evidence that the funds were remitted to RDA.

Physical Inspections

A physical inspection of the road revealed the following:

iii. Gravel Quality

The overall quality of gravel used on State Lodge road was poor as it contained big particles and the binding effect was missing. The small particles were worn out leaving behind the rough surface with ruts and corrugations.

iv. Payment of Work not Done

Included in the amount paid to the contractor was an amount of K23, 100,000 in respect of the installation of twenty new standard road signs. However, it was observed that only seven (7) signs costing K8, 085,000 were installed by the contractor leaving a balance of thirteen (13) signs costing K15, 015,000 outstanding.

d. Periodic Maintenance of Road T004 from Lusaka International Airport Turn off to Luangwa Bridge

In June 2008, the Agency engaged Raubex Construction Limited for the periodic maintenance of road T004 from Lusaka International Airport turnoff to Luangwa Bridge at a contract price of K80, 168,600,476. The contract was for a duration of eighteen (18) months commencing 10 July 2008. The scope of works comprised pothole patching and edge break repairs, reinstatement of existing drainage facilities, rehabilitation of existing shoulders, reconstruction of selected sections of the existing pavement, double seal surface dressing, road marking and permanent signage. The project was supervised by Messrs Brian Colquhoun Hung O'Donnell and Partners.

As of October 2009, 65% of works had been completed and the contractor had been paid K25, 652,398,499. In this regard, the following matters were revealed.

i. Late Recruitment of the Supervising Consultant

It was observed that whereas the commencement of the works by the contractor was 10 July 2008, the supervising consulting engineer for this project was recruited on 17 September 2008, two (2) months after the contract had commenced.

ii. Physical Verification

A physical verification of the road revealed the following:

Peeling off of Surface Dressing

Peeling off of aggregates on the first seal of surface dressing was observed along the Airport Luangwa road.

Peeling off of Surface Dressing on Shoulders

The surface dressing on the shoulders had peeled off at various locations. It was observed that there was no bond between the surface dressing and the base course.

Use of Wrong Size of Aggregates

The specifications of Particular Application had specified the size of aggregates for the second layer to be between 6-13.5mm while in the bill of quantities it was defined to be 6-10mm. It was however observed during the site visit that the contractor at some points had provided aggregates of more than 13.5mm. According to the engineer on site, the redesign had recommended the second layer to be between 5-9.5mm but since the consultant was employed late, his recommendation was given when the contractor had already prepared a substantial amount of aggregate of 13.5mm.

iii. Test Results

Tests carried out were as follows:

- i) base course thickness tests on three samples;
- ii) surface dressing thickness measurement on three samples;
- iii) bonding tests on one section;
- iv) visual assessment of aggregate sizes;
- v) content of cement for stabilisation on two samples; and
- vi) gradation on one samples.

Results for the above tests were as follows:

- i) two base course thickness tests failed. They both measured 140 mm against 150 mm specified. The third sample measured 155 mm;
- ii) all three surface dressing thickness tests measured 10 mm against 14 mm expected;
- iii) wearing course was easily stripped from the base course;
- iv) aggregates were observed to be bigger than aggregates required for similar activities;
- v) samples had 1.5% and 1.7% cement content respectively against 3% specified; and
- vi) gradation fitted in a corresponding SATCC grading envelope.

e. Periodic Maintenance and Rehabilitation of 45km of Selected City Roads in Lusaka Province

In May 2008, the Agency engaged Road and Paving Zambia Ltd for the periodic maintenance and rehabilitation of 45km of selected city roads in Lusaka Province at a contract price of K77, 741,065,600 with a contract period of eight (8) months commencing 10 September 2008. The scope of work comprised pothole patching and edge break repairs, major milling of some sections, reconstruction, asphalt levelling course, asphalt wearing course, surface dressing, drainage and road marking.

The road network under this project had the following roads:

- i) Mungwi Road;
- ii) Twikatane/Zingalume Road;
- iii) Kasupe Road;
- iv) Airport Road; and
- v) Njolwe Road leading into Lumumba.

The project was supervised by Messrs ASCO Consulting Engineers.

As of October 2009, 52% of the works had been completed and the contractor had been paid K26,635,303,863.

The following were observed:

i. Late Recruitment of the Supervising Consultant

The supervising consultant was engaged on 29 October 2008 while the works contract commenced on 10th September 2008 resulting in a delay of over one (1) month.

ii. Physical Verification

A physical inspection of the road revealed that there was no embankment constructed at Chainage 1.6 to 2.6 of Zingalume road and the level of the road was below the adjacent ground levels

f. Periodic Maintenance of Namalundu Road Off T2 Kafue Gorge (D396) in Lusaka Province

In October 2007, the Agency engaged China Geo- Engineering Corporation for the periodic maintenance of Namalundu Road off T2 Kafue Gorge (D396) in Lusaka Province at a contract sum of K14,762,834,185 with contract duration of four (4) months commencing 30 October 2007. The scope of works included drainage works, pothole and edge repairs and crack sealing, bituminous courses /pavement repairs among others and the project was supervised by RDA.

Below is a list of contractors who submitted bids:

Bidder	Bid Sum	Completion Period
	K	
Roads & Paving (Z)	8,012,224,119	158 days
China Geo Eng. Corp	14,762,834,185	4 months
Landmark Construction Ltd	7,935,423,425	4 months
Raubex Construction (Z) Ltd	6,255,459,595	110 days

The following were observed:

i. Questionable Composition of Evaluation Committee

The composition of the Evaluation Committee was not well balanced in that it constituted of three (3) officers from the same department namely a Principal Engineer Planning and Design and two (2) Planning and Design Engineers.

ii. Preliminary Evaluation Results

The Report revealed that Messrs Roads and Paving Zambia Limited which was the second highest bidder was found to be non responsive because the bid security was for eighty nine (89) days as opposed to one hundred and twenty (120) days.

Further, Landmark Construction Limited which was the lowest second bidder at K7,935,423,425 was found to be none responsive because for the following reasons:

- no National Council for Construction Registration Certificate was attached;
- the bid did not state whether the firm was free from corrupt and fraudulent practices; and
- the bid did not state whether the firm had associated in the past with the consultant or any other entity that had prepared the design, specifications and other documents for the contract.

From the above, it could be noted that the reasons advanced could have been considered to be minor deviations which the client could have requested for clarification, for example, to disqualify a bidder on the basis of third bullet point raised a lot of concern as there were no drawings or consultant and the

bid document was prepared by the Agency.

iii. Technical Evaluation Results

Raubex Construction (Z) Ltd and China Geo Engineering Corporation were technically evaluated.

The Evaluation Committee found the bid from Messrs Raubex Construction non responsive because it did not propose qualified surveyor for the project. In this regard, the Agency through the Zambia National Tender Board awarded the contract to the highest bidder at a tender sum of K14, 762,834,185 for a period of four (4) months.

The basis of disqualifying Raubex Construction (Z) Ltd was a minor deviation as staff on contract was replaceable at the any point in the project life. Had the Committee acted in the best interest of the Agency and the Government at large, a sum of K8, 507,374,490 would have been saved.

iv. Irregular Payment for General Obligations

The Contract agreement provided the following among other clauses under specifications of particular application.

Item B1.1-1 of the contract, Contractor's General obligations, stated that the payment could be made in two (2) instalments, that is, first instalment 60% of the lump sum after contractor had met all his obligations under the section and had made a substantial start with construction in accordance with approved programme.

The second and final instalment of 40% of the lump sum would be paid when the works had completed and the contractor had fulfilled all the requirements of the section (demobilisation)

Contrary to the provisions of the contract, the General Obligations were paid in each interim payment certificate. The final payment certificate issued before the substantial completion certificate indicated that 100% of the general obligations had been paid.

It could not be ascertained as to why the Agency paid the contractor the full amount before fulfilling the contractual obligations.

v. Irregular Contract Document

The contract form of agreement had no date of signing. The cover to the contract document indicated October 2007. The contract data revealed that the start date would be fourteen (14) days after signing of the agreement. In the absence of the date of signing it was difficult to determine the contract commencement date. However, a review of the progress report indicated that the contract commenced on 14th December 2007, forty-five (45) days after the award of the contract.

It was also observed that the Section IX for the drawings/maps was blank. Consequently, the scope of works changed after commencement of the works with a section of 6.5 KM requiring reconstruction.

vi. Lack of Material Testing on Site

There was no provision for material testing on site. A review of the minutes of the third site meeting held on 10th March 2008 revealed that the contractor had been taking his materials for testing in Livingstone. However, a review of the minutes of the fifth site meeting held on 9th May 2008 revealed that an independent test to check the quality of workmanship on the reconstruction that the contractor had done indicated that the whole section had failed.

SUBMISSION BY THE CONTROLLING OFFICER, MINISTRY OF WORKS AND SUPPLY, AND ROAD DEVELOPMENT AGENCY MANAGEMENT

The Controlling Officer, Ministry of Works and Supply in conjunction with the RDA Management submitted as set out hereunder.

a. Design and Construction of Selected Chalala Roads, Mosi-O-Tunya Road Extension, Part of Shatumbu Road and South of Chilenje South Newly Constructed Road Parallel to Zesco Pylons Based on Integrated Construction Unit (ICU) Method of Works

i. Poor Contract Management

The budget lines provided in the Annual Work Plan (AWP) were estimates and rarely matched with bids received. The contract was awarded to the best evaluated bidder at K36, 896,223,626 with a completion period of eight (8) months. The provision in 2008 AWP budget was K4,500,000,000 and K10,000,000,000.00 in 2009 AWP which indeed of itself was inadequate but was intended to draw from other slow performing projects. Further, available funds for project implementation were further affected by the MTEF reduction.

The Variation Order No. 2 was a subject of negotiations. K 20 Billion had been budgeted for in the 2010 AWP and the balance would be secured from unutilised funds from other projects as per principle of basket funding.

Submission by the Secretary to the Treasury

The Secretary to the Treasury in his submission on the matter stated that the shortfall of funds was caused by spreading resources thinly on projects, the non-disbursement of funds by donors in some instances and domestic revenue shortfalls.

ii. Delayed Implementation

The RDA had instructed the contractor to scale down the works to fit the available funds under the AWP2009, with the rest of the works resuming in early 2010. The amount of funds paid reflected the works carried out.

iii. Physical Inspection

The contractor would carry out remedial works at no additional cost. It was not possible to provide detours in urban areas. The contractor had again mobilised to site and would construct roads up to surfacing within available cash-flow. The work had to be stopped during the rainy season.

Submission by the Partner Brian Colquhoun Hugh O'Donnell and Partners

The Partner in Brain Colquhoun Hugh O' Donnell and Partners (BCHOD) in his response to issues raised submitted as follows:

Poor Contract Management

The contract was slow to get off the ground in that the contract had been awarded in October 2008. The first phase of the project involved the gathering of field data and doing a comprehensive design. This took approximately two months after which the construction would begin. This time frame unfortunately placed the start of the construction period at the onset of the rainy season at the beginning to December. The contractor mobilised to site at the end of March/beginning of April 2009. The contractor was on site a little over two months before the instruction to stop all works was issued by the client in mid June 2009. This was first discussed at a meeting at RDA on the 19 of June 2009.

Delayed Completion of Works

The completion of the works was delayed due to the instruction issued to BCHOD (Z) by the client (RDA) on 19 June 2009. The client instructed that the project should proceed only up to a budget limit of K10 billion as this was the amount of funds allocated for the project in the GRZ budget for 2009. Therefore, all works were to stop once the budgeted threshold of K10 billion was reached.

The budgeted amount of K10 billion for 2009 was not sufficient to complete the works and therefore, the works could not have been completed in 2009. The experience in 2009 was that payment that became due early on in the year was only paid in February 2010. In the yellow book, K19 billion had been allocated for the 2010 fiscal year but this still fell short of what was required to complete the works. This year BCHOD observed that the RDA was still having persistent funding problems.

BCHOD had, therefore, instructed the contractor to programme the works to this level of funding, in order to carry out a phased development and possibly completing one road at a time instead of dealing with the entire development at once.

Quality of Works

The works started with road formation and placement of fill layers and sub-base. This carried on until early 2009 when an instruction to stop works was issued to BCHOD by the Client. All the placed material was checked for compliance with specifications and had been deemed to be satisfactory. The compaction of the placed layers was all within specification. Thus, at the time when the request to cease works was made, all the works which had been carried out had been to specification.

The failure to 'protect' the works, in particular, the sub-base, was due to the fact that this project was being carried out in a built up area where local residents required access to their properties and businesses. There was no space for other measures to be put in place such as construction of deviations so as to keep the traffic off the newly constructed road layers. This had been pointed out to the client in the meeting of 19 June 2009. The client accepted the inevitability as it was emphasised that there would be future claims with regards to reconstruction of road layers.

The client had requested BCHOD to prepare a price for the upkeep and maintenance works. This was presented to the client in the form of a Variation Order No. 1 submitted on the 19 August, 2009. Their response to this Variation Order was given on the 30 September 2009 and that it stated that the Variation Order was unacceptable due to the high cost and that BCHOD should proceed to construct 'speed depressions' of at least 10cm in depth in order to try and keep the speed of the traffic down and hence, minimise the damage to the road layer. This was done as instructed. However, it failed to protect the structural layers especially upon the onset of the 2009/2010 rainy season.

By the end of the 2009/2010 rainy season, the contractor had returned to site and had done some light grading of the roads to eliminate any corrugations which might have developed on the roads. It was then evident that most of the structural layers on the roads had eroded away and that most of the roads had deteriorated further and in some cases, even up to roadbed level. That would inevitably drive the cost of the project up as the work would now have to be redone. However, measures were being undertaken to keep the cost implication to a barest minimum.

b. Periodic Maintenance of Road D176 Ngwerere to Chisamba and D753 Ngwerere to Lusaka International Airport in Lusaka (TB/CE/031/07)

i. Delayed Completion of Works

The observations were noted but stated that no land owner was initially willing to allow the contractor to extract the gravel from their farms. This led to the delay in completion. However, the works were completed within the extended completion period at no additional cost to the client; the Practical Completion Certificate was issued.

ii. Physical Inspections and Test of Materials

Quality of Materials Used

The Contractor was asked to re-do the works where more plastic gravel was incorporated and the retention money will not be paid until corrective measures were done. Only marginal quality material was available in this area. The defective section had been reduced from the latest Interim Payment Certificate.

Multiple sources of gravel had to be sourced due to the long stretch of the road. This led to different material properties being encountered, although the first section where some bigger stones had been seen was on the borderline of the gravel specifications for base course gravel. Only 3km of the road was defective out of 88km and this would be addressed during the Defects Liability Period. The Contractor had been requested to re-work the sections.

Drainage Structures

The Schmidt Hammer test was inappropriate for measuring the strength of concrete in a technical audit. It gave results that vary in the range of up to 40% and was not the recommended test in the Specifications and was therefore used in error for this purpose.

Concerns regarding protection works were noted. Broken headwalls were attributable to accidents involving vehicles and the contractor would need to be paid to re-do them, the cracked headwall would be repaired by the contractor as it was a defect. An inspection carried out revealed that the culvert reported to have no headwall was in fact vandalised by the farmer who knocked off the headwall and placed extra culvert rings so as to increase the width of the access but did not install the headwall and wing walls. The contractor had mobilised to do the work that was due to defects.

When asked whether the farmer who vandalised the headwall had compensated the RDA, the Executive Director responded in the negative, stating that it was difficult to investigate and follow-up because of lack of RDA investigative structures at district level.

Submission by the Managing Director Raubex Construction Limited

The Managing Director of Raubex Construction Limited in his submission on the issues raised on the Road Project stated as set out hereunder.

Delayed Completion of the Works

The contract was completed on time on 7 March 2009 and a Certificate of Substantial Completion was issued. This was contrary to the Audit Report that stated that work had not been completed in September 2009.

The contract period had been extended to 7 March 2009 on account of the following delays:

- *the private land owners adjacent to the road refused access to borrow materials. This caused a delay twenty-three days. They were eventually sold gravel by the land owners.*
- *the election; and*
- *heavy rain was experienced during the 2008/9 rainy season.*

Quality of Materials used

The sourcing of gravel for the contract was a major problem. In terms of the contract, the gravel was to be sourced by the RDA but the private land owners adjacent to the road refused to cooperate with the RDA. Therefore, Raubex had to pay the land owners directly for the gravel that was made available and was never reimbursed for these costs.

Insufficient provision was made in the contract for hauling gravel over long distances and this severely restricted the available sources of gravel along the entire road. It was, therefore, necessary to make the best use of the material available close to the road. All borrow pits were tested by the RDA laboratory and approved before they were used for construction. Although some materials were close to the limits of the specification, only gravel approved by the RDA laboratory was used.

It was agreed between Raubex and the RDA Regional office that the first 2 km from the Great North Road be reworked and this work was currently under way.

Although there was some erosion behind the culvert headwalls, this damage was very small and limited to only a few culverts. It should be appreciated that some erosion was inevitable after two rainy seasons and that it can easily be repaired during routine yearly maintenance.

The Plasticity Index for gravel used on re-gravelling contracts should be above 6 and preferably be about 12. The statement that the PI should be less than 6% showed a lack of experience in the construction of gravel roads.

Drainage Structures

The design of the culvert headwalls was such that they protrude with square edges. This design lends itself to damage by passing traffic and maintenance graders. The top of a headwall should be at ground level and that the wing walls should reach the top of the headwall. This design was less prone to damage and was safer in the event of vehicular accidents.

This was a commercial farming area and farmers moved large agricultural machines along and across the road. As these machines were often very wide, low and heavy, damage to the headwalls was inevitable. Due to cost restraints, the access pipes were very short and this compounded the difficulty the farmers had to move their equipment and caused more damage to the headwalls. All the culverts built under the contract were provided with headwalls. The culverts reported in the Audit Report as not having headwalls were either installed by private land owners or were extended by farmers. This could have been pointed out to the Auditors, if Raubex had been given the opportunity to accompany them on their inspection. The Schmidt Hammer was a very unreliable test of the compressive strength of concrete.

c. Emergency Periodic Maintenance of Palabana and State Lodge Roads in Chongwe District of Lusaka Province, Tender No.RDA/SP/0011/08

i. Variations

The observations of the Auditor-General were noted and accepted. The wash-away was caused by inclement weather and the work was carried out because it was essential as the road would have been cut off.

ii. Overpayment on Certificate Claims

The exceeded bill items were an approved variation as covered in the addendum which was availed to the Auditor-General. Supervision allowances were not certified nor remitted to RDA on this contract because the project was being carried out in Lusaka and the supervisors were stationed in Lusaka.

Submission by the Secretary to the Treasury

The Secretary to the Treasury submitted that the overpayment on public works should be checked as such an action was against Financial Regulations and were tantamount to misappropriation of public funds. These cases once proven should be reported to law enforcement agencies for further action.

The Treasury would direct the Controlling Officer to ensure that funds overpaid were recovered from future payment certificates if the contracts were still active. In cases where the contracts were not active, RDA would have to institute measures to recover the funds.

Physical Inspections

A physical inspection of the road revealed the following:

iii. Gravel Quality

Gravel was generally scarce in the project vicinity. However, the gravel used on this project although with some over-sized stones, generally met the minimum standard.

iv. Payment for Works not Done

All the road signs included in the contract were installed by the contractor. However, most of them were stolen while others were vandalised. The vandalising of road signs was a known major problem on most road projects.

Submission by the Secretary to the Treasury

The Secretary to the Treasury in his submission stated that the Treasury expected any excess money paid beyond the entitlement of the contractor to be repaid to the Government by the Contractor. Overpayment of contracts was tantamount to fraud.

The Controlling Officer would be directed to ensure that the funds were recovered by RDA. Where there was proof that funds were overpaid for work not done, such overpayment should be reported to investigative wings.

d. Periodic Maintenance of Road T004 from Lusaka International Airport Turn off to Luangwa Bridge

i. Late Recruitment of the Supervising Consultant

In the first few months the Contractor was mobilising and very limited volume of work was undertaken. The supervision was therefore carried out by equally very well qualified RDA staff. The Chief Engineer - Maintenance with over twenty years experience on road works was supervising the project in the first few months.

ii. Physical verification

Peeling off of Surface Dressing

The peeling off of aggregate observed on the road was corrected by the contractor at own cost. The works were ongoing and no completion certificate had been issued yet. It was normal on road projects to have defects developing, hence the various contractual provisions for acceptance testing, snag lists and defects liability period. The defective area only covered about 10m² whereas the total surface to be resurfaced is 683,000m²

Peeling off of Surface Dressing on Shoulders

The defects were observed and the contractor had been instructed to remedy the same. The works were ongoing and no completion certificate had been issued yet. The work was not complete at the time of audit and was subject to further inspection.

When asked whether the RDA had taken interest to investigate why the same contractor had the same problem of peeling on three other roads over the same period, the Director of RDA responded that such defects were normal in road construction and may arise due to oil spillage, poor bitumen and extreme temperatures, among others.

Your Committee expressed concern at the magnitude of errors by the same contractor. The Controlling Officer responded that in order to check the consultants, the RDA was planning to start stationing a site clerk at every project. This measure was however, subject to discussion with cooperating partners.

Use of Wrong Size of Aggregates

The observations were noted. However, this problem was noted by the consultant during RDA supervision of the road and the works had been rejected on this section and not paid for until the Contractor remedied the section; from Km 18 onwards the contractor was made to comply with the specifications and the works were holding accordingly. The works were available for inspection.

iii. Test Results

- i) There was no road base construction on this contract therefore the tests carried out were inappropriate, however, if the thicknesses were for the shoulders, they were within the accepted tolerance.
- ii) The test carried out was inappropriate. Surface dressing thickness was dependent on specified aggregate size.
- iii) The peeling off of aggregate observed on the road was corrected by the contractor at own cost. The works were ongoing and no completion certificate had been issued yet. It was normal on road projects to have defects developing, hence the various contractual provisions for acceptance testing, snag lists and defects liability period. The defective area only covered about 10m² whereas the total surface to be resurfaced was 683,000m².
- iv) Refer to (iii) above.
- v) The test carried out was not known and not specified and was not discussed with the RDA. There was no reconstruction of base on the carriageway except on the shoulders. Cement content was not a pay item. Only unconfined compressive strength tests were specified in this contract and the compliant test results obtained by the consultant were attached.
- vi) The comment on the gradation being compliant contradicted the Auditor's observations of non compliance of aggregate sizes given above.

Submission by the Managing Director Raubex Construction Limited

The Managing Director in his response to queries raised submitted as set out below.

Peeling off of Surface Dressing

The picture shown in the Audit Report was of the primed shoulder, not the surface dressing on the base. The road had to be primed as soon as possible after the stabilization of the shoulder had been completed and at least four days before the surface dressing was applied.

A few facts had to be considered at this stage:

- *the carriageway was quite narrow (3,05m);*
- *the primed shoulder was black and looked like new road;*
- *this road carried a lot of traffic;*
- *the traffic load on this road was a large number of heavy trucks and buses;*
- *the road was in a very good condition; and*
- *traffic on this road moved very fast.*

In light of the above, it was inevitable and unavoidable that damage would occur to the stabilised shoulder in the time between when it was primed and when the surface dressing was applied. Large trucks and busses traveling at great speed caused damage to the primed shoulder. The important issue was what was done to rectify this problem. On every section, repairs to the primed shoulder were made before the surface dressing was applied. This was normal practice and was supervised by the consulting engineers. All the shoulders had now been primed and surfaced. They were in very good condition and could easily be inspected again.

Peeling of Surface Dressing on Shoulders

A very fresh seal could easily be removed from the base. This was not abnormal. The performance of the surface dressing should not be rushed. It was for this reason that a maintenance period of one year was applicable on contracts. On some sections, damage to the old shoulders caused damage to the existing base. During the reconstruction and stabilisation of the shoulders, small localised sections of this damages base was not repaired during the shoulder reconstruction. To extend the width of the construction of the shoulder to accommodate these localised places would have been a waste of RDA money. These localised places had been repaired as potholes as was agreed with the consulting engineers on site.

Use of wrong Size of Aggregates

The Specifications of Particular Application specified that the size of the aggregates for the second application be 6-13.5mm. At the start of the contract, a crusher was established and the stone for the seal was crushed. When the engineer was appointed, BCHOD requested that the 5-9.5mm stone be used for the second seal. By this time, all the required stone for the second seal had already been crushed. This meant that the stone can be screened or new stone be crushed for the second seal, with cost implications. The decision was then made to stick to the original design.

A double seal with 19mm and 13mm stone was not a standard seal and was very unusual. Raubex, however had to do the same on the previous contract between Solwezi and Mwinilunga which was completed before the commencement of this contract. It was therefore not a new design in the opinion of Raubex, although Raubex did not agree with it.

Test Results

Thickness of Base Layer

Two tests showing a base coarse thickness of 140mm did not mean that the base course was out of specification. A tolerance applies and a certain number of thicknesses could be less than 150mm. The thickness of the base coarse was constantly checked by the consulting engineer and, as a whole, was acceptable. Raubex was not present during these tests and could not therefore agree with the results. If the thickness of the base was measured by drilling cores, this was not acceptable. The thickness of the base layer should be measured by the digging of trial pits.

Wearing Coarse Thickness

The Average Least Dimension (ALD) of the stone used was constantly checked. It was impossible for the ALD and grading to be correct and the seal to be too thin if the surface does not strip. The test results in the Audit Report stated that the surface dressing stone fitted in to the SATCC grading envelope. It also stated that the stone was bigger than aggregates required for similar activities. Raubex was not sure how the grading can be right if the stone was too big.

Stripping of Wearing Course

On fresh seal, it was normal that the surface dressing was easily removed from the base. Before an area was covered with surface dressing, it was properly broomed. This sweeping was done by mechanical broom. The purpose of this brooming was to remove loose gravel and dust so that

proper adhesion was achieved between the prime and the bitumen. It however sometimes occurs that localized areas of dust remain which caused a lack of adhesion. These sections however, inevitably fail very quickly. There was a 12-month maintenance period on this contract. The localized places where the surface dressing fails always reveal themselves very quickly and were then repaired.

Cement Content

In the 30-year experience Raubex had in road construction, they had never heard of a reliable test of the cement content of a completed layer and rejected the findings. It was not scientific and definitely was not a standard test prescribed in the contract. The UCS of the shoulders were tested and found sufficient. The cement content in the shoulders conformed to the requirements in the contract.

Submission by the Partner Brian Colquhoun Hugh O'Donnell and Partners

As the Engineering Consultant on the project the Partner for BCHOD (z) submitted as follows:

Peeling off of Surface Dressing

They understood peeling off of the surface dressing referred to in the Auditor-General's Report to refer to striping of the seal applied. Generally, the causes of stripping in pavements were quite a complex phenomenon to be explained. Mineralogy and chemical composition of aggregate could be some important contributing factors. Some aggregated had an affinity for water over bitumen (Hydrophilic). Such aggregates tended to be acidic and suffered from stripping after exposure to water. On the other hand, some aggregates had an affinity for bitumen over water (Hydrophobic). These aggregates tended to be basic and did not suffer from stripping problems. Furthermore, the actual causes of stripping were fully established in surface dressing but the anticipated causes for the sections reported in the Auditor-General' report could be as a result of inadequate binder in the seals causing the base not to bond with the seals adequately. On the other hand, it was likely that some of those sections might have been exposed to traffic too early and thereby, not allowing enough bonding time with the respective aggregates.

With respect to the observation raised in the Auditor-General's Report regarding sections with no bond between the surface dressing and the base course, the consultant, during their field investigation of those sections found that the sections were truly defective. However, all those sections were previously inspected and recorded during a compilation of the snag list conducted on 20 May 2010. The snag list was compiled in the presence of the Resident Engineer of the project and the contractor's Site Manager. The Resident Engineer and the contractor were fully aware of those sections. In fact, the snag list done was done in accordance with the clauses of the General Conditions of Contract and the contractor was expected to make the necessary remedies.

Use of Wrong Size of Aggregates

The consultant's redesign review report and recommendations showed that the chipping sizes recommended were 19mm stone for the first seal and 9.5mm stone for the second seal as opposed to the implemented 19mm stone for the first seal and 13.2mm stone for the second seal respectively. The general rule design was based on the principle that the seal stone (normal and single sized) should be half the size of the tack stone (normal and single sized).

The design review process understated by the consultant determined 19mm stone for the first seal and 9.5mm for the second seal. However, due to late appointment of the consultant, it was found that a significant amount of 13.5mm chippings had already been processed by the contractor. At a joint meeting dated 22 April 2009 between the contractor, the client and consultant, it was tabled by the contractor that there would be a significant cost implication related to further crushing of the 13.2 mm stone to 9.5mm stone and this cost would have to be passed on to the client. As a result of this, the client's instructions to the consultant were to work around the 13.2mm chippings. Subsequently, designs by the consultant, incorporating the 13.2mm chippings, revealed that whilst

not optimum, that was within the acceptable design envelopes and an instruction to that effect was raised to the contractor to proceed with the 13.2mm chippings.

Test Results

The observations raised in the Auditor-General's Report test results were not consistent with the test results obtained at the time of constructing the road in question. Most of the test results obtained during construction had been submitted to the Agency for their record and were available for perusal.

e. Periodic Maintenance and Rehabilitation of 45km of Selected City Roads in Lusaka Province

i. Late Recruitment of the Supervising Consultant

In the first few months the Contractor was mobilising and very limited volume of work was undertaken and the supervision was carried out by RDA staff. The one month delay was not adverse in the Ministry's view.

ii. Physical Verification

The observation was correct except that the project was still on-going at the time of inspection and the works on this section had not even started yet. The Contractor was instructed by the RDA to prioritise the Airport Road. The works on the other roads were scheduled to start after the rains had cleared. There was no significant work that had been done on the road as most of the work was scheduled to be done later.

f. Periodic Maintenance of Namalundu Road off T2 Kafue Gorge (D396) in Lusaka Province

i. Questionable Composition of Evaluation Committee

All the tender procedures were complied with and the evaluation was undertaken in accordance with the instructions to bidders and was consistent with good international practice. However, management attempts to make the composition as *ad hoc* and as diverse as possible in accordance with staff availability. The Public Procurement Act required that members of the Evaluation Committee should have necessary technical skills in the respective field for them to qualify to evaluate bids. The members of the Committee met this requirement. There was therefore nothing questionable about the composition of the Evaluation Committee.

The Evaluation Committee followed the laid down evaluation criteria as stipulated in the bidding documents. The comments in the Audit Report on the appointment and composition of the Evaluation Committees were noted.

It should however be noted that the Public Procurement Act only provided for experienced and well versed evaluators.

ii. Preliminary Evaluation Results

Evaluation committees strictly followed the laid down evaluation criteria as stipulated in the bidding documents. However, the observations would be forwarded to the Zambia Public Procurement Authority so that they could consider amending the ZPPA Procurement Guidelines.

Submission by the Director-General of the Zambia Public Procurement Authority

The Director-General in his submission on the matter stated that the view of Zambia Public Procurement Authority was that the Evaluation Committee acted correctly in disqualifying the bidder because non-compliance on bid security was a material deviation.

iii. Technical Evaluation Results

The Evaluation Committee followed the laid down requirements in the bid document. The Evaluation Report was submitted to the then Zambia National Tender Board who scrutinised it and agreed with the recommendation.

Submission by the Director-General of the Zambia Public Procurement Authority

The Director-General in his submission on the matter stated that Zambia Public Procurement Authority's considered view was that the disqualification of Raubex Construction Limited was justified. Non-compliance on key staff required for a project, was a material deviation as this affected quality of works. In addition, waiving this requirement or requesting the bidder to replace unqualified personnel with suitably qualified personnel would have been irregular as other bidders were not permitted to change the substance of their bids after the closing date for submission.

iv. Irregular Payment for General Obligations

Management had noted the concern and informed all project engineers to pay in accordance with the contract agreements. The procedures manual currently being developed would specifically deal with this matter. However, no funds were lost.

v. Irregular Contract Document

Management would make sure that future contract documents were properly checked to avoid such occurrences. It was mandatory for all forms of agreement to bear a date stamp.

It was normal to carry out design review when works were on-going. After the contractor moved on site a review of the works was carried out and it was discovered that 6.5km had completely failed due to the rainy season and action of traffic that required reconstruction. Although the actual start date of the contract was fourteen days after contract signing, the contractor was allowed two months mobilisation before physical works could start. Contrary to the Auditor-General's Report the start was 14 November 2007 and not 14 December 2007 as per signed commencement order.

There was no requirement for drawings on periodic maintenance projects. However additional information such as strip maps would be provided in future contracts.

vi. Lack of Material Testing on Site

The contract did not provide for establishment of the materials testing laboratory on site, however the contractor was required to undertake material tests as specified. The RDA had adequate quality control facilities and carried out compliance tests. It was worth noting that quality control was carried out on this project by the RDA Central Materials Laboratory. The section which was tested and reported to have failed during the 5 Site Meeting was re-tested after correction and the specified compaction was achieved and this was noted by the project supervisor during the 6th Site Meeting Copperbelt Province.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

a. **Design and Construction of Selected Chalala Roads, Mosi-O-Tunya Road Extension, Part of Shatumbu Road and South of Chilenje South Newly Constructed Road Parallel to ZESCO Pylons Based on Integrated Construction Unit (ICU) Method of Works**

i. Poor Contract Management

Your Committee cannot comprehend how an eight-month contract was entered into with payments spread over three years. The Controlling Officer is, therefore, urged to ensure that the RDA scales down on entering into new contracts and clear the backlog.

ii. Delayed Implementation

Your Committee requests the Controlling Officer to report progress on the project.

iii. Physical Inspection

Your Committee requests the Controlling Officer to report progress on the remedial works.

b. **Periodic Maintenance of Road D176 Ngwerere to Chisamba and D753 Ngwerere to Lusaka International Airport in Lusaka (TB/CE/031/07)**

i. Delayed Completion of Works

Your Committee resolves that the matter should be closed as the works were substantially completed at no additional cost to the client, the Government.

ii. Physical Inspections and Test of Materials

Quality of Materials Used

Your Committee urges the Controlling Officer to report progress on the remedial works.

Drainage Structures

Due to the seriousness of the matter as it affects the quality of works, and also taking into account opposing views on the methodology for testing, your Committee resolves that the tests should be redone using an agreed method with all parties present.

On the vandalised culvert headwall, your Committee urges the RDA to make the farmer pay for the damage. Progress should be reported on the rectification of defects.

d. **Emergency Periodic Maintenance of Palabana and State Lodge Roads in Chongwe District of Lusaka Province, Tender No.RDA/SP/0011/08**

i. Variations

Your Committee advises the Controlling Officer and RDA Management to desist from the practice of providing answers to your Committee on matters that could have been resolved with auditors.

ii. Overpayment on Certificate Claims

Your Committee notes that the RDA was channelling funds through contractors for the payment of its staff. Your Committee demands that this practice should be stopped forthwith as it is a recipe for fraudulent activities. The Controlling Officer and RDA Management are urged to budget for such activities separately.

Physical Inspections

iii. Gravel Quality

Your Committee resolves that the matter should be closed.

iv. Payment for Works not Done

Your Committee observes that the problem of vandalism of road furniture is indeed a known problem in Zambia. Your Committee advises the Controlling Officer and RDA Management to find alternative materials that can be used which are less susceptible to vandalism.

d. Periodic Maintenance of Road T004 from Lusaka International Airport Turn off to Luangwa Bridge

i. Late Recruitment of the Supervising Consultant

While appreciating the experience of RDA engineers, your Committee urges the Controlling Officer and RDA Management to adopt a working practice of engaging consultants before the commencement of any road works contract.

ii. Physical verification

Peeling off of Surface Dressing

Your Committee urges the Controlling Officer and RDA Management to ensure that the causes of the peeling-off, albeit, the small area affected, are addressed.

Peeling off of Surface Dressing on Shoulders

Since the road works are on-going, your Committee urges the Controlling Officer and RDA Management to ensure that all defects are remedied by the contractor in good time. However, if similar defects continue to be observed on the contract, RDA should reassess the suitability of the contractor proceeding with the project.

Use of Wrong Size of Aggregates

Your Committee resolves that the matter should be closed subject to verification.

iii. Test Results

Your Committee reiterates its recommendation that owing to the seriousness of the matter and differences in opinion on the method of testing, the tests should be redone with all parties present.

e. Periodic Maintenance and Rehabilitation of 45km of Selected City Roads in Lusaka Province

i. Late Recruitment of the Supervising Consultant

Your Committee reiterates its recommendation that consultants should be engaged before the commencement of any road works contract.

ii. Physical Verification

Your Committee observes that this should have been addressed at the early stages of the audit process. The Controlling Officer is urged to promptly respond to preliminary issues whenever these are raised by auditors. The matter should be verified.

f. Periodic Maintenance of Namalundu Road off T2 Kafue Gorge (D396) in Lusaka Province

i. Questionable Composition of Evaluation Committee

Since the current legislation on public procurement does not specify who should be a member of an evaluation committee, your Committee resolves that the matter should close.

ii. Preliminary Evaluation Results

Your Committee resolves that the matter should be closed as the Evaluation Committee's decision over the bid security was in order.

iii. Technical Evaluation Results

Your Committee resolves that the matter should be closed as the Zambia National Tender Board, the predecessor of the Zambia Public Procurement Authority had agreed with the decision of the RDA Evaluation Committee. This was also confirmed by the Director-General of the Zambia Public Procurement Authority.

iv. Irregular Payment of General Obligations

Your Committee, while appreciating the fact that such issues will be addressed by the Procedures Manual, resolves that the Controlling Officer and Management of RDA should take disciplinary action against officers that did not follow provisions of the contract in making payments. It is the principle that matters, not whether the Government suffers a loss or not.

v. Irregular Contract Document

Your Committee notes that the RDA officials were casual in the way they handled the contract. The Controlling Officer is urged to investigate the matter and ascertain if the omission of the contract dates was intentional on the part of the RDA officers. If this is found to be the case, disciplinary action should be taken on the officers.

vi. Lack of Material Testing on Site

Your Committee resolves that the matter should be verified. The Controlling Officer is further advised to ensure that the Procedures Manual being developed is clear on circumstances that will determine whether facilities for materials testing should be established on site or not.

COPPERBELT PROVINCE

AUDIT PARAGRAPH 10

11. The Auditor-General reported as set out hereunder.

a. Upgrading of the Luansobe – Mpongwe Road (50km) - Contract No. TB/CE/043/08

In August 2008, the Agency engaged China Henan International Cooperation Ltd for the upgrading of Luansobe-Mpongwe Road at a contract price of K90, 097,344,487 with a completion period of twelve (12) months commencing 27 October 2008. The scope of works comprised; of carriageway clearing, construction of road embankment, base, surface dressing, installation of new road signs and any other ancillary works. The project was supervised by Besmear Associates in association with Bari Zambia Limited.

As of October 2009, a total of K22, 199,665,638 had been paid to the contractor and the project was 62% complete.

A physical inspection of the road revealed the issues as set out below.

i. Quality Aspects

The overall quality of the road as observed during the site visit was summarised below:

Poor Quality of Materials

Contrary to the specifications in the bill of quantities which specified that the first and second chip seals were to be 13.2mm and 6.7mm nominal sizes of aggregate respectively, the size of the aggregates for the first layer were on average found to be 6.5mm.

Sequence of Activities

Priming work as observed during the site visit had been done to chainage 34+900 on one side and was in progress. It was also observed that the contractor did not provide the diversions while doing the work, as such the primed area was open to traffic despite the contract having a provision of K1,344,414,350 for diversions.

ii. Test Results

Tests carried out were as follows:

- i) base course thickness measurements for three samples;
- ii) surface dressing thickness for three samples;
- iii) surface dressing bonding assessment on three sections;
- iv) evaluation of cement content on a cement stabilised base;
- v) gradation of three samples;
- vi) aggregate crushing test for a sample of aggregates; and
- vii) plasticity test for a sample of gravel.

The results for the above tests were as follows:

- i) all three base thickness measured were lower than specified. They measure 72 mm, 81 mm and 95 mm against 150 mm specified;
- ii) on surface dressing thickness it was observed that out of three samples measured only one met the specifications while two did not. Incidentally the ones that did not meet the specification also were the same with poor bonding;
- iii) of the three sections where surface dressing bonding was evaluated one was found to have an adequate bonding while two were inadequate and stripped;
- iv) cement content in stabilised base was lower than what was specified. Results showed cement content of 1.6 % against 4% specified;
- v) of three samples subjected to gradation non matched with the corresponding SATCC specification;
- vi) aggregate crushing value recorded was 23 which was less than 25. The aggregates were therefore of appropriate crushing strength; and
- vii) material was non plastic hence within acceptable limits of plasticity i.e. PI < 6%.

b. Periodic Maintenance of T3 Kemuz - Teka Farm - Silangwa

In October 2008, RDA awarded a contract to GABMAN (Z) limited for the periodic maintenance of road T3 Kemuz - Teka Farm - Silangwa at a contract price of K1, 932,202,140 with a completion period of four (4) months. The contract was to start on 28 October 2008 and end on 28 February 2009. The scope of work included clearing and grabbing reshaping/ re-grading, re-gravelling of selected section of the road section, drainage improvement and installation of road signs.

As of October 2009 a total of K387, 574,560 had been paid to the contractor and the works were 31% complete. The contract had since been recommended for termination.

The following were observed:

i. Failure to Provide Performance Guarantee/Bond

Contrary to Clause 52, RDA signed the contract with the contractor without any performance security being provided by the contractor.

ii. Irregular Extension of Contract Period

Despite the extension of time on the contract to 16 June 2009, the contractor still failed to execute the contract and applied for a further extension of time of 6 weeks. However, the Regional Engineer rejected the extension of time and informed the contractor that liquidated damages of 0.5% would be claimed for any day's delay of work up to a maximum of 10% of the contract value.

A review of Interim Payment Certificate (IPC) No. 2 revealed that 10% liquidated damages of K151,278,000 were claimed on the IPC which in turn resulted in the contractor owing RDA an amount of K12,219,440.

In the absence of the performance bond, it was not clear how RDA would recover the amount owed by the contractor as the contract was recommended for termination on 8 September 2009.

iii. Physical Inspection

Road Surface Condition

During the inspection it was observed that the condition of the road bed that had been left uncovered with the gravel fill had weakened and the top soil had become very loose generating dust.

Formation work on the Wengwe access was not completed as of September 2009. The first kilometre had been partially completed.

Poor Drainage Structures

The culverts installed had either not been completed or not provided with proper inlets and outlets to allow water to flow smoothly into and away from the culverts. The quality of concrete used was also considered to be of low strength as some of the edges could break easily.

c. Periodic Maintenance Works of the Town Centre - Roan Mpatamatu Road (13km) in Luanshya on the Copperbelt Province (RDA/CE/04/008)

In September 2008, the Agency (RDA) awarded a contract to China-Geo Corporation for the periodic maintenance works of the Town Centre-Roan Mpatamatu Road at a contract price of K24, 328,222,699 with a completion period of five (5) months commencing 30 September 2008. The scope of works consisted of pothole patching and edge repairs, reconstruction, Asphalt levelling course, asphalt wearing course, surface dressings, and drainage and road markings. The project was supervised by RDA Copperbelt Provincial Engineer.

As of October 2009 a total of K20, 731,858,988 had been paid to the contractor and works were 100% complete.

The following were observed:

i. Overstatement of Contract Sum

A scrutiny of the contract document revealed that whereas the contractor's overheads were supposed to be K10, 056,000 (8% of K125, 700,000), these were stated at K1, 005,600,000 resulting in an overstatement of K995, 544,000. Consequently, the contract sum was K24, 328,222,699 instead of K23, 332,678,699.

ii. Physical Verifications

A physical inspection of the road revealed the following:

Road Surface Quality

The road surface had developed corrugations. This was more pronounced for the entire road section. It was also observed that there was an indication of early bleeding.

SUBMISSION BY THE CONTROLLING OFFICER, MINISTRY OF WORKS AND SUPPLY, AND THE ROAD DEVELOPMENT AGENCY MANAGEMENT

The Controlling Officer, Ministry of Works and Supply in conjunction with RDA Management submitted as detailed below.

a. Up-grading of the Luansobe – Mpongwe Road (50km) - Contract No. TB/CE/043/08

i. Quality Aspects

Poor Quality of Materials

It was not true that the first layer was 6.5mm but that it was actually 13.2mm. The project site was available for inspection.

Sequence of Activities

The Consultant observed that there was no traffic to justify construction of diversions thus the consultant instructed the contractor to use the half lane construction method thus making a saving on the contract. The Contractor had only been paid K172 million for shaping and repair of the 2.4km of diversions done. The priming was applied for binding and to protect the base from potential damage prior to application of the first seal. The primed sections were not opened to traffic. A tack coat was applied on all sections showing signs of primer peeling before applying the first seal.

ii. Test Results

Although the initial report did not show chainages these chainages had since been provided. Confirmatory tests had been conducted and the results were attached which showed that the thicknesses at these chainages were km 4+00 [200mm], 22+700 [225mm] and 48+00 [201mm].

The number of samples was too limited to make meaningful conclusions that were statistically significant. Also, it was inconceivable that the reported thickness could have been compacted at all as they were too thin, therefore something was wrong with the result itself. The audit team should have further checked other pieces of information like relative profiles of layers from survey data and/or DCP tests and even test pits where poor results were evident.

The consultant stated that the coring machine failed to penetrate the base course and the thicknesses given were therefore not correct. The base course was in fact stabilized to around 200mm thickness. RDA was disputing the results altogether as incorrect and unreliable. The RDA test results were available for inspection. The basis for the dispute was as detailed below.

- I. There was need to specify the actual thicknesses that were found at the defined chainages. Tests could be repeatable and reproducible. It should be clarified that surface dressing was specified in terms of the application rate of the bitumen and stone. Surface dressing had no structural significance as it was intended to waterproof the underlying layers and provide the necessary skid resistance.
- II. There was no stripping and lack of bonding on this project and any defects that were identified would be remedied since the project was ongoing through the various contractual provisions for acceptance testing, snag list and defects liability period.
- III. The Audit Report did not state how many tests were carried out and what extraction procedure

was used. It was therefore difficult to neither follow up on this result nor authenticate it. Cement stabilisation involved a chemical reaction of the cement and gravel materials and edge of the mix and it was difficult to separate the cement from the gravel completely. The Unconfined Compressive Strengths (UCS) results that confirm compliance of the base course were within acceptable limits.

- IV. A very small sample was inappropriate for gradation purposes and this could be very misleading. There were no grading curves given and it was thus difficult to comment. Gradation test was a subject of various factors including sampling methods. Details of the sampling methods and sample size were not given.
- V. The auditors had not commented on tests done by the consultant and contractor obtained on site and these were available for inspection.
- VI. No comment.
- VII. Plasticity Index [P.I.] < 6 confirmed that the active ingredient (cement) had been sufficiently added contrary to Audit Report observation that the cement content was inadequate.. The P.I. result confirmed that the contractor was in compliance with the specifications.

b. Periodic Maintenance of T3 Kemuz - Teka Farm - Silangwa

i. Failure to Provide Performance Guarantee/Bond

The audit observation was noted. Clause 52 stated that: *"Within 21 days after receipt of the Letter of Acceptance, the successful Bidder shall deliver to the Employer a Performance Security in the amount stipulated in the Contract Data and in the form (Bank Guarantee and/or Bond) stipulated in the Bidding Data, denominated in the type and proportions of currencies in the Letter of Acceptance and in Accordance with the Conditions of Contract"*. It did not stop the signing of the contract.

Procedurally, the bond was normally provided after signing the contract. The contractor failed to submit the performance bond and the contract was terminated.

ii. Irregular Extension of Contract Period

The observation was noted notwithstanding the fact that the contract had since been terminated. RDA would issue a demand for the money failure to which the contractor would be sued.

iii. Physical Inspection

Road Surface Condition

The contractor failed to perform, which prompted the Agency to terminate the contract. The Agency had written to the National Council for Construction for the de-registration/downgrading of non performing contractors. Since the works were not completed the current condition was to be expected. The Agency would endeavour to procure new works in the near future.

Poor Drainage Structures

The drainage structures were poor because the contractor failed to execute the project. The Agency would endeavour to procure new works in the near future.

c. Periodic Maintenance Works of the Town Centre - Roan Mpatamatu Road (13km) in Luanshya on the Copperbelt Province (RDA/CE/04/008)

i. Overstatement of Contract Sum

This was a typographical error which had been corrected and the project had been completed at no additional cost. The total amount paid on the contract was K21, 723,009,472 which was within the corrected amount of K23, 448,322,699.

ii. Physical Verifications

Road Surface Quality

This was a periodic maintenance intervention involving pothole patching, surface dressing and slurry (cape seal). This kind of intervention did not address roughness (unevenness) of the road but aimed at waterproofing and protecting the existing structural layers from further damage. No bleeding and new potholes had been observed on any part of the road.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

a. Up-grading of the Luansobe – Mpongwe Road (50km)-Contract No. TB/CE/043/08

i. Quality Aspects

Poor Quality of Materials

Your Committee resolves that the matter should be verified.

Sequence of Activities

Your Committee resolves that the matter should be closed subject to verification of the final cost of the road works.

ii. Test Results

Considering the seriousness of the matter and the opposing views on the method of testing, your Committee resolves that fresh tests should be conducted using an agreed method with all parties present.

b. Periodic Maintenance of T3 Kemuz - Teka Farm - Silangwa

i. Failure to Provide Performance Guarantee/Bond

Your Committee observes that the contractor was allowed to proceed with the works for a period of about twelve months without submitting the Performance Bond. This is an indication of poor supervision. The Controlling Officer is urged to ensure that the responsible RDA officers account for their action.

ii. Irregular Extension of Contract Period

In addition, to their recommendation in (i) above, your Committee resolves that if it is established that there were no extenuating circumstances that led to officers allowing the contractor to carry on with the project without submitting the Performance Bond, the K12,219,440 should be recovered from the officers.

iii. Physical Inspection

Road Surface Condition

While appreciating the fact that the contract was terminated, the Controlling Officer and RDA Management are advised to come up with a criterion in which road projects where contractors failed to perform are quickly brought back on board considering the competing demands for road rehabilitation.

Poor Drainage Structures

Your Committee notes that the RDA wrote to the National Council for Construction (NCC) for possible sanctioning of the contractor for the shoddy works. The Controlling Officer and RDA Management are requested to give an update on the decision of the NCC.

c. **Periodic Maintenance Works of the Town Centre - Roan Mpatamatu Road (13km) in Luanshya on the Copperbelt Province (RDA/C E/04/008)**

i. **Overstatement of Contract Sum**

Your Committee observes that this matter should have been clarified by the Controlling Officer earlier. However, the matter should be closed.

ii. **Physical Verifications**

Your Committee resolves that the matter should be closed subject to verification.

SOUTHERN PROVINCE

AUDIT PARAGRAPH 11

12. The Auditor-General reported as follows:

a. **Rehabilitation of A34.7 Km Portion of T2 between Chirundu and Lusaka Km75.0 to Km109**

In July 2005, the Agency awarded a contract to China Henan International Cooperation Group Company limited for the rehabilitation and maintenance of 34.7 km section of road T2 between Lusaka and Chirundu KM75.0 to KM109.7 at contract price of K110, 655,185,204 for a duration of eighteen (18) months commencing 1 November 2005. The scope of works included widening the existing road formation, construction of auxiliary/climbing lanes where required, reduction of steep grades, reconstruct road pavement layers and reconstruction of some bridges and improvements to the vertical geometry. The project was supervised by AFRICON.

A review of scanty records availed for audit revealed the issues set out below.

i. **Questionable Quality Control by Consultants**

A review of the letter dated 8 June 2007 addressed to AFRICON from RDA revealed that during site inspections, the consultant's inspectors were not found on site. In particular, the consultant's inspectors were not on site during critical activities such as laying of the sub base, road base and asphalt concrete as well as on culvert construction, thus raising concern of quality.

In the same letter, RDA also observed that the contractor around KM83 + 400 was illegally mixing stabilisation material with bulldozer, raising concern on the role and effectiveness of the inspectorate.

ii. **Failure to Adhere to Consultants Advice**

A review of two letters dated 24 and 28 August 2007 addressed to the Director RDA from the consultants relating to the design review revealed the following:

- the pavement structure with a 150mm sub base was inadequate;
- the design life of the structure with 150mm sub base had an expected lifetime of nine (9) years. Consultants recommended that increasing the sub base to 250mm would increase the road expected life from nine (9) years to twenty (20) years at an additional cost of K3.7 billion; and
- in another letter dated 28 August 2007, the consultants indicated that there was an omission of the base from KM104 + 240 which substantially compromised design life of the road to only three (3) years. The consultants indicated that the life of the road could be increased to fifteen (15) years with the addition of cement stabilised base at a cost of K764, 000,000.

There was no documentation to indicate that the RDA rescinded its instruction of 27 July 2007 in which it warned the consultants to maintain a base of 150mm and not 250mm.

iii. **Failure of a Section of the Road**

A review of the consultant's letter of 10 January 2008 to RDA revealed that a flood occurred on 29 and 30 December 2007 causing extensive damage to the works. The consultants indicated that the flood was caused by extremely high rainfall and that he would propose mitigation measures to prevent or

limit damage in case of a re-occurrence of a similar flood in future. The consultant further stated that rainfall throughout December 2007 was above normal. In this regard, the consultant issued instructions on 25 February 2008 to the contractor relating to repair of damage or defective work and also for further protective measures that were required which would include the following among others:

KM	Problem	Causes of Problem
99 + 775	Water ponding	No downshute at low point
99 + 800	Longitudinal cracks	Defective benching and compaction
100 + 450	Longitudinal cracks on Left Hand Side	likely that benching & compaction defective
100 +500	Longitudinal cracks Left hand side	likely that benching & compaction defective
101 +300	fill subsidence on Left hand side	Inadequate benching and compaction
101 + 400	fill subsidence on Left hand side	Probable cause inadequate benching Compaction.

On 20 March 2009, the reconstructed portion of road T2 collapsed at chainage 100 +900KM location from Lusaka. In the letter dated 21 May 2009 and addressed to the World Bank, the Director- RDA indicated that preliminary assessment revealed that the fill embankment was eroded and weakened by seepage of runoff water from the surrounding high ground that found its way across and underneath the road. The director emphasised that the landslide was as a result of natural causes and that the initial design did not include re-alignment or provision of (increased) drainage structures at the location.

However, it was observed that the section of the road failure was within the chainages where the consultant had observed longitudinal cracks as result of defective work. There was no evidence to indicate that the defective work noticed at time of construction had been remedied.

Although the failure occurred during the defects liability period which ended on 28 June 2009, there was no evidence to indicate that the Agency had taken steps to establish whether the failure was caused by negligence on the part of the consultants or the contractor.

In this regard, despite the failure having taken place during the defect liability period, the contractor was not called to site. Instead a new contractor, Messrs Sable Transport Ltd, was engaged to carry out temporal works at a contract sum of K3.5 billion.

iv. Failure to carry out Permanent Works

A site inspection conducted in October 2009 revealed that the temporal works were showing signs of failure as evidenced by the longitudinal cracks.

The culvert provided at the wash away point was not functional as it did not have a provision for the inlet thereby defeating the purpose of the culvert.

v. Provision of Motor Vehicles

The contract provided for K405, 875,000 for procurement of five (5) motor vehicles for supervision. The motor vehicles were to be handed back to the Agency at the end of the contract. It was however observed that out of the five (5) motor vehicles procured, four (4) were handed over to the Agency while one (1) had not been handed over as of October 2009.

b. Contract for the Emergency Repairs of Lusitu Bridge along M15

On 26 December 2008, RDA awarded the contract for the emergency repairs of Lusitu Bridge to Sable Transport and Construction at a contract sum of K7, 786,786,786 for the duration of three (3) months. The

works commenced on 20th January 2009.

The supervision was conducted by RDA Lusaka Region.

The scope of works at the bridge was as follows:

- drainage works;
- pothole patching;
- base/sub base courses/pavement repairs;
- bituminous course/pavement repairs;
- erosion protection/lean concrete; and
- railings repairs and kerb stone installation.

Other works included pothole patching, reinforced concrete retaining wall for slope protection, lined mitre drains and gabion construction for slope protection.

As of October, 2009 a total of K6, 319,801,251 had been paid to the contractor and works were 81% complete. However, the following were observed:

i. Irregular Change in the Scope of Works

On 30 December 2008, the Contractor without authority from the Agency changed the scope of works by changing the design of the agreed interventions.

A review of the Letter dated 2nd Feb 2009 addressed to the Contractor from the Regional Engineer in Lusaka revealed that the contractor had diverted from the original bill of quantities in the execution of works without the authority of the Project Manager.

ii. Bill of Quantities

In the Report No. 02/09 of March 2009, the Monitoring and Evaluation Unit revealed that the standard SATCC BOQ was not used by the Contractor making it difficult to understand the scope of works from the BOQ. The following errors in the BOQ were observed:

- i) the BOQ included trees which did not exist at the site (Contract item 17.02). This had a costing of K1, 400,000;
- ii) thickness of continuously graded asphalt surfacing included in BOQ item 42.01 (a) with costing K195,000,000 had not been specified;
- iii) the concrete casting, reinforcement and form work in BOQ should have been billed separately according to standard practice;
- iv) the size of the conforce wire costing K56 million in BOQ was not specified (contract item 23.01(c));
- v) the works to be carried out on different sites were lumped under the same quantities, thus resulting in difficulties in measuring the actual works done; and
- vi) the rates for concrete were not consistent since the conversion to square meters to cubic meters was giving very high figures. In addition, the thickness for the concrete priced in square meters was not indicated which could be a source of disputes when measuring the actual value of work done (item 2.4.3).

iii. Lack of Work Programme

It was observed that after changing the scope of works, the contractor did not submit a revised work plan. In this regard it was not possible to ascertain the progress made by the contractor. As of October 2009, the contractor was still on site.

iv. Questionable and Uncompetitive Rates

A review of the Monitoring and Evaluation report revealed that there were inconsistencies in the rates of concrete in the BOQs and no proper rate analysis was carried during evaluation, the rate of lean concrete (stipulated in BOQs) should not have exceeded K100, 000 per square meter.

In addition, the two rates for lean concrete were not only too high when converted from square and the other was K720,000 per square) The rate for reinforced concrete should have been used as a basis to renegotiate the rates for lean concrete and approximately K870 million could have been saved.

v. Lack of Quality Assurance

Concrete Works

According to the Monitoring and Evaluation Report of March 2009, the Contractor was casting concrete based on the mix design which was not agreed upon with the Project Manager's Representative (PMR). It was also revealed that the Contractor had been carrying out concrete casting in the absence of the PMR. The quality of the concrete therefore could not be guaranteed since the PMR had not been involved in the whole process of concrete casting. This represented a flaw in the management of the contracts.

It was also observed that contract records such as daily log sheets and monthly progress reports were not available. Further, no site meetings were held during the course of this project and there was no permanent site supervisor. In this regard the contract had been executed without supervision from the Agency.

vi. Delayed Works

Although the duration of the contract was extended for a period of ninety (90) days to 2 July 2009, it was observed that as of October 2009 the works had not been completed and no liquidated damages had been claimed by the Agency.

vii. Quantities, Measurements and Certification

A review of the Monitoring and Evaluation Report on measurements jointly carried out on site by the Monitoring and Evaluation Unit, the Contractor and technical staff from the Regional Engineer's office revealed that most of the quantities in the BOQ were higher than the actual on the ground. Measurements in the contract should have cost K6, 319,801,257 instead of K 7,786,786,786 resulting in RDA incurring extra costs of K799, 285,786.

viii. Physical Inspection

An inspection of the bridge carried out on 29 August 2009 to assess the quality and scope of works done by the Contractor revealed the following:

Gabions

- i) Gabion stones were not neatly packed in gabion baskets.
- ii) Some stones in baskets were larger than the allowable maximum size.
- iii) Visible gabion cells were not even faced. Stones used in visible faces were not of selected size and shape.
- iv) Gabion baskets were not fully packed. Stones were loosely filled.
- v) Vertical sides of visible cells were bulged and deformed. Connecting wires between vertical sides of visible cells were insufficient or missing altogether. Normally a minimum of four connecting wires would be provided and tensioned in each 1m visible cell to prevent the deformation of gabion boxes.
- vi) Baskets were not properly lined-up.
- vii) The site foreman did not have drawings for the four gabions.
- viii) Although the contractor claimed for construction of 500m³ gabions, a physical count of gabions revealed that only 320 cubic metres had been constructed. However, the BOQ provided for 1,200 cubic metres of gabions.

Concrete Lined Drains

Concrete lined drains were of poor quality and workmanship was as follows:

- drains were wavy and not properly aligned;
- the concrete drains were not constructed to specifications set in the contract in that they did not discharge water into the river; and
- poor quality concrete was used. Lumps of concrete taken from the drain were easily crushed by hand.

ix. Test Results

An assessment of the strength of four (4) concrete strength samples using the Schmidt Hammer revealed that all four samples were weaker than specified. Results were 12 N/mm sq for three samples and one measured 15 N/mm sq compared to 25 N/mm sq specified in the contract.

c. Contract for the Periodic Maintenance of Road D347, Kalomo to Kabanga Mission in Southern Province 70.1km

In April 2008, the Agency awarded a contract to Messrs China Jiangxi Corporation for the periodic maintenance of Road D347 Kalomo to Kabanga mission at a contract price of K12, 347,730,725 for a duration of six (6) months commencing 13th June 2008. The scope of works comprised gravelling and drainage, grading, re-gravelling, reshaping, embankments maintenance and vegetation control. The project was supervised by Bari Zambia Consulting Engineers Ltd.

As of October 2009, the works had been completed and the contractor had been paid amounts totalling K12, 315,592,891.

The following were observed:

i. Delay in Engaging Consultant

The supervising consultant was engaged three (3) months after the contractor had commenced works. In this regard, the contractor executed works without supervision.

ii. Questionable Award of Tender

The Director RDA recommended to the Director-General of the Zambia National Tender Board in a letter dated 23rd April 2008 to award China Jiangxi Corporation for International Economical and Technical Cooperation at their corrected tender sum of K12,347,730,725. The letter further stated that Raubex Zambia Limited one of the bidders at a sum of K9,714,227,724 was found to be non responsive for proposing a surveyor with a grade twelve (12) qualification instead of a diploma in surveying or civil engineering. It could not be comprehended as to why management did not award the contract to Raubex Construction subject to the contractor providing a qualified surveyor and thereby saving an amount of K2, 633,503,000 of the public funds. It must be noted that staff can be replaced at commencement or during the implementation of the contract.

iii. Non Submission of Performance Bond by the Contractor

According to the terms of the contract, the contractor was required to submit a performance security bond within twenty-eight (28) days of signing the contract. Contrary to this condition, the contractor did not submit the performance security bond.

iv. Contractor's Equipment

A review of the contract documents revealed that the contractor's major equipment at the time of bidding was located in China and Botswana. There was no evidence to show that the contractor had brought in his equipment from the two countries for the project. In this regard, in the Regional Engineer's letter dated 5 August 2008 to the contractor revealed that plant mobilised was all in

relatively bad condition. The letter further stated that clearing and grubbing were done using slashers and axes.

A review of minutes of the second site meeting of 11 September 2008 revealed that works were behind schedule.

v. *Delayed Mobilisation*

Although the contract was to commence on 13 June 2008, it was observed that as of 3 July 2008, the contractor had not mobilised.

vi. *Physical Inspection*

A physical inspection of the road carried out in September 2008 revealed that all existing culverts were damaged and in some cases were blocked without outflow channels.

d. *Kafue – Mazabuka Road T1- Periodic Maintenance (TB/CE/005/08)*

In May 2008, the Agency awarded a contract to Messrs Raubex Construction Zambia Ltd for the periodic maintenance of road T1 from Kafue to Mazabuka at a contract price of K10, 017,359,687 with a duration of eight (8) months. The contract was signed on 28 May 2008 and was to start on 17 June 2008 and end on 16 February 2009. The scope of work comprised pothole patching; crack sealing, surface dressing in some sections, cleaning of drains and shoulder repairs. The project was supervised by ASCO Consulting Engineers Ltd.

As of October 2009, a total sum of K8, 241,733,008 had been paid to the contractor representing 82% of the contract sum and the contract had been completed.

The following were observed:

i. *Tender Evaluation*

The contract for the periodic maintenance of Kafue-Mazabuka Road was awarded to Raubex Construction Zambia Ltd at a revised bid price for K10, 017,359,688 against a competitive cheaper bid by Raven Works construction for K9, 857,517,699. Raven Works Construction's bid was considered non responsive on the basis that curriculum vitae for its site agent, foreman and surveyor did not indicate qualifications and that the company only provided audited financial statement for ten(10) months instead of five (5) years. The Public Procurement Act, number 12 of 2008 in Section 50 (4) states "that a procuring entity may ask a bidder to clarify their bid in order to assist in the evaluation, but no changes in the substance of bid, including changes in price, shall be permitted after the date and time of the closing of the bid, unless otherwise provided for in this Act". The Institution would have saved K159, 841,989 if the Evaluation Committee had followed the provisions of the Public Procurement Act.

ii. *Delayed Engagement of Supervisor*

It was observed that there was a delay of four (4) months in engaging a supervising engineer for the works. Consequently, the contractor executed the works during the period without supervision.

iii. *Questionable Certification*

In July 2007, the Agency awarded a contract (RDA/007/07) to Raubex Construction Zambia Ltd for emergency repair of the road at a contract sum of K1, 599,585,476. The contract commenced on 5 July 2007 and was to be completed on 5 August 2007. However, this contract was only certified complete on 22 December 2008 which was sixteen (16) months after the scheduled completion date. At this time, works under the new contract (TB/CE/005/08) for periodic maintenance of the same road had been going on for six (6) months.

iv. Poor Workmanship

A review of documents revealed that execution of the works was poorly executed in that potholes continued opening up. There were also delays in completing the project resulting in requests for extension. In addition, the contractor failed to follow the contract specifications regarding edge repair and use of poor cold premix.

e. Zimba – Livingstone Road TB/CE/019/08, 30KM

Government with the financial assistance from the European Union through the 9th European Development Fund (EDF), embarked on a project to rehabilitate 72.8km of the Zimba to Livingstone T1 Road. Government funded the rehabilitation of the first 30km through budget support and the remaining 42.8km was funded by both the European Union and Government. On 14 July 2008, Government through RDA awarded a contract to China Geo- Corporation Ltd to rehabilitate the first 30km of the Zimba – Livingstone road at a contract sum of K105, 196,183,649 for a duration of nine (9) months. The contract price was later revised to K120, 630,364,245.

The works commenced on 25 July 2008 and were due for completion on 24 April 2009 but the completion date was later revised to 18 October 2009.

The scope of work included reaping off old asphalt material, designing and reconstruction of the base. The project was supervised by Zulu Burrow Integrated Engineering and Development Consultants.

As of September 2009, a total of K69, 426,309,585 had been paid to the contractor and 5km out of a total of 30Km had been completed.

The issues set out below were observed.

i. Delayed Works

A visit to project site carried out in September 2009 revealed that fourteen (14) months into the contract the contractor had only completed 5km out of a total of 30km.

ii. Misapplication of Funds

In March 2009, the Manager-Construction and Maintenance (RDA) on four (4) occasions irregularly instructed the contractor to pay for maintenance of four (4) RDA motor vehicles which were not part of the project at a cost K48, 657,379. In this regard, review of IPC number 9 for the month of August 2009 showed that the maintenance budget for project vehicles had been overrun by K114, 791,600.

It was also noted that contrary to the agreed mode of communication, the Manager bypassed the supervising consultant.

f. Zimba – Livingstone Road T1 Km 30.00 to Km 72.80 TB/CE/096/08

The rehabilitation of the last 42.8 km was split into two (2) contracts, contract A and B. The European Union financed bill items 1 to 12 in the BOQ which were identified as contract A of the last 42.8 km at a cost of €11,570,229 while Government funded bill items 13.1 to 28.2 in contract B at a cost of €23,950,019.09. The total contract sum for the Km 30 to 72.80 of the Zimba – Livingstone road, totalled €35,520,248.58 after allowing for a 5.5% discount. Both contracts (A & B) were awarded to China Geo Corporation and were signed on 8th April 2009.

The contract commenced on 11 May 2009 for eighteen (18) months.

The scope of works included reaping off old asphalt material, designing and reconstruction of the base and application of asphalt concrete. The project was supervised by Nicholas O' Dwyer & Co. Ltd who was engaged on 24 December 2007 to first conduct feasibility studies, design the road and subsequent supervision of works at a contract sum of €857,796.00. Supervision component was for a period of nineteen

(19) months. The supervision contract was to commence on 11 May 2009 and end on 11 December 2010.

As of October 2009, a total of €5,090,644.33 and €7,467,585.67 had been paid to the contractor for contract A and B respectively. The works were still ongoing.

The issues set out below were observed.

i. ***Irregular Award of Contract***

The contract was awarded to China-Geo Engineering Corporation during the period when the contractor was suspended from participating in Government contracts in accordance with Zambia National Tender Board Circular No. 1 of 2008.

ii. ***Abnormal BOQ Rates***

An examination of the BOQs for the two (2) contracts for the Zimba- Livingstone road showed abnormal variances in the rates applied between GRZ and EU funded projects. The variance in the rates ranged from 86% to 1,648% despite the contracts being awarded to the same contractor and during the same period.

A further comparison of rates charged to the Government on contract No.TB/CE/019/08 (30km stretch) and the GRZ funded component of contract No. TB/CE/096/08 (42.8km stretch) revealed that the contractor increased the rates of most items by between 54% and 5,145%.

iii. ***Lack of Laboratory Equipment***

Although the contract provided for a sum of K10, 374,378,000 (€1,482,054.52) for housing, offices and laboratory for the engineer's site personnel. An inspection of the site carried out on 30th September 2009 showed that major laboratory supplies were not available at the KM 42.8 laboratory site. Inquiries made with the consultant revealed that the contractor had resorted to borrowing laboratory supplies from another project. The unavailability of laboratory equipment was a major cause of the delays experienced in the completion of the project.

g. **Contract for the Periodic Maintenance of Road D775 from Batoka to Maamba**

On 29 April 2008, the Zambia National Tender Board (ZNTB) conveyed its authority to the Agency for the award of a contract for the periodic maintenance of Road D775 from Maamba to Batoka in Southern Province to Raubex Construction Zambia Limited at its bid sum of K26, 686,115,665, with a completion period of eight (8) months. The contract was signed by both parties on 14 May 2008. The contract commenced on 28 May 2008 with a completion date of 27 January 2009.

The scope of works included cleaning and repair of existing culverts, installation of new culverts, pothole patching, edge break repairs and crack sealing, pavement reconstruction to limited sections, single seal surface dressing, line marking and permanent road signage.

As of June 2009, a total of K14, 502,964,153 had been paid to the contractor representing 54% of the contract sum. The works were still ongoing.

The matters set out hereunder were observed.

i. ***Poor Project Planning***

Best practice provides that the consultancy services for supervision are engaged well before the works contract. This allows the consultant to review the entire project situation and enable a smooth management and efficient project start. The consultant is also charged with the responsibility of supervising works and to approve the materials and workmanship of the works.

Contrary to best practice, the Agency commenced the tender process for the engagement of a supervising consultant in July 2008 as evidenced by the letter of invitation dated 17 July 2008. The consultancy agreement was signed on 20 October 2008, four and half months after the commencement of the works contract which the consultant was to supervise. In this regard, the works

had been running from 28 May 2008 without the presence of supervisors on site.

A review of the consultants first and second progress reports issued in December 2008 and February 2009 revealed that the contract was implemented below the required contract performance standards. It was evident thus that the failure by the Agency to engage a supervising consultant on time affected the quality of works.

ii. Delayed Completion

Although the revised completion date of the project was 30 June 2009, it was observed that as of 30 September 2009, there was no substantial completion certificate and the contract was still on-going. It was also observed that there was no request for extension of time.

Inquiries made with consultants revealed that the substantial completion certificate was not issued because major sections of the reconstructed sections had failed. Despite the contractor not having completed the works successfully and on time, the Agency had not applied liquidated damages.

iii. Failure on Reconstructed Sections

It was observed that all the reconstructed sections had failed in that the surface layer of the pavement was peeling off. There was no bonding between the base and the surface dressing and no satisfactory explanation was provided by either the consultant or the contractor.

iv. Unauthorised Fog Spray

Although there was no provision in the contract for fog spray, it was observed that the contractor, without written instruction, sprayed the entire road.

In response to the Auditor-General's inquiry, the contractor and consultants stated that a variation order would be requested for the fog spray. However, no satisfactory response was given by either the consultant or the contractor as to why the fog spray was applied in the absence of an official instruction and an agreed pay rate.

v. Poor Intervention

It was observed that the reconstructed section at km10.2 had an embankment with six (6) corrugated metal pipe culverts which had shown serious scouring on the inlet side, corrosion of metal pipes and overtopping of water during heavy rains.

vi. Lack of Permanent Structures

In January 2008, following heavy rains, there were two (2) wash away sections on the road and as a temporary measure two (2) bailey bridges were installed. At the time of planning and tendering, the Agency did not include works to cater for the replacement of temporary bridges with permanent structures.

A physical inspection of the washed away portions of the road carried out in September 2009 revealed that the embankment upon which the temporary bridges were seated were showing signs of erosion and wide cracks in the supporting embankment.

vii. Irregular Adjustment of Quotation

At the time of planning and tendering, the Agency did not include works to cater for the replacement of temporary bridges with permanent structures.

In this regard, in August 2008, the Manager Construction and Maintenance (RDA) requested the

contractor to submit a quotation to construct permanent drainage structures, the dismantling of bailey bridges including transportation to Regional Engineers office, Lusaka Province. In September 2008, the contractor submitted a quotation in the sum of K6, 516,068,000.

Included in the quotation were amounts totalling K3, 477,000,000 for Preliminary and General (K1, 475,000,000) and for the supply of one hundred and forty-three (143) 2.4 x 2.4m box culverts (K2, 002,000,000). However, when submitting the documents for tender authority, the Construction and Maintenance Manager made adjustments to the contractor's quotation by reducing the Preliminary and General from K1,475,000,000 to K842,595,000 and increased on the supply of 2.4 x 2.4m box culverts from K2,002,000,000 to K2,634,346,000.

It was not clear why the Agency accepted a quotation which included Preliminary and General (P&G) despite the fact that this was a variation order on an existing contract and that the contractor was already on site.

viii. None Adherence to Contract Specifications

Base course is the main bearing layer of the pavement. In the tests carried out, the thickness of layers was significantly lower than what was specified. It was observed that all three (3) samples for base course thickness measurement did not meet the specified 150 mm. They measured 70mm (km2.4), 80mm (km38) and 110 mm (km18).

It is evident from the results obtained from the tests that the contractor did not meet the specifications prescribed in the contract.

h. Periodic Maintenance of Road D365: Monze - Niko - Chitongo & Hamusonde - Maala Road

On 29 April, 2008 the Zambia National Tender Board (ZNTB) conveyed its authority to the Road Development Agency (RDA) to award a contract for the maintenance of road D365 to Messrs China Jiangxi Corporation at total contract amount of K24, 670,539,465 for the contract period of six (6) months. The start and completion dates were 14 June 2008 and 5 December 2008 respectively. The scope of works included gravel wearing course, clearing and grubbing, Repair of existing culverts, Installation of new culverts, road formation and road signs. The works were supervised by BCL Zambia Limited.

As of October 2009, a total sum of K14, 215,935,453 had been paid to the contractor representing 60% of the contract sum. Works had been completed.

The issues set out below were observed.

i. Late recruitment of the Supervising Consultant

Although works commenced on 14 June 2008, the supervising consultant was engaged on 21 July 2008.

ii. Late Submission of Performance Bond by the Contractor

According to the terms of the contract, the contractor was supposed to furnish the performance security or bond within twenty-eight (28) days of signing the contract. But contrary to the above requirement, the contractor did not submit the mandatory performance bond for the first five months of the six month contract.

iii. Absence of the Assistant Resident Engineer

Whereas the contract specified that the consultant's team would include an Assistant Resident Engineer, the engineer was only available on site five (5) months after works had commenced.

iv. Substandard Road Signs

According to the contract, the contractor was to install several new road signs at specific locations along the road.

A physical verification of the road site conducted on 20 September 2009 revealed that more than five road signs installed by the Contractor were supported on thin metal pipe posts of 4.5cm outer while others were supported on posts of 5.5 cm outer diameter. No relevant drawings specifying the right diameter were found in the contract. However SATCC specifications require pipes of 7.5cm internal diameter.

The inspection further revealed that road signs provided were of questionable quality in terms of metal plate used, painting and workmanship.

v. ***Culverts with no Proper Outfall Channels***

The contract provided for installation of new culverts for ease of draining water across the road at various points.

A site inspection of the road site conducted on 20 September 2009 revealed that many culvert outfall channels excavated on the outlet side of culverts had an upward incline thus draining water towards the culvert instead of away from the culvert.

These culverts with adverse outfall slope will be water ponding places instead of being free draining. This defeats the purpose for which culverts were installed.

vi. ***Non Provision of Culvert Outfall Ditches***

Clear outfall ditches are supposed to be provided at culvert outlets to allow for proper drainage of water out of a culvert. A physical verification on site revealed that outfall ditches were not provided at some culvert outlets, leaving culvert outlets looking like 'drop inlets'.

vii. ***Installation of Wrong Culvert Sizes***

The Contract's BOQ provided for installation of concrete pipe culverts of internal diameters 600mm, 900mm and 1200mm. Culverts of 600 mm diameter were meant for junctions at other access roads while culverts of 900mm and 1200mm diameter were to be placed across the project road.

A physical verification of the culverts on site conducted on 20th September 2009 revealed that culverts with diameter of 830mm 840mm or 850 mm were installed at all locations specified for diameter 900mm contrary to the contract specifications and BOQ.

viii. ***Use of Poor Quality Gravel***

Gravel wearing course has to conform to the contract specifications. A physical inspection of the road conducted on 20 September 2009 revealed that gravel wearing course used on long stretches of the road (KM 5.1 – KM 41 and KM 50 – 65) was too stony, i.e. contain oversize stones larger than the allowable maximum size 37.5mm specified in the SATCC Specifications Clause 3402 (e).

The ride quality of the road was therefore poor, forcing some vehicles to avoid the road and use road side tracks parallel to the road.

A gradation (PSD) test carried out on a sample of gravel obtained at km7 revealed that the gravel did not meet SATCC specifications.

ix. ***Lack of Intervention on Bridges and Culverts***

A physical inspection of drifts and culverts conducted on 20th September 2009 revealed that no intervention was done during the periodic maintenance contract to clear the inlets and outlets of drifts at KM 35.8 and 48.5 and silted concrete culverts at KM 41.1, 42.5, and 43.1.

x. ***Cracked Culvert Headwall***

A physical inspection of a six concrete pipe culvert constructed at km49.1 carried out on 20th September 2009 revealed that the concrete headwall on the downstream side had a vertical crack in the middle.

The vertical crack indicates lack of proper reinforcement in the culvert headwall.

i. **Contract for the Construction of the Choma to Chitongo Road**

On 14 July 2008, the Zambia National Tender Board granted authority for the award of the contract for the construction of the Choma to Chitongo road in southern province to China Geo Engineering Corporation at a contract sum of K164, 572,767,310.36 with a completion period of twenty four (24) months. The contract was signed in July 2008 and commenced on 1st August 2008.

The scope of works included massive earth works, cleaning and repair of existing culverts and drainages, construction of new culverts, construction of pavement, repairs of bridges, bituminous surfacing, road markings.

The project was supervised by Messrs Rankin. The scope of works for the consultant included among other things reviewing and updating of contract documents, preparation of construction drawings including supervision services at a cost of K6, 394,487,000. The contract was for a period of twenty four (24) months. As of October 2009 the project was still ongoing.

However, the matters set out hereunder were observed:

i. Failure to Recruit Consultant on Time

Contrary to best practice and terms of reference for the consultant which stated among other things that the contract for the consultant would be awarded one (1) month before the engagement of the contractor, the Agency engaged the consultant a month after the commencement of the works contract.

The consultancy contract sum of K 6,394,487,000 was not revised downwards despite the fact that at the time the consultant was engaged' the reviewing and updating of the contract documents had been overtaken by events in that the contract for the works had already been signed.

ii. Irregular Allocation of Project vehicle to Consultants' Head office

Seven (7) motor vehicles were procured for the use by the consultants. One vehicle, a Toyota Prado, was handed over to the Agency as provided for in the contract while another Toyota Prado was allocated to the head office of the consultants firm. The remaining five vehicles were used on site. It was not clear why a motor vehicle meant for project supervision was allocated to the consultants head office as opposed to the project site.

iii. Attachment of Client's Staff to site for Training

The contract provided for the attachment of client's staff (RDA) for training purpose. An amount of K90, 000,000 was provided in the contract for a period of twenty four (24) months.

The following were observed:

- The contract did not specify the kind of training to be provided to the clients staff.
- Inquiries made with the resident engineer revealed that he was not aware of the attachment. In this regard, no training program was prepared for the staff and no records were maintained for the number of days the trainee spent on the project.
- The contractor paid a sum of K22, 330,000 as subsistence allowance direct to the client's staff Mr. Mubambe Shimete. There was no documentation to support the payment.
- The resident engineer had certified a claim of K49, 000,000 under the budget line. However, the engineer failed to provide a basis in terms of supporting documents on how he had certified the claim.

iv. Irregular Instructions to the Contractor

- Contrary to laid down procedures, in March and April 2009, the contractor paid amounts totalling K9,465,000 direct to RDA staff as supervision allowances following instructions from the Construction and Maintenance Manager, who was one of the beneficiaries. There was however no evidence to indicate how the figure of K9,465,000 was arrived at. It was further observed that there was no evidence of authority from the RDA Director.

- The Agency was issuing instructions directly to the contractor to service motor vehicles not attached to the project (See details below).

Vehicle Reg	Amount K
ABH 5495 (Toyota Hilux)	3,217,158
ABF 2977 (Pajero)	3,385,300
ABC 406 (Nissan Hard Body)	921,592
ABH 723 (Toyota L/Cruiser)	6,227,922
ABR 6030 (Mitsubishi)	<u>3,568,029</u>
Total	<u>17,320,001</u>

In this regard, amounts totalling K17, 320,001 were spent on motor vehicles not related to the project.

v. Non Adherence to Contract Provisions

Although the consultant had certified full payment to the contractor in the sum of K1, 393,700,000 in relation to the provision of seven (7) motor vehicles, a physical verification of the vehicles revealed that the vehicles were not supplied to specifications, for example, the vehicles did not have approved canopy, bull bar including protection for fenders and lights, tow hook and rope, and first aid kit.

Although a sum of K 847,000,000 was certified and paid to the contractor for the provision and maintenance of project managers office and Laboratory, the Laboratory structure provided was not to the standard specified in the contract. For instance the structure lacked air conditioners, the external door and all windows were not fitted with fry screens, the concrete slab for sample drying was not to specifications and the external entrance had no double door but instead was made of corrugated iron sheets.

It could not be ascertained as to why the consultant approved a sub standard laboratory structure contrary to the contract specifications.

Out of four (4) samples tested to assess the thickness of the base course, two (2) samples taken at km 27 and km 21 did not meet the specifications as they both measured 100 mm against the 150 mm specified.

SUBMISSION BY THE CONTROLLING OFFICER, MINISTRY OF WORKS AND SUPPLY, AND ROAD DEVELOPMENT AGENCY MANAGEMENT

The Controlling Officer, Ministry of Works and Supply in conjunction with the RDA Management submitted as set out hereunder.

a. Rehabilitation of A34.7 Km Portion of T2 between Chirundu and Lusaka Km75.0 to Km109

i. Questionable Quality Control by Consultants

The RDA instructed the Consultant to ensure that there was adequate supervision. Adequate records were available to indicate that RDA was dissatisfied with the supervision of the project and directed the replacement of the Resident Engineer.

ii. Failure to Adhere to Consultants Advice

Prior to the engagement of the supervision consultant, a design consultant was engaged to prepare the design for the road and BOQs on whose basis the Agency went to tender. The supervision consultant

had to undertake a design review where he proposed changes to the original design and quantities in the BOQs which resulted in increase to the project cost. The Agency had to carefully consider the proposals suggested in the design review report in relation to the original report in order to ensure value for money. An addendum was signed to implement the recommendation of the Review/Supervision Consultant. Therefore the road was built with thickness of 250mm.

iii. Failure of a Section of the Road

The observations raised were noted. However, It was incorrect to state that “the reconstructed portion of Road T2 collapsed” because the potential points of failure referred to by the Consultant did not include Chainage Km100+900 where the Contractor only applied a surface seal and did not work on the base and embankment hence the inability of the RDA to hold the Contractor responsible for the failure and repair. The Agency had prepared Terms of Reference for Geotechnical Investigations to be carried out at chainage Km100+900.

With regard to the defects observed by the consultant and listed in the table above, the Contractor was issued with instructions to repair the defects. These repair works were carried out at the contractor's own cost.

Asked on why the RDA did not hold the contractor accountable for the failed works, the Director responded that the contractor could not be held accountable because the top layer job which the contractor was assigned to do was certified by an RDA Engineer as perfect. Moreover, it was the bottom layer that collapsed. Since the works were checked and certified by an RDA Engineer, the Committee demanded to be furnished with the Engineer's Report on that section of the road.

iv. Failure to Carry Out Permanent Works

The temporary works which were observed during the site inspection of October 2009 were only intended to open the road to traffic and had not been finalised. The Contractor had since stabilized the base, sealed the road surface and improved the drainage.

The permanent works would involve realigning the road away from the “fill” embankment.

v. Provision of Motor Vehicles

The RDA rejected the one remaining vehicle because of its very poor condition and proposed that the contractor either replaced the vehicle or the money be deducted from his final certificate. The contractor in May 2009 wrote to the client withdrawing the vehicle stating that money for the withdrawn vehicle be deducted from the Final Payment Certificate. The money was duly deducted in the Final Payment Certificate No 23.

b. Contract for the Emergency Repairs of Lusitu Bridge along M15

i. Irregular change in the Scope of Works

The contractor immediately upon mobilisation, and upon assessing the conditions on the ground, submitted a proposal to RDA suggesting how he could execute the emergency works more efficiently and cost effectively. The initial scope addressed the protection of the slopes only rather than the protection of the approaches. The approaches ability to survive overtopping was the issue that needed addressing. The retaining walls in the revised scope dealt with this problem. The initial proposed design did not address the issue of stopping another potential washout, hence the revised design.

The proposal to protect the bridge was accepted by the RDA and resulted in substantial savings of over K1 billion to the Government. Further, a more robust structure in reinforced concrete was delivered to the Government. This was in accordance with international practices of value and results based engineering.

ii. Bill of Quantities

The Report No. 02/09 of March 2009 referred to in the Audit Report was prepared by RDA Monitoring and Evaluation Unit as part of quality assurance and cost control mechanisms. In reaction to the observations in that Report, the following were the explanations:

- i) Trees: At the time of the assessment, and as part of the process of the preparation of the BOQ, the Planning and Design Engineers included the provision for trees because they observed the presence of the trees. The Monitoring and Evaluation Unit visited the site after the trees had been cleared.
- ii) Asphalt Surfacing: Although the thickness was omitted from the BOQ, an appropriate thickness for asphalt was designed and communicated to the Contractor at the time of implementation taking into account the design requirements of such a road. The rate for 40mm asphalt surfacing of K150,000/m² used on this project was comparable to the rates on other projects such as Zimba Livingstone (K148,330/m²).
- iii) The observation had been noted.
- iv) Although the size of the conforce wire was omitted from the BOQ, an appropriate size for conforce was designed and communicated to the Contractor based on the rates used on other on-going projects.
- v) This was an ad measured contract where all works done at the bridge and elsewhere were measured before payment.
- vi) The rates of concrete were consistent with on-going projects when computed. Payments for this contract had not been made and the rates for concrete that would be used would be consistent for both cubic meters and square metres.

Asked on why the RDA opposed findings of the Monitoring and Evaluation Unit, the Director responded that contractors were not being defended because those who previously under- performed were reported to the National Council Construction for appropriate sanctions. The Monitoring and Evaluation Unit was an important integral part of the RDA and its input would continue to be relied on.

iii. Lack of Work Programme

The lack of updated programme was accepted as an anomaly. However, the works undertaken were of an emergency nature whose scope had been changed for the need to have a robust structure; as a result the programme of works had been delayed. The relevant extension of time was also considered with no added cost to the client.

iv. Questionable and Uncompetitive Rates

The inconsistencies in the rates as provided by the contractor were observed. Although the Agency invited five (5) firms to bid on selective tender process only two firms responded to the invitation and the lowest evaluated bidder was awarded the contract. The contract was awarded on the basis of lowest evaluated tender price. Even if a rate analysis was undertaken, in a competitive open tender unit rates were never negotiated as tender procedures did not allow for negotiation on the rates downwards or upwards.

v. Lack of Quality Assurance - Concrete Works

The Evaluation and Monitoring Unit's observations were noted. The mix design was analysed and approved by RDA and resulted in satisfactory concrete strength. Arising from the report by Monitoring and Evaluation Unit, the project records were maintained and were available for inspection. The project was supervised by the Regional Engineer and one engineer from Head Office albeit not on fulltime basis. The Materials laboratory was engaged to carry out random tests on materials on the project. An independent laboratory was engaged by the Contractor and test results were satisfactory.

The works certified and paid for were satisfactory and any non-compliant work was rejected.

The Road Development Agency would employ fulltime supervisors on all major contracts in future.

vi. Delayed Works

The Contractor was charged liquidated damages amounting to K8 million for works that were completed after the extended period.

vii. Quantities, Measurements and Certification

Although the quantities in the BOQ were higher than the measurements on the ground, this was an ad measured contract and payments were based on actual measured works done. The variation order reduced the cost of the billed items and increased the contingency amount from K600 million to over K1billion, implying that this money would only be spent with express instructions from the Project Manager and constituted a potential saving as all other items had been covered in the BOQ. There was no payment of K7, 786,786,786 and no loss of K799, 285,786 incurred on the project. The actual amounts certified and paid to date amount to K 6,319,801,251.12. The final valuation had been done and a saving of K995 million had been realised.

viii. Physical Inspection

Gabions

The gabion stones that were not neatly packed and those that had larger stones than allowable maximum size including those that were not even faced or improperly laid as observed at the time of the audit inspection, were removed and replaced (according to the drawings provided).

Only the measured quantities amounting to 510 cubic metres had been certified in the final account.

Concrete Lined Drains

RDA had only paid for 20m² of concrete which was approved as having been properly constructed out of 200m² constructed. The lean concrete which could be easily crushed by hand was not certified and paid for.

ix. Test Results

The cube test results that were undertaken by an independent consultant showed that the concrete was compliant with the specification.

The Schmidt Hammer test was a crude test that could not be used to certify the compliance of the strength of concrete with absolute certainty. It gave results that vary in the range of up to 40% and was not the recommended test in the specifications.

Sampling

- i. The specified concrete strength for the concrete retaining wall structures as per Bill of Quantities was "20/19" which implied that the Concrete must achieve strength of 20 Mega Pascals (MPa) at 28 days with aggregate size 19mm. For lean concrete, the Zambian Standards for Roads and Bridges specifies a minimum strength of 12 MPa.
- ii. Some of the tests were carried out on lean concrete and therefore, results could not be generalized i.e. results for each test specimen must be tabulated to show which structures were referred to.
- iii. The sampling method whereby only the top part of the concrete retaining wall was tested was inconclusive. For concrete retaining walls which were exposed to hydrostatic pressure on one

face and free on the other, the most pressure was registered at the bottom near the toe or base of the structure. Secondly, the top concrete was usually cast in later lifts which meant the age was different from the one below. It was likely that if this earlier lift was tested, a higher reading would have been recorded.

- iv. On two of the wing walls a small portion measuring approximately 50mm x 35mm was used to collect 10 readings. American Society for Testing Materials (ASTM) C805 stated that to carry out any strength tests using Schmidt hammer, "select test locations so that a wide range of rebound numbers in the structure is obtained. Obtain, moisture condition, and test cores in accordance with Test Method C 42/C 42M. As noted, the sampling area for all four Wing-walls was very minimal (<1%) at the worst, no moisture content readings were obtained or derived neither were cores extracted. Therefore, the result obtained was not representative of the rest of the walls which measure approximately 30.5m long by 3.6m deep each.

Test Method (Schmidt or Rebound Hammer)

1. ASTM C 805 states that this method was applicable for the following uses:
 - to assess the in-place uniformity of concrete;
 - to delineate regions in a structure of poor quality or deteriorated concrete; and
 - to estimate in-place strength development of the test specimen but should not be used as a substitute for performing normal specified quality control procedures.

The ASTM standard further states that to use the device to estimate in-place strength, a relationship between strength and rebound number needed to be established for the specific concrete mix design (s) of interest. Reliable results for in-place concrete compressive strength could only be realized after project specific calibrations were carried out. None of these preparations were carried out. To use this test method to estimate strength, it was necessary to establish a relationship between strength and rebound number for a given concrete mixture and given apparatus. It was very vital to establish the relationship by correlating rebound numbers measured on the structure with the strengths of cores taken from corresponding locations. It was understood that no such cores had been extracted from the above site to establish this correlation. Because the test only measured the rebound of a given mass on the concrete surface, the results reflect only the quality of the surface, and not the entire depth of the section being tested.

2. Further, the Federal Highway Administration (United States Department of Transport), in its publication No. FHWA – SA – 97 – 105 dated September 1997, stated:

"The Schmidt hammer could not be regarded as a substitute for standard compression tests but as a method for determining the uniformity of concrete in structures, and comparing one concrete against another. Estimation of the strength of concrete by rebound hammer was within an accuracy of ± 15 to 20% for test specimens cast, cured and tested under laboratory conditions and that the accuracy of the rebound hammer for estimating in-place compressive strength in the field was approximately ± 30 to 40%."

The above test method was not the prescribed method and had serious limitations; therefore, it could not be used to demonstrate the quality of concrete in terms of strength. Other factors that affect the test results included, Surface smoothness, age of material being tested, moisture content, type of cement, carbonation of concrete surface and the type of aggregate used. Also random errors by the handling technician could seriously distort the readings. Further systematic errors emanating from non- or improper calibration of the hammer could give false impressions.

c. Contract for the Periodic Maintenance of Road D347, Kalomo to Kabanga Mission in Southern Province 70.1km

i. Delay in Engaging Consultant

For the first three months, staff from the RDA Regional Engineer' office were supervising the Contractor who at the time was mobilising and carrying out very limited volume of work for the first two weeks and as such did not require full time supervision.

The Regional Engineer conducted the first two site meetings and certified payments for mobilisation and clearing and grubbing. Further, the Regional Engineer also produced progress reports for the initial stage. The Controlling Officer pledged that, in future effort will be made to procure consultants in good time.

ii. Questionable Award of Tender

The Evaluation Committee followed the laid down evaluation criteria as stipulated in the bidding documents. The then Zambia National Tender Board had concurred with the recommendation of the Evaluation Committee. While staff changes could be made post qualification and during implementation, it was not lawful to change the evaluation criteria at evaluation stage.

Submission by the Director-General of the Zambia Public Procurement Authority

The Director-General in his submission on the matter stated that the disqualification of Raubex Construction (Z) Limited, for providing key staff that did not meet the required qualification was correct. Non-compliance on key personnel was material deviation as this had an effect on the quality of works. In addition, waiving this requirement or requesting the bidder to replace unqualified personnel with suitably qualified personnel would have been irregular as other bidders were not permitted to change the substance of their bid after the closing date for submission of bids.

iii. Non Submission of Performance Bond by the Contractor

This was an oversight on the part of RDA. The contractor delayed to submit the performance bond but it was later submitted after being warned by the Agency for fundamental breach.

In future, contractors who fail to submit the performance bonds according to the contract will have their contracts terminated.

iv. Contractor's Equipment

The contractor had hired some equipment during the first one and half months of the project awaiting the arrival of new equipment from China. Some of the hired equipment was in a good condition while some was in a poor state. The contractor indicated that, at bidding stage some of the Plant and Equipment was outside the country and when the new equipment arrived, progress and quality of works improved. The Contractor eventually imported the equipment as required by the contract and successfully completed the works within the cost.

v. Delayed Mobilisation

The contractor had not mobilised as at 13 June 2008, but however, the contract was completed on 26 June 2009.

vi. Physical Inspection

The project was substantially completed on 26 June 2009 and the culverts in question were vandalised

by the local people who had the intention of stealing existing armco pipes after the works had been completed. The contractor was instructed to re-fix the vandalised structures and all other defective structures. Corrective works had been undertaken.

d. Kafue – Mazabuka Road T1- Periodic Maintenance (TB/CE/005/08)

i. Tender Evaluation

The Evaluation Committee followed the laid down evaluation criteria as stipulated in the bidding documents, and the general guidelines in the Public Procurement Act. Further, asking a contractor to change personnel did not amount to seeking clarification, rather it amounted to modifying or changing the substance of the bid which was not allowed by the Public Procurement Act.

Submission by the Director-General of the Zambia Public Procurement Authority

The Director-General in his submission on the matter stated that the Road Development Agency acted correctly in disqualifying Raven Works Construction as the bidder was non-responsive. Section 50 (4) of the Public Procurement Act, which is quoted, permits a procuring entity to seek clarification from a bidder. He added that this section does not permit a procuring entity to request for new information or documentation which was not submitted at the time of tender closing. The same clause states that no changes in the substance of bids shall be permitted.

ii. Delayed Engagement of Supervisor

It was initially planned that the holding maintenance works would be supervised by an in-house team of RDA. This was changed to provide for an external consultant. That is why in the first few months when the Contractor was mobilising and only very limited volume of work could be undertaken. The supervision was carried out by RDA staff albeit not on a full time basis and there was nothing wrong with the arrangement. In future, supervising consultants would be appointed prior to commencement of the works.

iii. Questionable Certification

Although the final certificate was made during the time of the second contract, the works and measurements were completed before the second contract.

Further, the scope for the first project was only pothole patching and reconstruction of a section at Mazabuka while the second project involved pothole patching the whole road and resealing of 30km out of a total of 72km with surface dressing. The completion certificate (which was due after the 6 months defects liability period) took long to be signed because the contractor contested the amount certified in the final payment certificate. Although the final certificate was made during the time of the second contract, the works and measurements were completed before the second contract.

iv. Poor Workmanship

The original scope of works for this project was pothole patching, edge break repair and limited resealing. The project experienced some challenges during execution due to the fact that the road had reached its design life and required reconstruction/rehabilitation.

The major issue on this road is that there is very little life remaining and the road requires major rehabilitation and reconstruction works to address a severely distressed base layer. The current inadequate funding regime will delay this intervention.

Submission by the Managing Director of Raubex Construction Limited

The Managing Director in his submission on the queries stated the following:

Questionable Certification

The first contract for pothole patching was completed on 5 August 2007. This was 10 months before the second contract commenced. The Final Completion Certificate should have been issued in August 2008. The final Completion Certificate was however only issued on 22 December 2008. The first contract was very small and was completed in one month. It was an oversight by the RDA and Raubex that the Certificate of Completion was not issued earlier.

Poor Workmanship

It was true that potholes continued to open up on the road. This was so because the road was old and beyond its design life. Very soon the entire road would fail. Potholes continued to develop during the construction period, resulting in delay and extension to the contract period. The only reason why work stopped was because the available money on the contract ran out. Potholes would continue developing on the road until it was properly repaired. The contract was for the repair of potholes and this was done until the available quantities according to the contract document and the contract funds were exhausted.

He disputed the audit findings that the work was poorly executed and that contract specifications regarding edge repair were not followed.

He agreed that cold premix was used for a very short period and immediately instructed by the supervising engineer to remove all cold premix and replace it with hot premix asphalt. This was immediately done and can be confirmed by ASCO and the RDA.

New potholes were still appearing on the road. Upon inspection, it would be noted that they were new potholes and not previously patched potholes that were reappearing, as stated in the Audit Report. The contract had been finally completed and the Final Completion Certificate issued.

e. *Zimba – Livingstone Road TB/CE/019/08, 30KM*

i. Delayed Works

The contractor had experienced problems to secure suitable stone aggregate and the contractor was charged liquidated damages in the amount of K2, 671,455,198.53. The project also delayed due to inclement weather which necessitated a six (6) months extension of time granted to the contractor was without costs to the client. The project was however completed in December 2009 at a total project cost of K103, 175,050,651 as compared to the total original cost of works and supervision (K105, 196,183,649).

ii. Misapplication of Funds

The Consultant and Project Manager approved the IPC for payment of motor vehicle service. The 10% capping on operational funds meant that RDA had to utilise project funds to service vehicles. In any case these vehicles were engaged in supervising the projects.

f. *Zimba – Livingstone Road T1 Km 30.00 to km 72.80 TB/CE/096/08*

i. Irregular Award of Contract

This tender was awarded appropriately by the Tender Authority that also issued the Circular No. 1 date 4 March 2008 on 14 July 2008 following the lifting of the ban on 23 June 2008.

Submission by the Director-General of the Zambia Public Procurement Authority

The Director General in his submission on the matter stated that authority to award the contract was given after the suspension was lifted. He submitted that Circular No. 1 of 2008 suspending companies, which included China Geo Corporation, was issued on 4 March 2008. On 23 June 2008, Circular No. 3 of 2008 was issued clearing some of the suspended companies. China Geo Corporation was one of the companies cleared. Authority to award the contract to China Geo Corporation on the subject tender was granted by the Central Tender Committee on 10 March 2009.

ii. *Abnormal BOQ Rates*

In 2007, the National Authorising Office (NAO) of the European Union through the ZNTB invited bids for the rehabilitation of 72km of Zimba – Livingstone and a total of 4 bids were received. Following the evaluation, all the four (04) bids were found to be non responsive and the RDA requested from the EU if direct negotiations could be held with Raubex Construction Limited whose bid was €28.6 Million (VAT exclusive) for the whole section of Zimba – Livingstone Road (72km) but the European Union (EU) declined. This resulted in the road deteriorating further hence GRZ provided funds for the rehabilitation of the first 30km. The contract for the first 30km was then awarded at K105 billion [€17.5million] (VAT inclusive). The tender for the section from Km30 to Km72.8 was then floated by the Contracting Authority who are the NAO of the European Development Fund (EDF) and awarded at €35.5million to China GEO Engineering in 2009. It was important to note that had the EU accepted direct negotiations (which were provided for in the Zambia National Tender Board Act) with Raubex whose bid price was €28.6 million in 2007, the whole price escalation would have been avoided. If the earlier recommendation was accepted by the EU, there would have been potential savings of €21.6 million [K129.6 billion]. The RDA could not be held responsible as it had no influence on bid prices as bidders determine their own prices.

The procurement of the 42km contract was based on an International Competitive Bid (ICB) and awarded at a different time, and is unrelated to the contract for the first 30km. The project was procured under the National Authorising Office of the European Development Fund in the Ministry of Finance and National Planning, under the observance of the EU delegation.

An international consultant prepared the bidding documents and was available with the EU and NAO to observe the bid evaluation process. It is incorrect to compare unit rates for different contracts with different specifications and tendered at different times.

During the oral submission, your Committee was informed that the European Union would carry out its own internal audit of its funds.

iii. *Lack of Laboratory Equipment*

The contractor hired laboratory equipment while awaiting delivery of his equipment from overseas. It was normal to arrange a stop gap measure in such circumstances. Any delay that was attributed to the contractor would result in liquidated damages being charged. The intended completion date for this project was 5 November 2010, and the contractor scheduled to complete on time.

g. *Contract for the Periodic Maintenance of Road D775 from Batoka to Maamba*

i. *Poor Project Planning*

In the first few months, the Contractor was mobilising and very limited volume of work was undertaken and the supervision was carried out by RDA staff. Consultants would be procured in good time in future.

ii. *Delayed Completion*

The contractor completed the works within the revised completion date of 30 June 2009. However, the Consultant refused to issue the completion certificate on account of outstanding snags. Liquidated damages could therefore not be charged because works were substantially completed.

iii. Failure on Reconstructed Sections

The defects observed by the Auditors were actually part of the snag list. All the remedial works at Km2.4+000 and Km50+000 were undertaken and can be verified.

iv. Unauthorised Fog Spray

The contractor applied the fog spray in order to protect against stripping in the cold season. The fog spray enhanced the quality of the road though the RDA did not pay for it. This was a gain by the Government.

v. Poor Intervention

There was no intervention at the said chainage due to insufficient funds in the Annual Work Plan. The whole Batoka-Maamba Road (88kms) requires major rehabilitation which is a subject of availability of funds.

vi. Lack of Permanent Structures

There was no intervention at the said chainages due to insufficient funds in the Annual Work Plan. The whole Batoka-Maamba Road (88kms) requires major rehabilitation which is a subject of availability of funds.

However, the condition of the embankments holding the Bailey bridge deteriorated further in the rainy season, the Agency sought to carry out emergency repairs through a variation of the existing contract. This variation approved by the RDA Tender Committee was rejected for funding by the NRFA because it was more than 25% of the contract sum which is contrary to the experience on other projects. The works were therefore not executed. The Agency had carried out emergency repairs on the embankments holding the bailey bridges. Permanent works would be carried out once funds were made available.

vii. Irregular Adjustment of Quotation

At the time of planning and tendering, the Agency omitted the replacement of bailey bridges with permanent structures because funds were not adequate. During implementation, it was realised that the condition of the supports for the bridges had deteriorated significantly and required replacing hence the motivation for the variation.

The contractor provided a quotation that included P&Gs because the type of works were different from those included in the original scope and additional time related costs were going to be incurred. The contractor was prepared to reduce the P&Gs but increase the rate so that his overall price was not reduced on a take it or leave it basis. The quotation was adjusted by the contractor and not the Manager Construction and Maintenance as the contractor insisted on the total price remaining unchanged. The only advantage to the client was the reduction in the front loading. It is normal practice in engineering projects to negotiate new rates with contractors. Only a mutually agreed quotation can be presented for approval. The initial quotation totalled K6, 516,068,000.00 and the contractor adjusted the quotation to K 6,515,999,560.00. The original quotation was higher by K 68,440.00. The RDA had not implemented the variation as it was not executed.

viii. None Adherence to Contract Specifications

Contrary to the tests shown in the Audit Report, coring and destructive tests results carried out by RDA, the consultant and the contractor on the mentioned changes revealed that the thicknesses were compliant to the specifications. The weakness of coring tests is that water is used for lubrication which tends to disintegrate the core or part of the core. It is therefore not reliable for base thickness tests

unless the person carrying the test is experienced. Thicknesses can therefore be confirmed by destructive tests such as the ones they had conducted or Dynamic Cone Penetration (DCP) tests.

Submission by the Managing Director of Rabex Construction Limited

The Managing Director in his submission on the queries stated the following:

At the time of the visit by the Audit Team, all reconstruction sections had been completed and the surface dressing had been applied. The team on site, when the audit team visited, was busy patching new potholes and back chipping bleeding sections of the road. This work was labour intensive and could not be performed with heavy construction equipment.

Although it was possible that repaired potholes might fail, these were immediately repaired. No potholes repaired by Raubex had failed to date. The contract prescribed that potholes be repaired to a depth of 150mm. It was possible that a layer might fail due to problems in the sub base layer but such work was not included in the contract.

The reconstructions works on this contract had been severely tested due to the large amount of heavily overloaded trucks that were hauling coal along this route. No damage to the reconstructed base was evident at this stage more than one year after completion of the reconstruction. The cement to be applied to the base course was prescribed as 3%. This amount was applied by Raubex and was verified by the supervisor.

Delayed Completion

Claims for extension of time were submitted on 18 November 2009 and approved. Certificates of Completion were issued. There was, therefore, no liability for liquidated damages.

Failure on Reconstruction Sections

It was true that the surface dressing on the reconstructed sections was severely bleeding and that localised sections of the seal had picked up as a result thereof. This was caused by lack of a proper design and had been repaired. A notice of a Claim in this regard for compensation for the cost of repairing the bleeding sections had been submitted to EG Pettit.

Unauthorised Fog Spray

The road was fog sprayed at the cost of Raubex. Any seal that was applied anywhere in the world had either precoated chips or fog spray of the seal prescribed. These two applications were not measured in Zambia for some inexplicable reason. Even contracts currently being tendered for did not have one or the other. The absence of one of these applications was responsible for a lot of the problems of stripping and bleeding currently experienced on several contracts in Zambia. Raubex decided to apply a fog spray at its own cost since that was the right thing to do. The same was done on the Chipata to Lundazi Contract at considerable expense. Due to the long time it took for decisions to be made Raubex continued with the fog spray at its own cost with the hope of convincing the RDA that it was the right thing to do.

Irregular Adjustment to Quotation

Raubex was requested to submit a quotation for the repair of some drainage structures that were not measured in the contract. As the contract did not include any concrete work of this nature, Raubex had to include a P&G item for the establishment of concrete equipment, material, plant and personnel. The statement in the Audit Report that P&G should have been included in the original contract did not make any sense at all.

Upon submission of the quotation for the construction of the culverts, Raubex was informed that the amount for P&G was too much. Raubex explained to the Construction and Maintenance Manager that the total price submitted was what they were expected to

be paid for completion of the additional work. Raubex then resubmitted the quotation where they moved some of the P&G money to the item for Box Culverts. The additional work was never approved and no money was spent on this item.

Non Adherence to Contract Specifications

The thicknesses of the base layer of the reconstruction sections were checked by Raubex, RDA and EG Pettit on 3 June 2010 and a report was done by EG Pettit.

The base layer thickness was remeasured in all the places where the Audit Report stated that the base thickness was below 150mm. An additional test was also performed at Km 34+600. On all the four locations, the base layer thickness was found to be adequate.

This was the first time that Raubex had seen the thickness of a stabilised layer being measured using a core drill. This was not a standard method and was not used anywhere that Raubex had worked. The moment the core drill hits a stone, the sample starts vibrating and breaks up. The only way for measuring the thickness of a layer was by digging a test pit and measuring the thickness of the layer in the test pit. For the Audit Report, cores were drilled and the piece of core that was removed intact was taken as being the thickness of the base layer.

h. Periodic Maintenance of Road D365: Monze - Niko - Chitongo & Hamusonde - Maala Road

i. Late Recruitment of the Supervising Consultant

In the first month, the Contractor was mobilising and very limited volume of work was undertaken and the supervision was carried out by RDA Regional Engineer's staff. In future, the consultancy services would be procured on time.

ii. Late Submission of Performance Bond by the Contractor

The Auditor-General's comments had been noted. The contractor delayed to submit the performance bond but it was later submitted after being warned by the Agency for fundamental breach. He added that in future, contractors who failed to submit the performance bonds according to the contract would have their contract terminated. He cautioned that this may, however, result in delayed implementation of projects arising from the need to procure another contractor.

iii. Absence of the Assistant Resident Engineer

Although the Resident Engineer took up the responsibilities of the Assistant Resident Engineer also, no inputs were certified for the Assistant Resident Engineer during the months he was not available.

iv. Substandard Road Signs

The Agency instructed the Consultant to have the signs replaced. The contractor had since replaced the road signs and had been cautioned.

The Committee wanted to know what cautioning the contractor entailed. In response, the Controlling Officer submitted that the contractor may not be considered for future projects.

v. Culverts with no Proper Outfall Channels

The contractor was instructed to correct the defective outfall and works are in progress and the Consultant had been cautioned.

vi. Non Provision of Culvert Outfall Ditches

The contractor had been instructed to excavate the ditches and was cautioned.

vii. Installation of Wrong Culvert Sizes

The culvert pipes were supplied by Infraset Zambia Ltd, which was accredited to the Zambian Bureau of Standards. The pipes were in compliance with the standard specifications for roads and bridges. The difference between 84cm and 90cm is not significant and could not be deemed to be a result of cheating.

viii. Use of Poor Quality Gravel

The result of the gradation test was not provided, neither was the sampling method provided. At the time of the audit inspection the completed road had already undergone one full rainy season during which fines were washed off leaving coarse gravel exposed.

ix. Lack of Intervention on Bridges and Culverts

The silting of culverts occurred after the works had been completed. De-silting would be carried out under routine maintenance contracts.

x. Cracked Culvert Headwall

The cracked culvert headwalls were already noticed and an instruction to address the issue had already been given as the contract was still under defects Liability Period. The appropriate reinforcement was incorporated.

i. Contract for the Construction of the Choma to Chitongo Road

i. Failure to Recruit Consultant on Time

On a quality-cost based procurement, the recruitment of a consultant takes more time than the procurement of the Contractor. The Agency planned that the initial supervision could be undertaken by RDA staff especially that the works were very limited in scope and consisted mainly in site establishments. In this case, the engagement of a Consultant one month later was not adverse at all in the RDA's view, as the contractor had three months of mobilisation. He added that it was normal practice for Consultants to review the designs even when the works were on-going. Regarding the Contract sum, the Agency could not revise it downwards because the supervision was based on a complex time based contract. The payments to the Consultant were based on monthly input on site.

ii. Irregular Allocation of Project vehicle to Consultants' Head office

RDA followed contractual agreements by providing six vehicles for supervision to the consultant. The six vehicles were meant to be on site and RDA was not aware that one of the vehicles had been taken to the Consultant's Head Office. The vehicle had since been withdrawn from the Consultant's Head Office.

The Committee wondered how and why the Ministry of Works and Supply could not tell which vehicle they had allocated to the consultant was where and doing what. In response, the Controlling Officer submitted that it was difficult to tell where the vehicle was kept because each time they went to the site, they found it, assuming that it was kept where it should be.

iii. Attachment of Client's Staff to Site for Training

The attachment of client staff on the project was for the RDA engineers to have hands-on experience by way of mentoring. The RDA wrote to the supervision consultant about the attachment of young engineers to the supervision team. The Engineers were supposed to learn on: how the contract specifications were applied;

how measurements were carried out, how certificates were generated and many other issues which the supervision Consultant did on project sites. The Agency did not therefore have to come up with a structured training programme as the RDA officer was going to learn from the consultant by working with them.

They added that the welfare of the Agency staff attached to the project fell under the consultant. The payment to the officer was made on the contract through the consultant who was maintaining all payment records on the project. The K49 million was claimed by the Consultant as advance preparation for training of more Agency staff. Any funds not utilised for training would be recovered from the contract. They contended that the funds paid to the Engineer (Mubambe Shimete) had been accounted for. It was not possible for the Resident Engineer not to have been aware of the RDA Engineer he was working with.

iv. Irregular Instructions to the Contractor

The amount of money paid to the Agency staff was to facilitate supervision and was collected as accountable imprest. No additional allowances were paid by the RDA to the officers from the operational funds. The funds had been retired accordingly. These funds were already provided for in the BOQ and The Manager-Construction and Maintenance was the authorised Project Manager's Representative (PMR). The authority from the Director and Chief Executive Officer was given.

i. The table below shows the breakdown of the Southern Province trip for a site meeting of Choma – Chitongo, inspection of Zimba – Livingstone road, Livingstone City Roads and Priority River Crossings in Mosi-O-Tunya National Parks. The above exercise was conducted from 11th March, 2009 to 15th March, 2009.

Imprest for site visits for various projects in Southern Province

Name	Description	Rate	No. of Nights	Amount (K)
Malubila S. (RDA Manager Construction & Maintenance)	Accountable Imprest obtained	Ls		2,820,000.00
	Amount used in Choma	500,000.00	2	1,000,000.00
	Amount used in Livingstone	500,000.00	2	1,000,000.00
Imprest Retired				820,000.00
A	Total			2,820,000.00
S. Chimwando (RDA HQ Engineer)	Out of Pocket Allowance	145,000.00	4	580,000.00
	Food (Accountable imprest)	100,000.00/day	4	400,000.00
	Accommodation Choma	250,000.00	2	500,000.00
	Accommodation Livingstone	350,000.00	2	700,000.00
B	Total			2,180,000.00
Grand Total A +B				5,000,000.00

The table below shows the breakdown of the Southern Province trip for a site meeting of Choma – Chitongo. The above exercise was conducted from 14th April, 2009 to 16th April, 2009.

Imprest for Choma Chitongo site visit in Southern Province

Name	Description	Rate	Nights	Amount
G. Chilukusha (RDA Environmentalist)	Out of Pocket Allowance	155,000.00	2	310,000.00
	Food (Retirable imprest)	110,000.00/d	2	220,000.00
	Accommodation & Tours (Retirable imprest)	450,000.00	2	900,000.00
A	Total			1,430,000.00
L. Nyawali (RE South)	Out of Pocket Allowance	155,000.00	2	310,000.00
B	Total			310,000.00
Simon Chimwando (RDAHQ Engineer)	Out of Pocket Allowance	145,000.00	2	290,000.00
	Food (Retirable imprest)	110,000.00/d	2	220,000.00
	Accommodation & Tours (Retirable imprest)	450,000.00	2	900,000.00
C	Total			1,410,000.00
Fuel				1,495,000.00
Grand Total A+B+C + Fuel				4,645,000.00

All supervision funds allocated on this project would be transferred to the RDA Head Office Operational Account and would be drawn for supervision purposes as normal accountable imprest.

ii. Servicing of Vehicles

The RDA operational budget was not adequate and management had taken the initiative to service the vehicles using project funds for vehicles used for inspection on the same project. All RDA vehicles were invariably used for supervision of projects. The matter of inadequate operational funding to the RDA must be addressed by removing the 10% capping on the local resources for the operational costs for the three Agencies, alternatively, the 10% capping should be applied on the entire budget including donor funds. All payments for motor vehicle servicing from funds allocated on this project for this purpose would be requested through the Consultant.

v. Non Adherence to Contract Provisions

Vehicles supplied not to specifications

The Agency had noted the observations and the matters set out hereunder were raised with the contractor.

- a) The contractor had been requested to include the missing accessories on the vehicles and had been asked to check adherence to specifications more meticulously. At the time of the audit, the project was still on-going and was at 50% completion. The missing accessories were not available at start of project and supply of vehicles could not wait till the accessories were in stock; and
- b) The drawing in the contract document detailing the office and laboratory space required was 129 square metres, the contractor provided a total of 180 Square metres which was adequate. It would be noted that the drawing in the specification only provided for one office but the contractor has provided more than the specification. They contended that the issue of non-adherence to specification did, therefore, not arise. Although there was a specification for the laboratory, there was no pay item in the Bill of Quantities. After the visit from the Audit team to the Choma-Chitongo Road, a query was raised on site to ascertain the reason why there was an apparent problem with the thickness of the base layer, specifically at km 20+720 and km27+250.

To address this concern, the Consultant carried out sand replacement tests immediately next to the cores that were taken in the Audit. The event was photographed and documented.

The thickness satisfied the requirements of Clause 3405 (b) of the SATCC Specifications, which stated that “the thickness tolerances referred to in Clause 7205 shall be as follows:

Base D90: 21mm, Dmax: 27mm and D_{Avg}: 5mm”

Clause 7205 (b)(i) states: “at least 90% of all thickness measurements taken before any thickness repairs are made are equal to or greater than the specified thickness, minus the D90 tolerance specified in the appropriate section;” So such, the thicknesses all exceed the specification requirements of $150\text{mm} - 21 = 129\text{mm}$.

Your Committee wanted to know what happened when a Presidential pronouncement was made, as was common during by-elections, to embark on or complete a project such as a road, and whether such pronouncements were accompanied by resources or whether RDA had to use money allocated to other projects for that purpose or whether over procurement was indeed the result in cases like that.

In response, the Controlling Officer submitted that Presidential directives were normally considered as government programmes and were therefore treated as such. He added that most Presidential directives were accompanied by resources. If they were not, the Government was obliged to make funds available.

COMMITTEE’S OBSERVATIONS AND RECOMMENDATIONS

a. Rehabilitation of A34.7 Km Portion of T2 between Chirundu and Lusaka Km75.0 to Km109

i. Questionable Quality Control by Consultants

Your Committee observes that RDA was alert on the project to ensure that a quality product was delivered. The matter should be closed subject to verification.

ii. Failure to Adhere to Consultants Advice

Your Committee recommends that the matter should be closed subject to verification.

iii. Failure of a Section of the Road

Your Committee is comforted with the information that RDA is about to commission a geotechnical investigation on chainage Km100+900, and also that a contractor was engaged to carry out temporary remedial works. The Controlling Officer is urged to report progress on the results of the investigations including the decision that will be made on the particular road section.

iv. Failure to Carry Out Permanent Works

Your Committee resolves that the matter should be closed as their recommendation in (iii) above will suffice.

v. Provision of Motor Vehicles

Your Committee resolves that the matter should be closed subject to verification.

b. Contract for the Emergency Repairs of Lusitu Bridge along M15

i. Irregular change in the Scope of Works

Your Committee urges the Controlling Officer and the RDA Management to make available the authority for the contractor to alter the design of the interventions.

ii. Bill of Quantities

Your Committee observes that the omissions on the BOQ on thickness of asphalt surfacing and size of the concrete wire suggests that the planning and design engineers were negligent in the performance of their duties.

The Controlling Officer and RDA Management are urged to take disciplinary action against the officers. The RDA should further issue guidelines on testing to avoid situations where findings of RDA engineers are nullified in preference for those of the contractors on account of the method used.

iii. Lack of Work Programme

While acknowledging that the works were of an emergency nature, your Committee advises the Controlling Officer and the RDA Management to always ensure that procedures that are bypassed in an emergency are later on regularised.

iv. Questionable and Uncompetitive Rates

Your Committee accepts the explanation on the strength that these were emergency works.

v. Lack of Quality Assurance - Concrete Works

Your Committee urges the Controlling Officer to have the project records verified. They, however, caution the Controlling Officer and RDA Management that for purposes of checks and balances, it is not advisable to solely rely on test results from a contractor. If the RDA was not able to assign staff to projects on fulltime basis, services should have been outsourced. The project was indeed poorly supervised.

The Controlling Officer is urged to sternly warn RDA Management for not acting on information provided by their Monitoring and Evaluation Unit.

vi. Delayed Works

Your Committee resolves that the matter should be closed subject to verification.

vii. Quantities, Measurements and Certification

Your Committee urges the Controlling Officer and RDA Management to reconcile their figures with the Auditor-General.

viii. Physical Inspection

Gabions

Your Committee resolves that the matter should be closed subject to verification.

Concrete Lined Drains

Your Committee resolves that the matter should be closed subject to verification.

ix. Test Results

Considering the seriousness of the matter and the opposing views on the method of testing, your Committee resolves that fresh tests should be conducted using an agreed method with all parties present.

- c. **Contract for the Periodic Maintenance of Road D347, Kalomo to Kabanga Mission in Southern Province 70.1km**
- i. Delay in Engaging Consultant*
- Your Committee reiterates its recommendation that RDA should adopt a working practice that will ensure that consulting engineers are engaged before the commencement of any road works contract.
- ii. Questionable Award of Tender*
- Your Committee resolves that the matter should be closed since no procurement rules were breached.
- iii. Non Submission of Performance Bond by the Contractor*
- Your Committee urges the Agency to ensure that, in future, performance bonds are submitted as specified in contracts.
- iv. Contractor's Equipment*
- Your Committee notes that at the time of bidding for the works, the contractor's equipment was in China. The Controlling Officer and RDA Management are advised that, for short term road contracts, preference should be given to companies with equipment readily available in the country.
- v. Delayed Mobilisation*
- As in (iv) above, your Committee reemphasise the need to award short term contracts to firms whose equipment is readily available.
- vii. Physical Inspection*
- Your Committee notes with satisfaction that corrective works had been done. The Agency is urged to ensure that appropriate materials are used in project areas where there is a problem of vandalism. The corrective works should be verified.
- d. **Kafue – Mazabuka Road T1- Periodic Maintenance (TB/CE/005/08)**
- i. Tender Evaluation*
- Your Committee resolves that the matter should be closed as there was no breach involved.
- ii. Delayed Engagement of Supervisor*
- Your Committee reiterates its recommendation that the RDA should adopt a working practice that ensures that consulting engineers are engaged before the commencement of works on a road contract.
- iii. Questionable Certification*
- Your Committee resolves that the matter should be closed subject to verification.
- iv. Poor Workmanship*
- Your Committee notes the poor state of the Kafue-Mazabuka Road. The Controlling Officer is urged to prioritise total rehabilitation of the Road considering its economic importance. Temporary interventions, though necessary, are costly in the long run.

e. **Zimba – Livingstone Road TB/CE/019/08, 30KM**

i. ***Delayed Works***

Your Committee appreciates the fact that the Contractor had been charged liquidated damages for delaying the works. This is how it should be on all contracts where the contractor delays works. The matter should be closed.

ii. ***Misapplication of Funds***

Your Committee urges the RDA to avoid having such arrangements with contractors. Furthermore, this explanation should have been provided during the audit. RDA is urged to be cooperating with auditors.

f. **Zimba – Livingstone Road T1 Km 30.00 to km 72.80 TB/CE/096/08**

i. ***Irregular Award of Contract***

Your Committee resolves that the matter should be closed.

ii. ***Abnormal BOQ Rates***

The Committee resolved that the matter should be closed as the contracts were awarded under different circumstances.

iii. ***Lack of Laboratory Equipment***

Your Committee urges RDA to ensure that there are no delays on the project attributed to the contractor. Should there be delays, liquidated damages must be claimed.

g. **Contract for the Periodic Maintenance of Road D775 from Batoka to Maamba**

i. ***Poor Project Planning***

Your Committee reiterates its recommendation that the RDA should adopt a working practice that ensures that consulting engineers are engaged before the commencement of works on a road contract.

ii. ***Delayed Completion***

Your Committee resolves that the matter should be closed subject to verification of remedied outstanding snags.

iii. ***Failure on Reconstructed Sections***

Your Committee resolves that the matter should be closed subject to verification of the remedial works.

iv. ***Unauthorised Fog Spray***

Your Committee resolves that the matter should be closed.

v. ***Poor Intervention***

Your Committees observes that with the privatisation of Maamba Coal Mine, traffic on the road was likely to increase. For economic reasons, the RDA is urged to include the road on the priority list for roads in Southern Province.

vi. Lack of Permanent Structures

Your Committee urges the Controlling Officer and RDA to ensure that repair works on the queried portions of the road are carried out as they are a risk to the travelling public.

vii. Irregular Adjustment of Quotation

Your Committee urges RDA to avoid questionable dealings with contractors. The officer(s) involved should be disciplined.

viii. None Adherence to Contract Specifications

Due to the seriousness of the matter and taking into account opposing views on the method used in the tests, your Committee resolves that fresh tests should be conducted using an agreed method with all parties present.

h. Periodic Maintenance of Road D365: Monze - Niko - Chitongo & Hamusonde - Maala Road

i) Late Recruitment of the Supervising Consultants

Your Committee reiterates its recommendation that the RDA should adopt a working practice that ensures that consulting engineers are engaged before the commencement of works on a road contract.

ii) Late Submission of Performance Bond by the Contractor

Your Committee urges the Controlling Officer to follow procedures and ensure that contractors adhere to contract provisions.

iii) Absence of the Assistant Resident Engineer

Your Committee advises the Controlling Officer and RDA Management that it is the principle that matters. The Assistant Resident Engineer should have been on site as per contract. The Controlling Officer and Management at RDA are hereby cautioned for such lapses.

iv) Sub-standard Road Signs

Your Committee resolves that the matter should be closed subject to verification of the remedial action and warning to the consultant.

v) Culverts with no Proper Outfall Channels

Your Committee resolves to await progress on the remedial works and hereby cautions the Controlling Officer and RDA for accepting substandard works.

vi) Non Provision of Culvert Outfall Ditches

Your Committee resolves to await progress on the remedial works.

vii) Installation of Wrong Culverts

Your Committee advises the Controlling Officer and RDA Management that if materials measuring below standard, no matter how small the difference, are received in bulk on a project, this translates in huge earnings on the part of the manufacturer or supplier. The RDA should be emphasising this point to supervising engineers.

viii) Use of Poor Quality Gravel

Your Committee recommends that the dates of completion of the road and the dates of the audit be reconciled.

ix) Lack of Intervention on Bridges and Culverts

Your Committee resolves that the matter should be closed subject to reconciliation of the completion date of the project and the audit.

- x) **Cracked Culvert Headwall**
Your Committee resolves that the matter should be closed subject to verification.

i. **Contract for the Construction of the Choma to Chitongo Road**

- i) **Failure to Recruit Consultant on Time**
Your Committee reiterates its recommendation that the RDA Management should adopt a working practice that ensures that consulting engineers are engaged before the commencement of works on a road contract.
- ii) **Irregular Allocation of Project Vehicle**
Your Committee observes that this was a lapse on the RDA considering that it has a Monitoring and Evaluation Unit and also a Resident Engineer on projects. The RDA Management should look into the matter and take disciplinary action against officers found culpable.
- iii) **Attachment of Client's Staff to Site for Training**
Your Committee observes that the attachment initiative is important for building capacity of RDA staff. The Controlling Officer and RDA Management should come up with training guidelines so that it is formalised. The practice of RDA staff being directly paid by contractors should, however, be stopped forthwith.
- iv) **Irregular Instructions to the Contractor**
Your Committee resolves that the matters be verified. The practice of servicing vehicles using project funds can easily be abused and difficult to account for. Your Committee further resolves that the practice should be stopped and the RDA should forward its proposals on the 10% capping to the Secretary to the Treasury.
- v) **Non Adherence to Contract Provisions**
Your Committee resolves the following:
- progress should be reported on the unfitted accessories on motor vehicles;
 - the Consultant should be warned for certifying 100% payment when all specifications had not been met; and
 - issues on the laboratory such as thickness of base course should be verified by retesting in the presence of auditors.

EASTERN PROVINCE

AUDIT PARAGRAPH 12

13. The Auditor-General reported as set out below.

a. **Contract for the Upgrading of Selected Chipata Township Roads LOT-1 (17.78Km) and LOT-2 (8.52Km) in Chipata District in Eastern Province**

The contract for the upgrading of selected Chipata Township roads (17.78Km) under Phase II Lot 1 and phase II lot 2 in Chipata Eastern Province was awarded to Messrs Sable Transport Contractors Ltd at a contract price of K34,379,087,318. The contract commenced on 26 November 2008 and was scheduled to be completed in twelve (12) months on 25 November 2009. The scope of works in the contract comprised the following drainage works, road formation, mass earthworks, cape seal, shoulder construction, road markings; ancillary works that include erection of road signs, finishing of road and road reserve and construction of rumble strips and speed humps. The works were supervised by the Agency.

As of October 2009, a total of K8, 255,614,788 had been paid to the contractor and 20% of works had been done.

The matters set out below were observed.

i. Inadequate Budget Provision

In 2008, a provision of K14, 000,000,000 was made under the Accelerated Urban Roads Rehabilitation Programme to cater for rehabilitation of urban roads throughout the country.

It was observed however that the contract sum for the Chipata township roads was K20, 379,087,318 above the provision allocated for the whole country.

ii. Questionable Variation

The bill of quantities did not have a provision for clearing and grubbing. In this regard, variation order to include clearing and grubbing was approved six (6) months into the Contract.

The introduction of the bill item is questionable in that the contractor had commenced works and done works on some roads in the absence of the bill item and instruction from the client. The quantities included in the revised bill of quantity on already done roads are questionable as they were based on the contractor's claims which were not supported by certified measurement sheets by the Project Manager.

A site inspection of some township roads where works had not yet been done revealed that the roads did not require clearing and grubbing as they were existing township roads.

iii. Delayed Completion

As of October 2009, a month before the contract completion date, only 20% of works had been completed. There was no evidence to indicate that the contractor had requested for an extension of time supported by a revised work programme.

iv. Irregular Certification

A review of the Interim Payment Certificate No.5 and physical verification revealed the following among others:

- Although an amount of K180, 000,000 had been certified for the supply and maintenance of the Engineers vehicle, physical check and enquiries with the Project Managers team revealed that the vehicle had not been supplied as of 8th October 2009.
- An amount of K103, 200,000 representing 96% of the billed item had been certified for work done on the construction of 150mm, 3% cement stabilised base including 1m wide shoulder on either side on Obote Road. However, a physical verification of the site revealed that the 150mm, 3% cement stabilised base had not been done as of 15 October 2009.
- Similarly works on Saint Anne Road relating to surfacing dressing (single seal with slurry) had been certified fully at K772, 800,000 although a section of the road was found not to have been surfaced.

The work item relating to the cut to spoil sub grade material on Saint Annes Road was certified at 7519.58 cubic meters worth K360, 940,000. However, a physical count and inquiries made with the foreman from the council revealed that only 960 cubic meters worth K46,080,000 had been done resulting in an over payment of K314,860,000.

It is not clear why the supervisor certified for activities that had not been executed.

Out of five (5) samples tested to assess the thickness of the base course on St. Annes Road, two (2) samples taken at km 0.3 and km 1.6 did not meet the specifications as they measured 95 mm and 140 mm respectively against the 150 mm specified. The base course thickness on a sample at km 0.2 on Katopola Road measured 130 mm against 150 mm.

b. Periodic Maintenance of the M12 Road Chipata to Lundazi Road

On 14 April 2008, the Zambia National Tender Board (ZNTB) conveyed its authority to the the Agency for the award of a contract to Messrs Raubex Construction Zambia Ltd for the periodic maintenance of road M12 from Chipata to Lundazi Road at a contract price of K79,680,838,118 with a completion period of twelve (12) months. The contract was signed on 6 May 2008 and was to start on 1 June 2008 and end on 31 May 2009. The road length to be worked on was 100 km. The scope of works included the following pothole patching and edge break repairs, reinstatement of existing drainage facilities, rehabilitation of existing shoulders, reconstruction of selected sections of the existing pavement, double seal surface dressing, road markings and permanent signage, accommodation of traffic and concrete works. The project was supervised by Bicon Zambia Ltd.

As of October 2009, a total of K17, 756,179,000 had been paid to the contractor and works were 22% complete.

The matters set out below were observed.

i. Delayed Engagement of Supervising Consultant

The supervising consultant was engaged six (6) weeks after the contractor had been engaged.

A review of the progress reports from June to August 2008 and minutes of the site meeting No. 4 held on 22 October 2008, revealed that the contractor could not proceed with the works as he was not certain of what works to carry out in the absence of the design drawings which were only submitted to the contractor on 8th December 2008.

ii. Delayed Final Design Report

The Consultant submitted the Final Design report, the book of drawings and a revised programme of works on 25 September 2008, four (4) months after engaging the Contractor. The RDA approved the Consultant's design report in a letter dated 28 October, 2008 addressed to the consultant.

Consequently, there were major variations to the scope of works from km 6+800 to 90+000 to include shoulder reconstruction, Pavement reconstruction including cement stabilisations and double seal surface dressing.

iii. Wasteful Expenditure-Feasibility Study Report

In 2006, the Agency awarded a contract to Zulu Burrow Limited for the feasibility study of the rehabilitation of 186 km of road M12 between Chipata and Lundazi at a contract sum of US\$168,200.

The feasibility study report was submitted in November 2008 after the contractor (Raubex) had been contracted and had already mobilised. This brings into question whether the Agency used the findings of the feasibility study as the project commenced before the report was submitted. In this regard, a sum of US\$168,200 paid for the feasibility study was wasteful expenditure.

iv. Non Submission of the Performance Bond

According to Clause 52.1 , Section IV of the contract, the contractor was required to submit a performance bond not later than the date specified in the letter of acceptance, twenty-eight (28) days in this case. However, contrary to the contract provision, as of September 2009, the contractor had not submitted the performance bond.

v. Claims on Delayed Payments

As of September 2009, the contractor was claiming a sum of K5, 200,000,000 due to delayed payments.

vi. Physical Inspection

According to the contract, a sum of K1, 712,128,000 was provided for shoulder reconstruction from km 6.8 to km 90 out of which K1, 231,162,000 was paid as of 10 July 2009 on Interim Payment Certificate (IPC) 10.

However, a physical inspection revealed that there was no bond between the base and the surface dressing along the shoulders especially from km 20 to km 90. The audit team were able to easily lift the surface dressing using bare hands. The peeling off of the surface dressing was also observed on the Maamba Batoka Road and Lusaka International Airport junction to Luangwa bridge which was done by the same contractor.

In some areas, surface dressing has peeled off on the carriage way from the force of tyres of a turning vehicle.

vii. Failed Second Sealing

An inspection of the road showed that the second seal had failed in most sections between km 10 and km 50. In most places the second seal was found to be worn out. It was also observed that the contractor had applied fog spray on the entire road without authority or instruction from the client. The decision by the contractor to apply the fog spray without instruction could not be explained by the consultant.

viii. None Adherence to Contract Specifications

Base course is the main bearing layer of the pavement. In the tests carried out, the thickness of layers were lower than what was specified. It was observed that all four (4) samples for base course thickness did not meet the specified 150 mm. They measured 105mm (km21.6), 125mm (km35.7), 130 mm (km64.7) and 120mm (km84).

It is evident from the results obtained from the tests that the contractor did not meet the specifications prescribed in the contract despite the Agency having engaged a supervising consultant at a cost of K1,692,916,922.

c. Emergency Repair of Road D134 (Petauke to Chilongozi Road) and Ukwimi Sonja, Including a Portion of (Ukwimi B)-114km in Eastern Province

On 19 September 2008, the Zambia National Tender Board (ZNTB) conveyed its authority to the Agency for the award of a contract to Messrs Sable Transport Ltd for the emergency repair of 114Km road (D134) from Petauke to Chilongozi at a contract price of K26, 933,372,884 with a completion period of eight (8) months. The contract was signed on 21 October 2008 and was to start on 14 November 2008 with an end date of 13 July 2009. The scope of works consisted of earth works, grading, gravelling drainage works and vegetation control. The project was supervised by the Road Development Agency.

As of October 2009, a total of K15, 980,561,100 less 10% retention had been paid to the contractor and the works were 84% complete.

The following were observed:

i. Non Remittance of Supervision Funds

A scrutiny of Interim Payment Certificate and enquiries made with management revealed that out of a provision of K240,000,000 for monitoring and supervision, a sum of K150, 000,000 had been certified. However, the contractor had not remitted the funds to the Agency.

Although an amount of K150,000,000 had been certified, in the letter dated 25 August 2009 addressed to the contractor, the Manager – Construction and Maintenance requested the contractor to remit only K44,717,500. It could not be ascertained as to why the Manager Construction and Maintenance only requested for K44,717,500 out of a certified amount of K150,000,000.

ii. Lack of Site Supervisors

It was observed that there was no permanent site supervisor on the project and in this regard the certification of works was questionable.

Consequently, the contractor did not apply gravel from km 8 to km 30. The contractor was found applying red soil on the road instead of gravel.

Plasticity test carried out revealed that the sample was too plastic PI 11% against 6% specified.

SUBMISSION BY THE CONTROLLING OFFICER, MINISTRY OF WORKS AND SUPPLY, AND ROAD DEVELOPMENT AGENCY MANAGEMENT

The Controlling Officer, Ministry of Works and Supply in conjunction with the RDA Management submitted as detailed below.

a. Contract for the Upgrading of Selected Chipata Township Roads LOT-1 (17.78Km) and LOT-2 (8.52Km) in Chipata District in Eastern Province

i. *Inadequate Budget Provision*

The audit observation had been noted. This contract was meant to straddle two Annual Work Plans. The contract was strategically started in November 2008 so that it could be budgeted for and completed in 2009.

Submission by the Secretary to the Treasury

The Secretary to the Treasury in his submission on the matter stated that inadequate budget provision was caused by spreading resources thinly on projects and domestic revenue shortfalls.

The Treasury would ensure that it adequately budgeted for anticipated works to be carried out in each particular year. It would further ensure that budgeted funds were fully released according to the Annual Work-Plan.

ii. *Questionable Variation*

Although at design and bid document preparation stages, clearing and grubbing was omitted, it was actually required during implementation. Instructions to undertake the works were given by the Local Road Authority. The Local Road Authority had been instructed to maintain measurement sheets.

iii. *Delayed Completion*

The contract commenced on 26th November 2008 and should have been completed on 26th November 2009. The Contractor did not apply for extension of time despite advice from the Project Manager. However extension of time was applied for and has since been granted. The revised completion date is now 30th August 2010.

Your Committee wanted to know whether there were any charges incurred by the contractor as a result of the delay in the completion of the project. In response, the Controlling Officer submitted that no charges were raised.

iv. *Irregular Certification*

The vehicle had since been supplied and was in the custody of the Project Manager (Chipata Municipal Council).

The errors noted in the IPC No. 2 for Lot 2 and IPC No. 5 for Lot 1 is a result of lack of capacity and skilled manpower at the Chipata Municipal Council. All corrective actions have been undertaken, i.e. the work has been done and or entries reversed. The documentation was available for verification.

With regard to the tests shown in the Audit Report, destructive tests carried out by RDA and Chipata Municipal Council on the mentioned roads revealed that the thicknesses were in fact compliant with the specifications as follows:

Chainage	Road Name	Depth of Excavation (mm)	Average Stabilized base thickness (mm)
0 + 300	St. Anne's	220 170	150
0 + 600	St. Anne's	180 180	150
0 + 200	Katopola	180 190	150

b. Periodic Maintenance of the M12 Road Chipata to Lundazi Road

i. Delayed Engagement of Consultant

In cases where the supervising engineer had been engaged late, the agency took up the responsibility for supervision. On this project, the Regional Engineer for Eastern Province supervised the works which consisted mobilisation, establishment and clearing and grubbing.

ii. Delayed Final Design Report

The observations in the Auditor-General had been noted.

iii. Wasteful Expenditure-Feasibility Study Report

The techno-economic feasibility study was being carried out by Zulu Burrow to find out whether Chipata-Lundazi Road was economically viable. The study was financed by the BADEA who had indicated willingness to finance its rehabilitation. The study by Zulu Burrow took longer than expected as it was affected by delayed payments by BADEA. In the mean time, the road condition continued to deteriorate significantly to a point where something had to be done without waiting for the conclusion of the study. The Government and Road Users were getting concerned with the state of the road and it subsequently became an emergency.

They added that the Ministry of Works and Supply had a mandate to maintain this road regardless of whether it was economically viable or not, for the external financier. It should be noted that the feasibility study report was not the only instrument available to RDA to structure a tender. They argued further, that it was not true that the feasibility study was wasteful expenditure because it had been used to solicit funds for the completion of the road (from Km90 – Km 189) into Lundazi from other financing institutions. They contended that it was never the Road Development Agency's intention to waste public resources.

iv. Non Submission of the Performance Bond

The Contractor initially submitted a Performance Bond which was 15% of the contract value. This Bond was rejected and the correct Bond was re-submitted on 11th May 2009. The Bond No. is 010/510/1/000023/2009, with cover Note No. 24757 and the copy of the Bond was availed to the Auditors.

v. Claims on Delayed Payments

The RDA had a system of payment that ensured that all payments were made within nineteenth days which was before the lapse of the specified twenty-eight days. IPCs No. 7 and 8 could not be paid on time because money was not available at the NRFA.

vi. Physical Inspection

The observation that the surfacing on the shoulder could easily be lifted by hand from Km20 to Km 90 was not correct. In fact, the shoulder defect observed was about 20m² out of a total of 210,000m² representing 0.01% of the total shoulder area on the mentioned stretch of road. The audit was carried out just after the surface dressing had been laid. The supervising engineer had not inspected and accepted the works. The noted defective works were immediately corrected and the works were still under the defects liability period. All projects such as this one, were a subject of contractual provisions for acceptance testing, snag lists and Defect's Liability Period that were intended to address such issues.

vi. Failed Second Sealing

The physical inspections were carried out at the time the contractor was still implementing the works. The RDA inspected the works at the last Progress Site Meeting after the contractor indicated that he had completed. A snag list was generated and the contractor was instructed to redo the sections that did not meet the specifications.

vii. None Adherence to Contract Specifications

On the tests shown in the Audit Report, destructive tests carried out by RDA and the Supervision Engineer on the road revealed that the thicknesses are compliant to the specifications as follows:

Chainage	Stabilised base thickness (mm)
21+600	200
35+700	180
64+700	180
84+00	180

Submission by the Managing Director Raubex Construction Limited

The Managing Director in his submission on the queries refuted the audit findings that the Performance Bond was not submitted. The performance Bond was submitted at the start of the contract. Due to conflicting descriptions of the bond in the contract document, a Bond to the value of 10% of the contract amount was submitted to the RDA. In September 2009, however it was discovered by the RDA that the bond should have been for 15% of the contract amount. This mistake was communicated to Raubex and the new bond was promptly supplied.

The contract has since been concluded and the Certificate of Practical Completion had been issued.

Physical Inspection

At km 65, the surface dressing was applied too wide, in error. This caused the outside of the seal to be on top of the dust and loose sand windrow that was broomed of the primed layer. At the place where the pictures in the Audit Report were taken, a mentally disturbed man was removing the seal from the windrow onto the shoulder. At this stage, the seal was still very fresh and could thus be very easily removed from the unprimed shoulder where the seal was applied too wide. This damage was repaired and the seal on the entire road was performing well. The maintenance period extended to October 2010.

Failed Second Seal

On this Road, the same 19mm and 13mm double seal design without fog spray or pre coating was used. This was not a normal design as it did not perform well. The responsibility for the seal design however did not lie with the contractor. Raubex applied the seal as specified and instructed and the responsibility lay with the designer. The performance of the design was not the

responsibility of the contractor. On this section, Raubex had damage due to shady areas under trees and some damage due to rain. This was repaired.

The fog spray was applied at the cost of Raubex. Again the fog spray was applied to try and convince the client that this was the right intervention in this situation. It was hoped that this would convince the client to pay Raubex for this work as it greatly improved the performance of the surface dressing.

Non Adherence to Contract Specifications

It was reported that the base course was not 150mm thick. If these thicknesses were measured by drilling cores it explained everything. The thickness of the stabilised base layer had since been tested by Raubex and by Bicon in conjunction with the Regional Engineer of the RDA in Chipata in two separate sets of trial pits. All tests performed by digging trial pits found that the base course thickness conformed to the 150mm thickness.

c. Emergency Repair of Road D134 (Petauke to Chilongozi Road) and Ukwimi Sonja, Including a Portion of (Ukwimi B)-114km in Eastern Province

i. Non Remittance of Supervision Funds

It was erroneous that the amount of K 150,000,000 was certified. The supervision allowance from the contractor was being claimed when the need arose. The K 44 million claimed to-date was based on the Regional Engineer's budget at the time, in order for him to effectively supervise the works. The balance on the advanced supervision funds would be remitted to the Agency.

ii. Lack of Site Supervisors

- The Regional Engineer's office was supervising the works. The cited section of the road (km 8 – 30) had bad quality gravel which had already been noted by the Regional Engineer. The audit was carried out at the time the works were ongoing.
- The maximum of 10% P.I. is allowable for naturally occurring gravels (Section 3402 of the SATCC Specifications).
- The contractor was instructed to re-gravel the section with the approved gravel material, and the works had since been completed satisfactorily.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

a. Contract for the Upgrading of Selected Chipata Township Roads LOT-1 (17.78Km) and LOT-2 (8.52Km) in Chipata District in Eastern Province

i) Inadequate Budget Provision

Your Committee notes the explanation.

ii) Questionable Variation

Your Committee observes that there are too many omissions on road projects. Your Committee, therefore, urges the Controlling Officer and RDA Management to expedite the preparation of the Procedures Manual.

iii) Delayed Completion

Your Committee resolves to await progress on the road project. If the delays will be attributed to the contractor, liquidated damages should be claimed.

iv) Irregular Certification

Your Committee resolves that the issue on the payment certificates and the vehicle be verified and disciplinary action should be taken against the officer who certified the works.

Considering the seriousness of the matter on test results and the opposing views on the methodology for

testing, your Committee recommends that fresh tests should be carried out using an agreed method with all parties present.

b. Periodic Maintenance of the M12 Road, Chipata – Lundazi Road

i) ***Delayed Engagement of Consultant***

Your Committee reiterates its recommendation that the RDA should adopt a working practice that will ensure that are engaged before the commencement of work on a road contract.

ii) ***Delayed Final Design Report***

Your Committee's recommendation in (i) above will suffice.

iii) ***Wasteful Expenditure – Feasibility Study Report***

Your Committee notes the explanation and resolves that the matter should be closed.

iv) ***Non Submission of the Performance Bond***

Your Committee resolves that the matter should be closed subject to verification.

v) ***Claims on Delayed Payments***

Your Committee resolves that progress should be reported on the clearance of the outstanding payments including penalties.

vi) ***Physical Inspection***

Your Committee appreciates the admission that the peeling off of the surfacing dressing was a defect and this was remedied.

Your Committee resolves to await progress on the remedial works and completion of the project considering that a number of issues were raised on other projects where the same contractor was working on.

vii) ***Failed Second Sealing***

Your Committee's recommendation (vi) above will suffice.

viii) ***Non Adherence to Contract Specifications***

Considering the seriousness of the matter and opposing views on the methodology for testing, your Committee recommends that fresh tests should be carried out using an agreed method with all parties present.

c. Emergency Repair of Road D134 (Petauke to Chilongozi Road) and Ukwimi Sonja, including a Portion of (Ukwimi) – 114km in Eastern Province

i) ***Non Remittance of Supervision Funds***

Your Committee recommends that the payments be reconciled and verified.

ii) ***Lack of Site Supervision***

Your Committee observes that although it may appear cheaper for the RDA to supervise works, if it is not practical to ensure constant on-site supervision, the services should be outsourced.

NORTH-WESTERN PROVINCE

AUDIT PARAGRAPH 13

14. The Auditor-General reported as set out below.

a. Upgrading to Class 1C Bituminous Standard of the Kasempa Turnoff to Kabompo Road (M8)

In September 2001, the Ministry of Works and Supply engaged Belga Construction and Trading (Z) Ltd for upgrading to class C1 Bituminous standard between Kasempa turn off to Kabompo at a contract price K171,691,912,150 (US\$46,403,219.50) with a completion period of forty five (45) months (3.5years). The contract was to start on 5th October 2001 and end on 6th June 2005. The scope of works included clearing and grubbing, earthworks fill, culverts construction, gravel sub base, stabilised base course bituminous surfacing and road

furniture on a 225.5km stretch. The project was supervised by H.P. Gauff Ingenieure GmbH & Co KG consulting engineers.

The following were observed:

i. Payments Made to the Contractor

A review of IPCs Nos.1 to 48 for the project revealed that the contractor had been paid a total of US\$39,559,658.97 (K159,326,529,474) out of a contract price of US\$46,403,219.50 (K171,691,912,150) representing 85% of the contract price. A further analysis of the payment certificates revealed that out of US\$39,559,658.97 paid, US\$1,673,786.41(K5,951,354,500) was paid in respect of interest charged on the delays on settling claims.

ii. Extension Related Costs

A review of IPC No. 48 revealed that the contractor had claimed and was paid a total sum of US\$4,416,165 (K16, 781,427,000) for extension of time with costs from July 2007- July 2009. There was no evidence of National Tender Board Authority for this additional cost.

iii. Failure to Follow Tender Procedures

In May 1995, H.P. Gauff Ingenieure GmbH & Co KG Consulting Engineers were engaged to supervise works on the Mutanda to Kasempa turn off. The contract was for a period of twenty-six (26) months at a contract sum of US\$419,200 (K345,000,000).

On 15 September 2004, an addendum was signed to include the supervision of Kasempa turn off to Kabompo road for an additional sum of US\$264,385 (K1,255,830,100) without obtaining tender authority.

b. Periodic Maintenance of Kasempa to Lalafuta Bridge Road (D301)

In March 2008, Zambia National Tender Board (ZNTB) granted authority to the Agency to award a contract to Raubex Construction for the periodic maintenance of road D301 from Kasempa to Lalafuta bridge at a contract price K16, 525,184,431 with a completion period of seven (7) months. The contract was signed on 7 May 2008 and was to start on 30 May 2008 and end on 30 December 2008. The scope of works included vegetation control, reshaping, re-gravelling, drainage works, culvert construction and repair and installation of road signage. The project was supervised by E.G. Pettit and Partners in Association with Eastconsult Ltd.

As of August 2009, a total of K5, 685,416,453 had been paid to the contractor and 65% of works had been completed.

On 6 June 2008, the contractor requested that the concrete pipe culverts specified in the contract be changed to corrugated steel pipe culverts as the contractor was having difficulties sourcing the concrete pipes. In July 2008, the Agency rejected this proposal citing vandalism and corrosion on the corrugated pipes.

However, in January 2009, the Director approved the change of design from concrete to corrugated pipes which resulted in an additional cost of K180,000,000. The approval, which was beyond the Director's threshold of K50,000,000 was based on the fact that the contractor had already bought the corrugated pipes.

c. Periodic Maintenance of Road T005 from Lumwana(km138+000) to Mwinilunga

The Zambia National Tender Board in a letter dated 14 July 2008 granted authority to award the contract for the periodic maintenance of Road T005 from Lumwana turnoff to Mwinilunga Road to Paving Zambia Ltd at a contract sum of K67,907,796,063 with a completion period of four (4) months. The contract was signed on 1 July 2008 and commenced on 11 December 2008. The scope of works included the following potholes patching and edge break repairs, reinstatement of existing drainage facilities, rehabilitation of the existing shoulders, reconstruction of selected section of existing pavement, double seal surface dressing, road

marking and permanent signage. The project was supervised by Asco (Z) Ltd.

As of October 2009, a total of K43, 244,174,145 had been paid to the contractor representing 63.7% of the contract sum and works had been suspended due to lack of funds.

The following were observed:

i. Late Engagement of Supervising Consultant

It was observed that whereas the actual works commenced on 1 July 2008, the supervising consultant was engaged on 29 August 2008, two (2) months after the project had commenced. Among the scope of the consultancy work was the following:

- review the tender contract, specifications, drawings, bills of quantities, etc; and
- supervising the construction works.

The late recruitment of the supervising consultant meant that the review of tender contract, drawings and bills of quantities among others was not done prior to the engagement of the contractor.

ii. None Adherence to Contract Specifications

It was observed that the base course thickness was lower than what was specified in the contract. In this regard, all three (3) samples measured did not meet the specified 150 mm. They measured 102mm (km1.1), 80mm (km16) and 108 mm (km39.7).

It was evident from the results obtained from the tests that the contractor did not meet the specifications prescribed in the contract despite the Agency having engaged a supervising consultant at a cost of K1,638,200,000.

d. Periodic Maintenance of Road T005 from Solwezi via Mutanda to Mwinilunga (Lumwana 1st Gate)

On 14 May 2007, the Zambia National Tender Board (ZNTB) granted authority to the Agency to award a contract to Raubex Construction for the Periodic Maintenance of Road T005 from Solwezi via Mutanda to Mwinilunga (Lumwana 1st Gate) at a contract price K47,000,000,000 with a completion period of fourteen (14) months. The contract was signed on 6 June 2007 and was to start on 11 July 2007 with an end date of 20 September 2008. The completion period was later extended to 11 November 2008. The scope of works comprised pothole patching and edge repair, repair of shoulder with approved nature gravel, reconstruction of some road section, reshaping of sides and mitre drains, road line marking, vegetation removal and surface dressing with traffic accommodation where construction works are being carried out. The project was supervised by Messrs Brian Colquhoun Hugh O'Donnell and Partners.

As of October 2009, a total of K42,115,331,101 and K1,407,058,707 had been paid to the contractor and consultant respectively, and works were 100% complete.

The following were observed:

i. Financial Evaluation

Although the contract for the periodic maintenance of the Solwezi-Mutanda road was awarded to Messrs Raubex Construction Zambia Ltd, a review of the financial evaluation report revealed that the bid from Messrs Raubex Construction Zambia Ltd, was non-responsive in that it was outside $\pm 25\%$ of the Engineer's Estimate. The analysis shows that this bid was too high, at 61% above the Engineer's Estimate. It was, therefore, not clear why the contract was awarded to Raubex at the contract price above the maximum of K36.5 billion.

ii. Delay in Engaging the Supervision Consultant for the Works Project.

Whereas the actual works commenced on 11 July 2007, the supervising consultant was engaged on 5 November 2007, four (4) months after works had commenced.

The consultant scope of works included:

- Field studies - familiarisation and mobilisation, road inventory data, conditional survey, material and testing, traffic surveys.
- Engineering Analysis – detailed field reconnaissance ,designs and calculations, Budget and Cost estimates, work identification and classification.
- Procurement of works - Contract documentation (working drawings, preparation of specifications of particular application, BOQs, progress report).
- Execution of works: quality control and assurance, progress monitoring, preparation of interim payment certificates, preparation of completion drawings and reports.

The late recruitment of the supervising consultant meant that the review of contract, drawings and bills of quantities among others was not done prior to the engagement of the contractor and the contractor worked without supervision during this period.

iii. Physical Inspection - Surface Condition

It was observed that some sections of the road were showing signs of early bleeding. In some instances the road markings were fading as a result of the bleeding.

The scope of patching work was also to include the edge repairs before the surface dressing was done. At chainage 50+900 from Lumwana there were edges that were not properly repaired before the surface dressing.

The car park built in Solwezi business district was already showing signs of pot holes in a number of places.

e. Rehabilitation, Spot Improvement and Drainage Work on the Kanyambila- Chifuwe Road

On 13 February 2008, the Agency awarded a contract to Roy grove (Z) Limited for the Rehabilitation, Spot Improvement and Drainage work on the Kanyambila- Chifuwe Road at a contract price of K480,099,125 with a completion period of four (4) months. The contract was signed on 18 March 2008 and was to start on 14 April 2008 and end on 14 August 2008. The scope of works comprised; rehabilitation maintenance of the road, vegetation control, reshaping and grading, culvert construction and spot re-gravelling. The road works were supervised by the Kabompo District Council.

As of October 2009 a sum K230,486,490 had been paid by the contractor and the project had was still incomplete. The following were observed:

i. Questionable Extension of Contract Completion Date

Although the contract was initially for a period of four (4) months, it was observed that the it was extended by eleven (11) months and was to end on 14 June 2009. However, as of September 2009, eighteen (18) months after the commencement of contract, the road had not been completed.

ii. Failure to provide Performance Bond

Contrary to the provisions of the contract, which required the contractor to submit a performance bond valid for the duration of the contract, it was observed that the contractor did not submit a performance bond.

SUBMISSION BY THE CONTROLLING OFFICER, MINISTRY OF WORKS AND SUPPLY, AND MANAGEMENT OF ROAD DEVELOPMENT AGENCY MANAGEMENT

The Controlling Officer, Ministry of Works and Supply, in conjunction with the RDA Management submitted as follows:

a. Upgrading to Class 1C Bituminous Standard of the Kasempa Turnoff to Kabompo Road (M8)

i. Payment made to Contractor

The Agency processed the payment certificates timely and submitted them for payment to the Ministry of Finance, National Planning as well as NRFA, who paid whenever funds were available. They said that interest was paid contractually for delayed payment. They added that this project should have been completed in 2005 but was still not complete.

ii. Extension Related Costs

The extensions of time costs were within the contract sum. According to the contract and the *Zambia National Tender Board Act*, the Project Manager can vary works within 25% of the contract sum. This variation paid from approved contingency amounts amounted to 9% of the contract sum. Contractual claims such as interest on late payments and adjustments in payments to contractors due to the fact that most contracts were admeasured, were not necessarily taken to tender if they were within the approved contract sum. The funds were a contractual obligation that the contractor had in effect claimed (in the extended period). The default on government's part was responsible for the additional cost, and this fell within the approved contract sum. The extension of time cost was however paid as a claim within the approved contract sum. The subsequent cost of extension of time with cost from 2009 was approved by ZPPA on 18th June 2009. The initial request for extension of time with cost to ZPPA exceeded the available contingency and confirmation of source of funds for the additional cost was sought by the ZPPA and therefore only amounts within the contract sum can be spent and the project would require additional funding. Further, the ZPPA had approved the latest request for additional expenditure in the sum of US\$7,345,039.84 above the approved contract sum of US\$46,403,219.50 bringing the new contract sum to US\$53,748,259.34 inclusive of VAT.

iii. Failure to Follow Tender Procedure

The Ministry of Works and Supply would report back once clear information was available.

b. Periodic Maintenance of Kasempa to Lalafuta Bridge Road (D301)

The concrete pipes were not available on the market at the time of construction as a result of a high demand for concrete pipes. A decision was, therefore made to use corrugated Armco pipes surrounded by reinforced concrete and steel spike anchorage thereby making them vandal proof. The original design for the headwalls, wing walls and aprons, was stone masonry, but these were changed to reinforced concrete for all Sixty (60) culverts at K3million per culvert to cover the cost of reinforced concrete in place of stone masonry. The market rate for reinforced concrete was consistent with this price. The changed design was to enhance the original design and realise value for money and was therefore not irregular. In addition, the approval of the K180million to cover sixty (60) pipe culverts did not alter the overall contract sum; therefore, the limit on the Director's threshold does not arise. This was approved on the recommendation of the Consultant.

c. Periodic Maintenance of Road T005 from Lumwana(km138+000) to Mwinilunga

i. Late Engagement of Supervising Consultant

In the first few months, the Contractor was mobilising and very limited volume of work was undertaken and the supervision was carried out by RDA staff. Design reviews did not necessarily have to be done prior to engagement of the contractor. It was normal practice to do some of the designs during implementation on civil engineering projects. It was advantageous to the Agency to allow the commencement of works using own

staff as supervisors, while completing the procurement of the supervision Consultant. However, in future the Agency would procure consultancy services prior to commencement of works contracts.

ii. None Adherence to Contract Specifications

The chainages shown by the Auditors were not the reconstructed sections in the current project. The sections shown were only potholes patched and sealed. The specification mentioned of base course construction of 150mm was not applicable to these sections.

d. Periodic Maintenance of Road T005 from Solwezi via Mutanda to Mwinilunga (Lumwana 1st Gate)

i. Financial Evaluation

The tender for the periodic maintenance of the Solwezi Mwinilunga Road was annulled by RDA on 26 March, 2007. He added that the first opened tender received two responses from landmark Construction at K 6.3 billion and from RCC at K49.2 billion and both were non responsive. With authority from ZNTB, a selective tender comprising RCC, Raubex Contractors, Roads and Paving and Belga Construction was issued. They submitted that only two responses were received from Raubex Construction limited and Roads and Paving at K47 billion and K56billion respectively. Although RDA recommended this tender to be annulled, and to negotiate the contract price downwards with the lower bidder, Raubex Construction Limited, ZNTB directed RDA to single source Raubex Construction and negotiate on phasing the works in order to accommodate available resources and on reviewing of the implementation period of the project to match resource allocations.

Submission by the Director-General of the Zambia Public Procurement Authority

The Director General, in his submission on the matter, stated that from the records at Zambia Public Procurement Authority, the engineer's estimate for the works was K29, 191,082,038.13 and not K36.5 billion as stated in the Audit Report. This tender was first invited in June 2006 and bids were received as follows:

Landmark Construction Limited @ K6,369,790,821.00

Roads Contractors Company (Z) Limited @ K49,252,310,493.67

After an evaluation, both bids were found non-responsive. Landmark Construction Limited was considered too inexperienced for the proposed works and the bid from Roads Contractors Company (Z) Limited was considered too high. He said when the tender was re-invited in October 2006, through a selective tendering process; two bids were received as shown below:

Roads and Paving (Z) Limited @ K56,437,647,490.12

Raubex Construction (Z) Limited @ K47, 052, 716,165.00.

He added that from the prices that the market was offering, it appeared that the K29, 191,082,038.13 Engineer's estimate was underestimated. After an evaluation of bids, Raubex Construction (Z) Limited was awarded the contract at the negotiated sum of K47, 000,000,000.00. Among the negotiated points were that the works would be phased in order to accommodate the available funds (K22 billion) for the project in the year 2007.

ii. Delay in Engaging the Supervision Consultant for the Works Project

In the first few months, the Contractor was mobilising and very limited volume of work was undertaken and the supervision was carried out by RDA staff. Design reviews did not necessarily have to be done prior to engagement of the contractor.

iii. Physical Inspection - Surface Condition

Quality Aspects

Potholes appeared after the defects liability period and are supposed to be maintained through routine maintenance by the Agency or the Local Road Authority. The road had been in use since November 2008 and

the observed defects were as a result of fair wear and tear.

Submission by the Managing Director Raubex Construction Limited

The Managing Director of Raubex Construction Limited in his response to the queries submitted as follows:

Physical Inspection – Surface Condition

The surface dressing was completed more than two years ago. If it was going to bleed, it would have happened a long time ago. There was absolutely no chance that a road would start bleeding two years after completion of the surface dressing.

This road was used by a large number of heavy trucks from Lumwana Mine. It was expected that after two years some damage would occur on the road markings. There could be one place at km50+900 where the edge was not properly repaired. This was small section out of a road of 74km. The pothole in the car park in Solwezi was caused by mechanical damage and was not a construction defect. If the road was damaged by mechanical means, it was not the contractor's responsibility.

Submission by the Partner Brian Colquhoun Hugh O'Donnell and Partners

The Partner for Brian Colquhoun Hugh O' Donnell and Partners (BCHOD) in response to the queries submitted as detailed below.

Signs of Early Bleeding and Faded Road Markings

BCHOD confirmed that signs of early bleeding were noticed. Bleeding was a type of defect that could be recognised as black, "fatty" looking spots on the pavement surface. It was an indication of overfilling of the voids in the aggregate skeleton with bituminous mortar. Due to the high bitumen, the mixture suffered probably from lack of stability at higher temperatures and high traffic loads might bleed out the bituminous mortar. Another reason might be that because of the low void content, there was not enough space for the bituminous mortar when it expanded with increasing temperatures. In any case, the result was the same being a black, shiny surface with hardly any macro or micro texture and thus a low skid resistance.

BCHOD noted signs of early bleeding during construction and one of the contributing factors to that failure was the aggregate interlocking difficulties they experienced in the early project progression. The tack stone was specified as varying size of 12-19mm with the seal being 5-13mm stone.

The general acceptable design was based on the principle that the seal stone (normal and single sized) should be half size of tack stone (normal and single sized). However, the grading envelope under Specs Clause B5.5.3 (b) iii showed that the critical size of 9.5mm was not available within the aggregates. On all double surface dressing and reconstruction sections, problems of poor interlocking were encountered. This resulted into loss of some of the seal stones, therefore, reduced surface area for binder to stick. The residual binder was finding itself coming to the top and most of these sections especially with low traffic speeds (that is, within town and on climbs) were showing signs of early bleeding. Technically, early bleeding when not in excess was correctable. It became unacceptable when in excess and was now evidenced by sticking to tyres. Further, spraying rates for bitumen were factors that were controlled empirically. This meant that there were tolerances, some of which might result in bleeding if the tolerance was higher. Therefore, early bleeding in some cases helped normalising the seal bitumen solvents and in some cases it was an indication that the spray rate needed to be changed. Early sign of bleeding were correctable but became a failure if in excess and was evidenced by sticking to the vehicle tyres. Bleeding was controlled by applying quarrying dust which absorbed the extra bitumen.

For the faded lines, most of it was due to a lot of dust particles versus vehicles volumes hence tyre scuffing shear stresses which always acted like sand paper because of the silt particles in the dusty town.

Edges Not Repaired Properly at Chainage 50+900 Lumwana

The scope of works indeed included repair of road edges. Edge repairs were done when the pavement had failed along the edges due to the action of traffic and the loss of edge support that occurred due to presence of water, aggressive-growing vegetation and wind from either traffic or the atmosphere. The repair method was that the highly distressed area was either removed/replaced or additional material was added to cover up the distressed area. However, merely filling a hole/section would not prevent the development of distress adjacent to or within the pitch in many instances.

In this contract, edges were also repaired according to the method described above; new materials were replaced on the distressed edges before sealing the surface. However, the shoulders adjacent to the edges were not sealed due to lack of funds. The other way of protecting the edges was by installing an edge beam especially in places where you expected vehicles pulling over the shoulders. This, however, was also not done in that contract. BCHOD noted that most of the sections that had vehicles pulling over the shoulders on the road had broken edges already. Surfacing of shoulders was part of long term edge protection remedy.

Potholes at the Car Park in Solwezi Business District

BCHOD confirmed that potholes had indeed developed at the car park in Solwezi business district. It was important to note that the potholes developed sometime back and the consultant did advise the local council on the problem that was causing the occurring of potholing on the car park. The car park was extra work and not in the original design. Therefore, it was not in the budget, but due to the poor condition it was in, it was decided to carry out minor repairs at minimal cost. The repair works carried out were:

- *additional material was brought to fill the potholes;*
- *existing base was scarified and compacted to 95% MOOD ASHTO as sub-grade;*
- *150mm thick stabilised base was applied on top of the sub-grade; and*
- *slurry seal was applied.*

It was important to note that a slurry seal was a mixture of well-graded fine aggregate, mineral filler (if needed), emulsified asphalt and water applied to a pavement as a surface treatment.

It was used in both the preventive and corrective maintenance of asphalt pavement surfaces. It did not, nor was it intended to, increase the structural strength of a pavement section. The car park was designed for light passenger vehicles as a temporary measure. BCHOD was anticipating that the local authority would source money to complete the car park with structural surfacing like cape seal or double seal.

Further, the local council was advised not to allow heavy traffic to use the car park. This was not followed. Heavy traffic was always within the car park loading and off-loading goods which had resulted in the failures observed. Billboards were installed at entry/exit and advised the council to bar (through booms) heavy trucks from entering but regrettably nothing was done.

e. Rehabilitation, Spot Improvement and Drainage Work on the Kanyambila- Chifuwe Road

i) Questionable Extension of Contract Completion Date

The lapse in the contract administration by the Mufumbwe District Council, underscored the issue of lack of capacity in Local Road Authorities (LRA) to supervise contracts and the RDA had provided guidance to the LRA on how to manage contracts properly.

ii) Failure to provide Performance Bond

The Mufumbwe District Council, who were the supervisors, had forwarded to them a copy of the performance bond submitted by the contractor. Copy of the bond was provided.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

a. **Upgrading to Class 1C Bituminous Standard of the Kasempa Turnoff to Kabompo Road (M8)**

i) *Payments Made to the Contractor*

Your Committee observes that it is ironic that new road projects are embarked upon when there are outstanding works such as on the Kasempa – Kabompo Road.

Your Committee reiterates its advice to the Controlling Officer to scale down on new projects to clear the backlog. The current approach is not very productive.

ii) *Extension Related Costs*

Your Committee resolves that the matter should be closed subject to verification.

iii) *Failure to follow Tender Procedure*

Your Committee notes that this matter mainly relates to the period before the RDA commenced operations. The Controlling Officer, is nevertheless, requested to report progress on the matter.

b. **Periodic Maintenance of Kasempa to Lalafuta Bridge Road (D301)**

Your Committee observes that the absence of the RDA Board of Directors' involvement in the decision that was made is worrying. Your Committee advises the Controlling Officer that, for purposes of accountability, such changes should be authorised by the Board.

c. **Periodic Maintenance of Road T005 from Lumwana(km138+000) to Mwinilunga**

i) *Late Engagement of Supervising Consultant*

Your Committee reiterates its recommendation that the RDA should adopt a working practice that will ensure that consultants are engaged before the commencement of a road works contract.

ii) *None Adherence to Contract Specifications*

Your Committee resolves that the matter should be closed subject to verification.

d. **Periodic Maintenance of Road T005 from Solwezi via Mutanda to Mwinilunga (Lumwana 1st Gate)**

i) *Financial Evaluation*

Your Committee recommends that the matter should be closed.

ii) *Delay in Engaging the Supervising Consultant*

Your Committee reiterates its recommendation that the RDA should adopt a working practice that will ensure that consultants are engaged before the commencement of a road works contract.

iii) *Physical Inspection – Surface Condition*

Your Committee resolves that the matter should be closed.

e. **Rehabilitation, Spot Improvement and Drainage Work on the Kanyambila- Chifuwe Road**

i) *Questionable Extension of Contract Completion Date*

Your Committee resolves to await progress on the completion of this relatively small project that has taken almost two years to complete.

ii) *Failure to Provide Performance Bond*

Your Committee resolves that the matter should be closed.

13. The Auditor-General reported as set out below.

a. Mongu -Kalabo Road

In paragraph 14 of the Auditor General's Report for 2005 on the administration of selected contracts in the Ministry of Works and Supply, mention was made of the construction of the Mongu-Kalabo road and in particular of payments to Messrs Consolidated Contractors Company (CCC) of amounts totalling K81,492,915,065 which were considered as a waste of public funds.

A review of the project in September 2009 revealed the matters set out hereunder.

i. Wasteful Expenditure

In June 2007, RDA entered into an agreement with Consolidated Contractors Company (CCC) to purchase the contractor's camp site which included land, buildings and equipment at a cost of K1,698,300,000.

However, when the claim was forwarded to NRFA for payment in November 2007, NRFA declined to pay for the transaction as it involved the purchase of land, buildings and equipment of which NRFA had no mandate to finance. Consequently, CCC claimed and was paid K2,606,609,432 as costs for maintaining the camp in Mongu.

ii. Interest Expense

Inspection of documents indicated that RDA incurred cumulated interest expenses totalling K3,669,711,032 due to delayed liquidation of interim payment certificates as they fell due. This was an increment of K526,013,201 from K3,143,697,831 accumulated up to February 2006 mentioned in paragraph 14 of the Auditor-General's Report for 2005 on the administration of selected contracts in the Ministry of Works and Supply.

iii. Supply of Forty (40) Bailey Bridges

On 23 October 2007, RDA entered into a contract with Messrs China National Aero Import & Export Beijing Company for the supply of forty (40) sets of bailey bridges at a contract price of \$13,158,945. It was however observed that at the time of procuring the bridges, there was no design for the road to support the use of bailey bridges. It was therefore not clear how RDA arrived at the decision to procure the bridges in the absence of a design.

iv. Unused Precast Concrete Beams

A physical verification of the camp site formally occupied by the CCC revealed that the Agency had the pre cast – concrete beams meant for concrete bridge structures for the Mongu Kalabo road. It was not clear as to why the materials were not used by the previous contractor. In addition there was no explanation as to why management opted to buy bailey bridges when it could have designed the bridge to make use of existing pre cast concrete beams on which billions of Kwacha was spent.

The rationale by management to procure bailey bridges before the engagement of the design consultants is highly erroneous. In this regard, it can be seen that the studies and design work of the consultant to use bailey bridges was tailored by management and not as a result of an independent and professional conclusion of the consultant.

v. Hire of Offloading Equipment

On 7 May 2008, RDA awarded a contract to Messrs Pacific Parts Zambia Limited for the hire of fork lifts and tractors at contract sum of K398,240,000. The equipment was for the off loading of bailey

bridges.

vi. Wasteful Expenditure

The Road Development Agency procured three (3) fork lifts and a tractor for the off loading of bailey bridges meant for the Mongu - Kalabo Road. There were no records availed for audit to indicate the cost and date of purchase and delivery. However, despite the purchase of the off loading equipment, the Agency hired off loading equipment at a total cost of K1,293,740,000. Inquiries made with the Regional Office in Western province revealed that the RDA off loading equipment was only delivered after the bailey bridges had been delivered.

vii. Computation of Hours Worked

The contract rates were based on machine hours performed by each equipment. However, it was observed that the stock sheets did not have a provision to indicate which particular offloading equipment was used on a particular container. In this regard, each hour worked was attributed to all four (4) equipment.

viii. Irregular Extension of Contract Hours and Lack of Time Sheets

Although the contract was for 250 hours, the contractor claimed a total of 850 hours. In this regard, the contractor was paid a total of K1,293,740,000 which was K895,500,000 in excess of the contract sum of K398,240,000, representing an increase of 225%. Contrary to tender regulations, there was no authority for the variation.

A review of schedules supporting the payment of K1,293,740,000 at the Regional Engineer's office (Western Province) revealed the following:

- Out of the 427 hours claimed on invoice No. 3715, 171 hours worth K256,500,000 had time sheets to support the claim while 256 hours worth K384,000,000 relating to rearranging had no time sheets prepared.
- Although invoices for the balance of 423 hours for which the contractor was paid K653,240,000 were availed, these were not supported by time sheets.

b. Routine Maintenance by Performance Contract of the M10 Kalongola Pontoon-Sioma Road (70km) in Western Province

On 24 June 2008, the Road Development Agency and Samazuka General Contractors signed a contract for the routine maintenance by performance contract of the M10 Kalongola pontoon – Sioma Road (70KM) in Western Province at a contract sum of K237,349,994.13. The road is unpaved (gravel road).

The work schedule indicated the following characteristics of the section to be maintained:

Length	70	km
Verge Area	560,000	m ²
Drain length	140	km

Works commenced on 20 July 2008 and were due to be completed on 26 July 2009.

As of October 2009 a total of K163,919,698.31 had been paid to the contractor and works were completed on 31 July 2009.

The following were observed:

i. Fraudulent Certification of Work Items

Inclusion of Desilting of Culverts Without Authority

The Regional Engineer, Western Province, certified the contractors' claim for de silting ten (10) culverts which were not in the contract without authority. The performance assessment by the Regional Engineer revealed that the ten (10) culverts were de silted (assessed at 10 out of 10 (100%). However, a physical inspection of the culverts on site carried out two months after the completion of works revealed that there were only six (6) culverts on the entire length of the road and all were not de silted contrary to the Engineer's report.

False Work Items

The Regional Engineer included and certified work items that were not physically on site as indicated below:

Work item	Assessed satisfactory
Mitre drains	50%
Lined drains & scour	100%
Road signs	100%
Guard rails	100%
Kerbs & junction marking	100%

Drainage and Vegetation

Contrary to the Regional Engineer's certification that vegetation control had been done on 65kms out of the 70km stretch of road, a physical verification of the road revealed that 47 kilometres had been done. There was no vegetation control done between KM 32 and KM 55.

SUBMISSION BY THE CONTROLLING OFFICER, MINISTRY OF WORKS AND SUPPLY, AND ROAD DEVELOPMENT AGENCY MANAGEMENT

The Controlling Officer, Ministry of Works and Supply in conjunction with the RDA Management submitted as detailed below.

a. Mongu -Kalabo Road

i. Wasteful Expenditure

The Government, through Ministry of Works and Supply, intended to purchase the camp facilities necessary to enable continued construction of the Mongu- Kalabo Road Project, as was indicated in both the referred negotiation minutes between officials from RDA and CCC and the letters to NRFA and the Ministry of Works and Supply Ref. RDAHQ/71/3/182 CONF dated 10th December 2007. The camp facilities were intended to be availed to the incoming Contractor. In RDAs application for the K1, 698,300,000, the subsequent derived time and camp re-establishment cost savings were advanced as attractive reasons for buying the Camp facilities which for that matter did not include land as it belonged to the Barotse Royal Establishment. Although the contract with Messrs CCC came to an end, the Mongu-Kalabo Road Project and the extension of the same road to Angolan Border were far from being concluded. By buying the Camp facilities the Government was going to considerably reduce the time and cost of mobilisation which in turn would have reduced the cost of proceeding with road activities. The decision to purchase the facilities was purely a cost saving measure which, unfortunately, was out rightly rejected by NRFA despite having been authorized by Tender Committee.

As to why NRFA opted to pay and settle K2, 606,609,422 which was obviously a higher cost against earlier advice to purchase the facilities at a much cheaper cost, can only be explained by the NRFA. It had been noted however, that despite NRFA's refusal to pay for land, buildings etc, the Agency embarked on the construction of its offices in Lusaka. However, the K2, 606,609,422 incurred was not a charge, but the normal fixed cost accrued for keeping the camp active for the two year period (2006 – 2008). The camp was

maintained for this period because the contract had not been terminated between the parties as the road project was not yet concluded. RDA was at the time redesigning the 34km lying in the flood plain to address the identified inadequacy in drainage structures and incorporate the social and environmental issues. It was hoped that Messrs CCC would continue with the construction of the road after completing the redesigning of the road. An amount of K20 Billion was allocated in the 2007 Annual Work Plan (AWP) for the Mongu Kalabo Road Project. The Ministry of Finance and National Planning had during the same period released K7 Billion out of which the purchase would have been adequately covered.

Submission by the Secretary to the Treasury

The Secretary to the Treasury in his submission on the query stated that the Ministry of Finance and National Planning was not aware of the details of the purchase as funds used were not from NRFA. The information that the Ministry had was that the property purchased was on traditional land and so had no title.

Corrective action taken, the Secretary to the Treasury informed your Committee that the Controlling Officer in the Ministry of Works and Supply needed to provide more details on the transaction.

ii. Interest Expense

The money in this respect involved unsettled claims, interests accrued from delayed payments and underpayments to the contractor dating as far back as IPC number 7 (2003), on the part of the co-financiers. The co-financiers deducted values of contingencies, claims, and interests on some Interim Payment Certificates (IPC) because, according to financial agreements entered into between the Government and individual co-financiers, these inclusions in IPCs were not supposed to be paid by them but rather by the Zambian Government. The Zambian Government delayed to pay these particular claims, hence the interest expense.

Submission by the Secretary to the Treasury

The Secretary to the Treasury in his response to the query submitted that delayed payments were caused by spreading resources thinly on projects, the non-disbursement of funds by donors in some instances and domestic revenue shortfalls.

on the corrective action taken, the Secretary to the Treasury the Treasury would ensure that it adequately budgeted for anticipated works to be carried out in each particular year. It would further ensure that budgeted funds were fully released according to the Annual Work-Plan.

iii. Supply of Forty (40) Bailey Bridges

It was not true that there was no design at the time of procuring the forty bailey bridges. The decision by the RDA to procure the bridges was based on the ZMCK (May 2005) and Diwi (June 2007) Reports. Both reports recommended the inclusion of 2km of bridge openings. It was the 2km that translated to the 40 number bailey bridges.

Your Committee wondered how the bailey bridges, which had failed earlier, were considered suitable. in response, the RDA Director told the Committee that the bridges failed previously because they were few and it was hoped that the increase in number would improve the situation.

iv. Unused Precast Concrete Beams

The precast abutments and beams were initially intended to be used at the two crossings at Lealui, where piling had been completed and at Little Zambezi. The forty (40) bailey bridges would be placed on the other remaining bridge sections. The rationale for using bailey bridges instead of concrete beams was based on the need to incorporate light weight structures into the project and that the bailey bridges could be erected faster. Arising from the need to incorporate light weight bridge structures in view of the deep sands in the Zambezi

Plain, the Agency proceeded to procure the bailey bridges using the available funds in the AWP. This decision did not need an independent consultant, as RDA Engineers had firsthand experience on the challenging nature of the soil materials and flood hydrology and hydraulics in the Zambezi flood plain.

v. Hire of Offloading Equipment

Wasteful Expenditure

The off-loading equipment procured by RDA was delivered in Mongu on 5 November 2008 after being dispatched from China on 15th May 2008. This was revealed from documentation received by RDA from the suppliers. Reasons for delayed delivery of the purchased equipment could be summarized as follows:

- Excessive bureaucracy at the Port of Beira in Mozambique and lengthy clearing procedures in Zimbabwe enroute to Zambia. The supplier avoided the congested Port of Dar-es-Salaam and opted to use the Port of Beira which, unfortunately, worked against the Agency in terms of time.
- It was reported that the massive earthquake and the eventual state of emergency in China had a considerable effect on the dispatch date,

They added that for any delay to the delivery trucks (standing time/demurrage) in Mongu beyond 48 hours, RDA was to bear the cost of over USD\$200 per day. To avoid this penalty, a decision had to be made to avoid an off-loading crisis. The RDA consequently procured a local contractor, Pacific Parts Limited through its Tender Committee for the hire of off-loading equipment for the Bailey Bridges through contract No. RDA/HQ/03. Hiring of the offloading equipment would have cost the Agency K1.968 billion as opposed to buying them at K664.125million. The other advantage of procuring this equipment was that the RDA was able to use the equipment on emergency bailey bridge construction elsewhere.

iv. Computation of Hours Worked

The stock sheets used to record off-loading hours did not indicate which particular off-loading equipment was used on a particular container. This was due to the fact that all the four pieces of equipment were involved in the offloading of each container. The offloading process involved the following:

- Pulling out the bridge components from the containers: This activity was done using a tractor and sometimes with the help of a 5ton forklift in cases where very heavy components were to be pulled out. Most of the components were coming in bundles and were very heavy and difficult to pull out of the containers.
- Moving the off loaded component from the offloading platform to the ground: This activity was done by a 3ton forklift and for heavier components by a 5ton forklift and sometimes the tractor would be used to pull them from the off loading platform to the ground.
- The equipment in question comprised two forklifts and a tractor. The contract was initially a lump sum contract which was to run for 1 month (i.e. 31 days x 8 hours/day =248 hours or approximately 250 hours) regardless of idling days, hence the lump sum on the invoice No. 1, which was paid. There were no records of hours worked at that stage but only days worked. The second invoice was certified by the Regional Engineer's office under the same understanding of the contract being lump sum until the Regional Engineer (RE) requested the Head Office (through Head - Procurement) to review the fixed sum contract arrangement and consider hourly records for certification. The client and the contractor agreed and the RE was instructed to revisit previous invoices and recover hours for idle days at 8 hours per day from the start of the contract up to 16th July 2008. A total of 10 days (i.e. 80 hours) were identified as idling days as can be confirmed from the attached schedule. The 80 idling hours were then deducted from invoice No. 3 (3715) for which a schedule of off-loading and rearranging hours was compiled and attached for the period 17th July to 23rd October 2008. In fact the arithmetic check on the schedule reveals the contractor was underpaid by 18 hours on Invoice No. 3715 for off-loading work.

v. Irregular Extension of Contract Hours and Lack of Time Sheets

All extensions and variation orders were approved by the Procurement Committee. The extension of the offloading contract was inevitable due to delay in the arrival of trucks ferrying the components from Dar es Salaam to Mongu. The components were delivered from 17 May 2008 to 28 December 2008. The delayed arrival of the RDA offloading equipment in Mongu, meant that a contingency measure had to be undertaken to avoid penalties that would have been colossal.

As for the documentation to support a huge variation from the initial 250 hours to 850hours, the following documentation is available:

- Variation Order No. 01 in the amount of K375,000,000.00 (250Hours)
- Variation Order No. 02 in the amount of K525,000,000.00 (350Hours)

Requests and approvals of the above two variation orders were available.

vi. Routine Maintenance by Performance Contract of the M10 Kalongola Pontoon- Sioma Road (70km) in Western Province

i. Fraudulent Certification of Works Items

Inclusion of Desilting of Culverts without Authority

The assessment for pay item on de-silting of culverts had no relation to the number of culverts; it was merely “yes” and “no” irrespective of the number. No culverts were included in the contract and the contractor would still have been paid for not de-silting the culverts. Therefore, inclusion of the number of culverts imposed responsibility on the contractor to de-silt the culverts, which justified the pay item. The report of the road condition survey which was compiled in 2009 revealed that there were a total of ten (10). Culverts from Kalongola to Sioma contrary to the contract document which indicated that there were no culvert. It was however decided to desilt the Matebele Bridge inlet and outlet channels under the culvert cleaning item as this critical bridge was normally characterised by heavy silting and vegetation encroachment after the flood season. The challenge then was the length of the bridge which led to dividing it into three openings as the bridge is a three span bridge. This gave an extra three drainage openings in addition to the seven culverts already located, hence the ten(10) No. culverts. He emphasized that the cross sectional area of a culvert was much smaller than that of the bridge opening by a very large margin.

He added that the discrepancy between the number of culverts located during the conditional survey (7) and those located at the time of the audit (6) could be attributed to the difficulty in assessing the Matebele Plain and locating all the culverts with accuracy due to water levels at survey time.

All the 10 culverts which were being de-silted by the contractor were not in the signed works contract. Both the BOQ and the assessment sheets in the contract did not include the 10 culverts. The Regional Engineer for Western Province negotiated with the Contractor for the de-silting of these culverts at no cost to the Government.

False Work Items

Much as it was appreciated that the schedule of works of the works contract did not include culverts and mitre drains, the same document under the Technical Specifications provided for a standard performance assessment form which included the culverts and mitre drain items with weighting factors. The implication of this was that if these items i.e. culvert and mitre drains, were non-existent on site, the assessment would be 100% for them as they carried weights that contributed to the overall performance rating. The assessment at the time of formulation of the contract document was the source of this anomaly and not necessarily an attempt to defraud. The contract in question was not a BOQ contract, but a performance based contract based on percentages and weightings of various items. The contractor did not price for individual quantities, but overall performance. The weightings could have been corrected when it was noticed that some of the items were no existent, but this was not going to change the contract sum or result in any gain to Government. The rate was fixed for wet or dry season.

Drainage and Vegetation

The inspection by the Auditors was conducted two months after the expiry of the contract by which then vegetation had grown owing to the fact that the rate of growth of vegetation in a flood plain is very high.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

a. Mongu-Kalabo Road

i. Wasteful Expenditure

According to the evidence adduced, RDA did its part and could not force NFRA to fund the project. Your Committee requests the Controlling Officer to provide further details on the matter to the Secretary to the Treasury for further action.

ii. Interest Expense

Your Committee observes that some of the interest is historical. The Controlling Officer is urged to seek the intervention of the Secretary to the Treasury to resolve the matter.

iii. Supply of Forty Bailey Bridges

Your Committee urges the Controlling Officer and RDA Management to forward copies of the reports from ZMCK and Diwi to the Auditor-General for further scrutiny.

iv. Unused Precast Concrete beams

In order to avoid wastage, your Committee urges the RDA Management to find an alternative use for the precast concrete beams. Progress should be reported on the matter.

v. Hire of offloading Equipment – Wasteful Expenditure

Your Committee notes the causes for the late delivery of the equipment. However, all records regarding cost and dates of purchase and delivery should be submitted to the Auditor-General for verification.

vi. Computation of Hours Worked

Your Committee contends that it is irregular for the Agency not to have demanded time sheets for each machine, considering that this was a time contract. This was indicative of the casual manner in which RDA Management handles contracts. The Controlling Officer and RDA Management are advised to execute contracts as per provision therein.

vii. Irregular Extension of Contract Hours and Lack of Time Sheets

Your Committee recommends that the supporting documents should be made available to the Auditor-General for verification. The erring officer should be disciplined.

b. Routine Maintenance by Performance Contract of the M10 Kalongola Pontoon- Sioma Road (70km) in Western Province

i. Fraudulent certification of work item

Inclusion of Desilting of Culverts without Authority

Your Committee urges the Controlling Officer and the RDA Management to consider adopting a practice of using performance assessment forms specifically designed for each individual project. The matter should be verified.

False work items

Your Committee resolves that matter should be closed subject to verification.

Drainage Vegetation

Your Committee finds it difficult to appreciate the explanation that vegetation growth was only on the

part inspected by the Auditors. This is a sign of poor supervision. The Regional Engineer should be cautioned for poor performance.

LUAPULA PROVINCE

AUDIT PARAGRAPH 15

16. The Auditor-General reported as set out hereunder.

a. Periodic Maintenance of Road D235 from T2 Junction in Serenje via Mukuku Bridge to Samfya, including Sections of Samfya to Mansa Road (D94)

On 6 November 2008, the Zambia National Tender Board (ZNTB) conveyed its authority to the Roads Development Agency (RDA) for the award of a contract to Messrs China Henan International Corporation Group Company Limited for the periodic maintenance of road D235 from T2 junction in Serenje via Mukuku bridge to Samfya, Samfya to Mansa (D94) in Luapula and Central provinces at a contract sum of K153,388,530,960.24 with a completion period of eighteen months. The contract was signed on 28 November 2008 and was to start on 13 December 2008 and end on 13 June 2010.

The scope of work comprised the periodic maintenance of 323 Km of asphalt pavement and seals, 50 Road signs, Road makings, treatment of surface defects, patching, repairing edge breaks and crack sealing.

The project was supervised by Ng`andu Consulting Engineers who was engaged on 4 November 2008, for a period of 18 months at a contract sum of K434,480,000. The supervision contract was to commence on 18 February 2009 and end on 18 August 2010.

During the financial years ended 31 December 2008 and 2009, provisions of K 4,000,000,000.00 and K 13,500,000,000.00 were made in the RDA Annual Work Plan for the this project.

The following were observed:

i. Standing Time Cost

On 15 July 2009, Road Development Agency instructed the contractor to suspend the works on Periodic Maintenance of Road D235 including Sections of Road D94 due to limitation of the budget as the K13,500,000,000 budgeted for 2009 had been exhausted. As of September 2009, the contractor was claiming for K28,906,776,484 as standing time cost for the suspension of the works from September to December 2009 as show below.

Item	Description	Amount (K)
1	Foreign Staff Repatriation to and back from China	248,040,000
2	Foreign Staff Remaining on Site	565,775,000
3	Local Staff Terminal Wages	38,400,000
4	Equipment Standing Time	27,699,264,000
5	Equipment Transport Charge from Site to Main Camp and Re-Transport to Site	144,690,000
6	Security for Materials, Equipment whilst on suspension	37,440,000
7	Payment for Services	100,440,000
8	Loss in Works Insurances and Bonds	72,727,484
	Total	28,906,776,484

RDA entered into an agreement to complete the materials that was on site which totalled K46.2 billion as per interim payment certificate number 8, RDA indicated to the contractor that they would pay K17 billion due to limitation of the budget. The contractor agreed to give RDA an interest free on delayed payments if they pay the pending payment certificates by 31 January 2010. Otherwise, failure would attract all the interests to be calculated from the date due.

ii. Physical verifications

A site inspection conducted in September 2009 revealed that the contractor had suspended the works as instructed by RDA as the contractor had performed more works than what was budgeted for in 2009.

It was further observed that the contractor had opened the pot holes from Km 239.4 to Km245.4. However, the Contractor was instructed to stop works and the pot holes were left opened. They are a hazard to traffic and will increase in size because of traffic.

b. Samfya Turn Through Lubwe Mission via Mwewa to Kasaba

On 6 March 2008, the Zambia National Tender Board (ZNTB) conveyed its authority to the Roads Development Agency (RDA) for the award of a contract to China Jiangxi corporation for International Economic and Technical cooperation for the periodic maintenance of the Samfya turn off through Lubwe mission via Mwewa to Kasaba in Luapula Province at a contract price of K8,849,818,587.50 with a completion period of 6 months. The contract was signed on 14 March 2008 and was to start on 21 June 2008 and end on 21 December 2008.

The scope of work comprised the periodic maintenance of 83.1 Km of clearing and grubbing; re gravelling and installation of road signs. The project was supervised by E.G. Pettit and Partners who was engaged on 23 May 2008, for a period of six (6) months at a contract sum of K515,624,545.

As of June 2009 a total of K5,709,056,893 had been paid to the contractor and works were completed on 21 June 2009.

The following were however observed:

i. Failure to Follow Specifications

According to the contract specifications, the road width was 5.5 metres. However, a physical inspection revealed that contrary to the specifications the average width of the road was 4.0 metres as shown in the table below.

Km	Km0	Km15.0	Km30.0	Km45.0	Km60.0	Km75.0	Km80.1	Km1.5
Width in Metres	5.0	4.0	3.4	3.9	4.1	4.0	3.8	3.8

ii. Poor Drainage

The following were observed:

- there was soil erosion at km 31.4 on the Right Hand Side (RHS) and Left Hand Side (LHS) of the side drains which may affect the Road;
- the road had cracks on the carriageway from Km 71.9 to Km80.0 ; and
- the mitre drain were not discharging water, which may affect the carriage way.

c. Rehabilitation and Maintenance of Boma/Nchelenge Harbour Road

On 1 January 2008 Roads Development Agency (RDA) Tender Committee awarded the contract to Messrs Kapwil Business Centre for the rehabilitation and maintenance of the Boma/Nchelenge/Kashikishi Harbour Road, lot 6 Luapula Province at a contract price of K355, 776,840 with a completion period of 6 months. The contract was signed on 13th February 2008 and was to start on 25th April 2008 and end on 6th June, 2008.

The works were supervised by Nchelenge District Council with Luapula Province Regional Engineer's office as the overall supervisor.

The scope of works included heavy grading; formation and compaction to restore camber, mitre drain, spot gravelling; provide, haul, drainage works; supply and install concrete pipes complete with headwalls, wing walls and apron among others.

As of October, 2009 a sum of K173, 993,040 had been paid to the contractor.

The following were observed:

i. Progress Claim No. 2

Due to poor workmanship, the Regional Engineer could not approve the contractor's final claim of K64,650,000 and instead requested the contractor to go back to site and redo the works.

The contractor refused to remobilise and redo the work on the grounds that:

- The contractor's works were assessed and certified by the director of works for Nchelenge District Council and RDA official and that all the volume of works done added up to 100% except for stone pitching
- The contractor claimed he had gravelled the full length instead of spot gravelling

ii. Physical Inspection

Although the road had undergone the rehabilitation and maintenance, the following anomalies/defects were noted:

- the stretch from km 0.5 through km 1.8 was characterized by serious gullies;
- the quality of drifts were not as specified in the contract and consequently, the base concrete had been eroded at km 0.4, km 0.5, km 0.6 and km 1.9;
- the culverts installed had all been silted;
- serious surface break at km 0.5. Half of the road had been washed out at km 0.6, km 1.2, and at km 1.3 the wash out rendered the point of culvert installation impassable and forcing motorists to use the road sides;
- there was no formation at Km 0.8 to Km 1.1 and no gravel;
- the stretch from km 0.7 to km 1.9 had poor side drains and had no mitre drains made for the all stretch; and
- contrary to the specifications of the contract which set the width of the carriageway at 4.5m, measurements taken at intervals of 0.5km between km 0.0 and km 5.5 revealed that the carriageways had an average width of 3.32 meters.

SUBMISSION BY THE CONTROLLING OFFICER, MINISTRY OF WORKS AND SUPPLY AND RDA MANAGEMENT

The Controlling Officer, Ministry of Works and Supply in conjunction with the RDA Management submitted as set out hereunder.

a. Periodic Maintenance of Road D235 from T2 Junction in Serenje via Mukuku Bridge to Samfya, including Sections of Samfya to Mansa Road (D94)

i. Standing Time Cost

The standing time estimated by the contractor could not be paid on face value as the issue was under adjudication and only equipment which was necessary to carry out the works would be considered. It was unlikely that the contractor would be paid his claim in its entirety as the funding situation was made known to him in writing at the start of the contract. However, interest claims for delayed payments were contractual.

ii. Physical Verifications

The contractor was never at any one time opening potholes, they were instead shaping the potholes in readiness for patching. The work was on-going and the contractor was scheduled to resume patching. All the reshaped potholes were patched.

b. Samfya Turn through Lubwe Mission via Mwewa to Kasaba

i. Failure to follow Specifications

A joint inspection carried out by the RDA, Consultant and the contractor revealed the following:

Chainage (KM)	Graveled Width	Comment
0+00	5.8	Meets minimum requirement
1+500	5.8	Meets minimum requirement
15+00	5.2	Slightly short of requirement
30+00	6.1	Meets minimum requirement
45+00	6.7	Meets minimum requirement
60+00	6.7	Meets minimum requirement
75+00	6.0	Meets minimum requirement
80+00	6.2	Meets minimum requirement
80+100	6.2	Meets minimum requirement

The explanation was that there was a tendency for traffic on gravel roads to keep to the crown of the road creating excess wear and tear on the central zone of the gravel wearing course. The road crown consequently becomes flat and there was an apparent break in the section profile which in turn appeared to be the edge of the road where measurements were suspected to have been taken from.

ii. Poor Drainage

At the time of the construction works, there was no erosion at KM 31.4. However, a joint inspection carried out by the RDA, consultant and the contractor confirmed that the road had been eroded at KM 31+400 because of cattle crossing the road to drink water. Since the project was still in the defects liability stage, the contractor would remedy this by way of constructing a ramp to allow cattle to walk down the embankment slope. .

Cracks on the carriage Way from Km 71.9 to km80

During the inspection the cracks recorded in the Audit Report were not visible and therefore the said cracking defect could be said to be absent.

Mitre drain not discharging at Km 71.9 to Km 80.0

There is actually no mitre drain at Km 72.

c. Rehabilitation and Maintenance of Boma/Nchelenge Harbour Road

i. Progress Claim No 2

The Regional Engineer could not approve the final claim because the works were not satisfactory. The contractor was requested to redo the works but could not do it on grounds that Nchelenge District Council had already certified the works but the Regional Engineer considered the works unsatisfactory. The contractor therefore was not paid. This is an example of strict adherence to fulfilling contractual obligations. This contract failed and was terminated.

ii. Physical Inspection

As rightly observed by the AG, the RDA refused to certify works that did not comply with the specifications and subsequently, the RDA recommended to the Nchelenge District Council to terminate the Contract. All the observed defects are there because the contractor failed and no new contract was procured to repair the road. A new contract will be procured in the near future. The RDA simply did its job properly on this particular project in terminating this contract.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

a. Periodic Maintenance of Road D235 from T2 Junction in Serenje via Mukuku Bridge to Samfya, including Sections of Samfya to Mansa Road (D94)

i. Standing Time Cost

Your Committee observes that the contract should not have been entered into in the first place considering the very limited funding which the RDA had been fully aware of. The Controlling Officer and RDA Management are advised to work within the appropriated funds. Progress should be reported on the standing time that was under negotiation.

ii. Physical Verification

Your Committee requests the Controlling Officer and RDA Management to report progress on the project following the statement that the contractor will soon resume work.

b. Samfya Turn Through Lubwe Mission via Mwewa to Kasaba

I. Failure to follow specifications

Your Committee resolves that the measuring exercise should be repeated in the presence of all parties.

II. Poor Drainage

Your Committee requests for an update on the remedial works and construction of ramp at km31.4.

The other matters on cracks on the carriage way and mitre drain should be verified.

c. Rehabilitation and Maintenance of Boma/Nchelenge Harbour Road

i. Progress Claim No 2

Your Committee commends the RDA for adhering to procedure on this project. The Committee, however, call for more capacity building programmes for local authorities considering that they are at times engaged as supervisors for road works.

ii. Physical Inspection

Your Committee resolves that the matter should be closed.

CENTRAL PROVINCE

AUDIT PARAGRAPH 16

17. The Auditor-General reported as set out below.

a. D207-Picadilly Circus-D200/Kabwe Town Boundary to Old Mkushi

On 29 July 2008, the Zambia National Tender Board conveyed authority to Road Development Agency to award the contract for the rehabilitation of Road D207 Picadilly Circus to D200, Kabwe town boundary to Old Mkushi to Messrs China Geo Engineering Corporation at its bid sum of K21,772,683,362, with a completion period of 8 months. The contract was signed on 25th August, 2008 and was to start on 9th September 2008 and end on 8th May 2009. The scope of works included but was not limited to clearing and grubbing, road formation, gravelling and drainage works and the contract was supervised by the Regional Engineer for Central Province.

As of October 2009, a total of K18, 479,930,107 representing had been paid to the contractor and works were 100% complete.

The following were however observed:

i. Physical - Road D200 (117km)

A physical verification of the project revealed the following:

- the mitre drains were not properly done as they were sloping towards the road instead of away from the road which may result in water draining towards the road;
- there were corrugations at Km107.5 to Km 108.2 and from Km 39.8 to Km 67;
- all the culverts were poorly done in that they had no aprons; and
- although there was a variation order on fill material totalling 38,100m³ in compacted layer thickness of 200mm at localized low areas for which the contractor was paid K1,138,868,500 physical verification revealed that the fill was not done.

ii. Improper Handover of Assets

In April 2009, the contractor was instructed to purchase various office equipment which included two laptops, one printer and two digital cameras at a total cost of K38,500,000, laboratory equipment at a cost of K19,250,000 and radios at a total cost of K15,400,000 which were to be handed over to the Agency at the end of the Project. However, it was not possible to inspect the equipment as it was not availed for audit scrutiny.

SUBMISSION BY THE CONTROLLING OFFICER, MINISTRY OF WORKS AND SUPPLY, AND RDA MANAGEMENT

The Controlling Officer, Ministry of Works and Supply in conjunction with the RDA Management submitted as set out hereunder.

a. D207-Picadilly Circus-D200/Kabwe Town Boundary to Old Mkushi

i. Physical Road D200 (117Km)

When the works were substantially complete, a snag list was prepared on which the defects alluded to in the audit report were included. The contractor had since addressed the issues relating to mitre drains, corrugations and aprons on culverts. With regard to the Auditor-General's observation, the fill was done on the D200 Road.

ii. Improper Handover of Assets

The items purchased on this contract were still registered under the contractor and were being used by the RDA officers who were supervising and coordinating the project.

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

a. D207-Picadilly Circus-D200/Kabwe Town Boundary to Old Mkushi

i. Physical Road D200 (117Km)

Your Committee resolves to close the matter subject to verification.

ii. Improper Handover of Assets

Your Committee calls for more seriousness on the part of RDA staff on audit matters. It is unacceptable that even the laptops and the printer which are office items could not be made available for audit verification. The Controlling Officer is urged to address the matter and report progress.

NORTHERN PROVINCE

PARAGRAPH 17

18. The Auditor-General reported as set out hereunder.

a. Periodic Maintenance of Kusefya Pang'wena Road

In August 2008, the Agency awarded a contract to Messrs Pacific Parts Zambia Limited for the periodic maintenance of the 25 km D18 Kusefya Pang'wena at the contract amount of K2,593,247,725 with a completion period of four (4) months. The contract was to commence on 13th October 2008 and end on 3rd February 2009. The scope of works involved, but not limited to 15.5m wide clearing and grubbing on the 25km stretch; excavation of mitre drains; 25km formation; installation of one 600mm diameter concrete pipe culvert; fill placing; and placing of 8,745m³ of gravel wearing course. It also involved construction of parking lots and arena section and installation of ten (10) road signs. The project was supervised by the Regional Engineer of Northern Province and the following were observed:

i. Poor Project Planning (Optimisation of Intervention)

A separate contract on the same road was awarded to Messrs JB Carriers and General Supplies to carry out spot improvements / repairs within the same period at a contract amount of K291,650,100. The contract start and completion dates were 11 September 2008 and 25 September 2008 respectively. It was observed that less than a month after the completion of the spot improvements/repairs, the periodic intervention started on 13 October 2008.

ii. Monitoring Progress Against Programme

A review of progress report No.2 dated 28 April 2009 revealed that the works were 71% complete, two (2) months after the expiry of the completion date. There was no evidence of extension of time and the clause on liquidated damages had not been evoked.

b. Rehabilitation and Maintenance of Hospital Road in Nakonde District

On 17 March 2008, Roads Development Agency (RDA) Tender Committee awarded a contract to Messrs Thosims Suppliers and Contractors for the rehabilitation and maintenance of hospital road in Nakonde District at a contract price of K226, 360,788 with a completion period of 3 months.

The scope of works comprised 2.5 km of heavy grading and major reshaping to cover all potholes and restore camber, 1.9 Km re gravelling; construction of culverts 900mm, 9 culvert extension 600mm, 2. mitre and side drains and, vegetation control of 5m on either side of the edge of the road. It also consisted of activities to ensure that the road is all-weather accessible. The contract was signed on 2 May 2008 and was to start on 16 May 2008 and end on 16 Aug 2008.

A variation order was made to allow for provision of insurance, maintenance of engineer's vehicle based on site and miscellaneous expenses for the Engineer supervision allowances amounting to K9,174,500. The variation further allowed for heavy grading and major reshaping to cover all potholes and correcting any irregularities and restores camber, mitre and side drains among others.

The project was supervised by Nakonde district Council with Northern Province Regional Engineer's office as the overall supervisor.

There were no provisions made in the RDA annual work Plan for the Nakonde hospital road during the financial year ended 31 December 2008.

As of October 2009, a total of K210,718,379 had been paid to the contractor and 100% of works had been done.

The following were observed:

i. Supervision Funds

Although a sum of K9, 174,500 was certified for supervision under IPC No.1, the funds were not remitted by the contractor.

ii. Physical Verifications

A site inspection conducted in September 2009 revealed the following:

- Contrary to the variation order which provided for covering of potholes and restoration of camber, mitre and side drains, a site inspection revealed that the road was characterized by potholes. It was further observed that the road had no camber, mitre drains and side drains at 0.0km to 0.5km and from 2.6km to 3.0km.
- All the drifts were poorly done and at the time of inspection concrete base had already been eroded e.g. at 0.9 km drift were not to the standard done and at 1.0km to 1.3km the stretch was characterized by surface breaks and serious gullies.
- Culvert at 1.6 km had been poorly done and there was no back slope on the left hand side (LHS)
- There was no formation from 2.6 km to 3.0 km.

c. Emergency Construction of Rosa Bridge in Mungwi

On 7 April 2008, the Manager Construction and Maintenance (RDA) instructed the contractor (Sable Transport Limited) to carry out works on the Rosa Bridge which had been washed away. According to the instruction, the Manager had indicated that the works were part of the contract for the reconstruction of selected priority crossing in Northern Province which had been awarded to Sable Construction on 5 December 2007 at a contract sum of K13, 927,378,383.

The following were observed:

i. Irregular Procurement

In a letter dated 12 April 2008, the contractor indicated that the bridge in question was not part of the contract and therefore requested for a variation. However, the contractor went ahead to construct the bridge in the absence of a variation order.

In this regard, upon completion of works in January 2009, the contractor submitted a claim for K954, 796,000 which was later negotiated downwards to K649, 951,000.

The Manager Construction and Maintenance only presented the matter to the management tender committee in May 2009 after the works had been completed.

ii. Questionable Pricing

A review of correspondence between the contractor and the manager construction relating to the pricing of the Bill of Quantity for works revealed that the rates were to be based on the contract for the priority river crossings in Northern Province.

In unclear circumstances, the contractor reduced his rates and quantities claimed in the first claim to K649, 951,000. The revised amount of K649, 951,000 is therefore still questionable when compared with similar works in the contract for priority river crossing in northern province ranged between K250, 000,000 and K280, 000,000.

iii. Physical Reports

A physical inspection revealed that the bridge's backfill and approaches were eroded.

d. Periodic Maintenance of Kasama – Mbala – Mpulungu Road Lot 2

On 9 June 2008, Zambia National Tender Board (ZNTB) conveyed authority to RDA to award the contract for the periodic maintenance of Kasama via Mbala to Mpulungu Road Lot 2 to Messrs Raubex Construction Limited at a contract sum of K59,869,840,000 with a completion period of 15 months. The start and completion dates were on 20th July 2008 and 19th October 2009 respectively. The scope of the intervention involved, but not limited to, cleaning shoulders, side drains and mitre drains; construction and surfacing of the existing shoulders; scarifying and processing of existing pavement to form a new sub base; constructing cement-stabilised base along selected sections; pothole patching; drainage works; installation and erection/installation of road furniture; and ancillary operations.

The start point for lot 2 was Km110.00 at Senga Hills and the end point was at Km 210 in Mpulungu at the entrance of Mpulungu Harbour.

The works were supervised by Messrs Eastconsult in association with BNC Consulting.

As of October 2009, a total of K12,351,384,682 had been paid to the contractor and the works were 10% completed.

A review of progress reports revealed that while the project was scheduled to be completed on 19 December 2009, only 10% of the works had been executed of September 2009 at which time 84% of the contract period had elapsed.

e. Periodic Maintenance of Kasama – Mbala – Mpulungu Road, Lot 1

On 9 June 2008, Zambia National Tender Board (ZNTB) conveyed authority to RDA to award the contract for the periodic maintenance of Kasama via Mbala to Mpulungu Road Lot one (1) to Messrs Raubex Construction Limited at the contract sum of K61,847,541,867 with a completion period of 15 months. The start and completion dates were on 20th July 2008 and 19th October 2009 respectively.

The start point was Km 00 at Kasama Municipal Council Grain Levy Checkpoint and the end was at Km 110 at Senga Hills.

The authority was granted on 2 July 2008 to engage Messrs Eastconsult in association with BNC Consulting as supervisor. The contract was signed on 21st July 2008 for a contract period of seventeen (17) months at the contract sum of K 3,938,200,000.

The scope of the intervention involved, but not limited to, cleaning shoulders, side drains and mitre drains; construction and surfacing of the existing shoulders; scarifying and processing of existing pavement to form a new

sub base; constructing cement-stabilised base along selected sections; pothole patching; drainage works; installation and erection / installation of road furniture; and ancillary operations.

As of October 2009 a total of K13,874,396,034 had been paid to the contractor and the contract was 60% complete.

A physical verification revealed that progress was behind schedule. While the completion date was scheduled on 19 October 2009, the overall progress as of September 2009 was 60% compared to 94% of the contract period which had elapsed.

Test Results

Tests carried out are as follows:

- i. surface dressing thickness for seven samples;
- ii. surface dressing bonding assessment on seven sections;
- iii. assessment of aggregate sizes on three sections; and
- iv. aggregate crushing test and particle size distribution for sample of aggregates.

The results for the above tests are as follows:

- i. on surface dressing thickness, it was noted that despite, adding a new layer on top of the existing one, there was a significant variation of results obtained with one measuring 8 mm and the highest 30 mm whilst others measured 16 mm, 18 mm (two samples) and 20 mm; this type of variation is possibly caused by inadequate surface preparation before the surface dressing layers were applied and will cause an irregular performance of the pavement, consequently premature potholes;
- ii. of the seven (7) sections where surface dressing bonding was assessed, four (4) were found to have adequate bonding while two (2) had bonding problems between the old and the new one and one (1) had problem of bonding in the shoulders;
- iii. visual examination of aggregates shows that they are larger than usually used for surface dressing, and the implication of size of aggregates is that binder coating will not be adequate and this will result into withdrawing of aggregates from road surface a phenomenon known as windrow;
- iv. the aggregate Gradation did not fit in a corresponding SATCC envelope; and
- v. the PSD does not match SATCC specs. The ACV of 35 was too large, compared to <25% for a sound rock.

f. Reconstruction and Realignment of Luwingu to Kasama Road M3

In paragraph 10 of the Report of the Auditor-General for 2005 on the Administration of selected contracts in the Ministry of Works and Supply, mention was made of the award of a contract to Messrs Sable Transport and Construction Ltd for the reconstruction and realignment to Class 1C Standard of the Luwingu to Kasama road.

On 25 February 2008, the Zambia National Tender Board (ZNTB) granted Roads Development Agency (RDA) authority to terminate the initial contract with Messrs Sable Transport and Construction Limited and negotiate a new contract for the works at a contract sum of K192,965,237,010 with a completion period of 18 months. The contract was signed on 14th September 2008 and was to start on 28 September 2008 and end on 22 March 2010. The new contract was designed to remove compound interest charged on delayed payments, provision of the Kwacha currency and the inclusion of the SATCC price adjustment formula.

The scope of work comprised the reconstruction and realignment to class 1C Standard of 96 Km of clearing and grubbing; clearing and grubbing; installation of 10, 40 and 53 numbers of 600mm, 750mm and 900mm diameter culverts respectively.

Messrs Brian Colquhoun Hung O'Donnell and Partners was engaged in January 2009 to supervise the project for a period of eighteen (18) months.

As of October, 2009 a total of K45, 898,477,106 had been paid to the contractor and 30% of works had been completed.

The matters set out below were observed:

i. Delayed Interest

Inspection of documents indicated that RDA incurred cumulated interest expenses totalling US\$13,699,279.94 due to delayed liquidation of interim payment certificates as they fell due. This was an increment of US\$5,323,672 from US\$8,375,608 accumulated up to June 2005 mentioned in paragraph 10 of the Auditor General's Report for 2005 on the administration of selected contracts in the Ministry of Works and Supply.

ii. Performance Bond

Contrary to Clause 52 of the contract which required the contractor to submit a performance bond covering the contract period of eighteen months, the contractor submitted a bond covering twelve months.

iii. Late Engagement of the Consultant

Although the contractor commenced work in September 2008, the consultant was only engaged on 5 February 2009, five months after the works had commenced. In this regard, during this period, the contractor worked without adequate supervision and five (5) interim payment certificates (IPC) in the sum of K27, 752,514,074 were processed without the involvement of the consultant.

iv. Failure to Surrender Project Assets

Contrary to the terms of the contract, the contractor failed to surrender project assets to the Agency upon termination of the initial contract. In particular, five (5) motor vehicles and survey and Laboratory equipment costing US\$229,500 had not been surrendered by the contractor as of September 2009.

v. None Adherence to Contract Specifications

Base course is the main bearing layer of the pavement. In the tests carried out, the thickness of layers were lower than what was specified in some cases. It was observed that all four (4) samples for base course thickness did not meet the specified 150 mm. They measured 120mm (km116.9), 110mm (km33.56RHS), 120 mm (km33.36) and 140mm (km23.6).

It is evident from the results obtained from the tests that the contractor did not meet the specifications prescribed in the contract despite the Agency having engaged a supervising consultant at a cost of K5,998,606,391.

g. Periodic Maintenance of Senga Hill to Chinakila Road

On 5 August 2008, the Zambia National Tender Board (ZNTB) conveyed its authority to the Agency for the award of a contract to China Geo Engineering Corporation Limited for a periodic maintenance of the Senga Hill to Chinakila Road at a contract sum K10,870,768,398 for a period of four (4) months. The Contract was signed on 12 August 2008 and was to start on 30 August 2008 and end on the 30 December 2008. The scope of works comprised the reshaping of the carriageway, re gravelling, and grading and vegetation control of the road of the Lot 9 with a length of 44.5kms. It also included the installation of 37 of 900mm diameter new culverts and 15 road signs. On 19 March 2009, the scope of works was varied to include a bypass stretch of 2km in amounts totalling K1,085,505,960 whilst the project period was extended by one (1) month. The project was supervised by the RDA Regional Engineer for Northern Province.

As of October 2009, a total of K10, 569,505,830 had been paid to the contractor representing 97% of the contract sum.

The following were observed:

i. Lack of Completion Certificate

Although the contractor had demobilised, no certificate of completion had been issued as of September 2009.

ii. Physical Verifications

A physical inspection of the road revealed that although the contract specified a width of 6.1m, measurements taken at km 2.95, km 10.00 and km 20.00 revealed that the contractor did not meet the specifications along the entire road in that at the sampled points, the road had a width of 4.9m, 6.4m and 5.5m respectively.

h. Periodic Maintenance of (D56) Safwa to Chinsali Road

On 5 August 2008, the Zambia National Tender Board (ZNTB) conveyed its authority to the Agency for the award of a contract to Messrs Sable Transport Limited for the Periodic Maintenance of the Safwa to Chinsali Road (125 km) at a contract price of K27,424,786,004 with a completion period of eight (8) months. The contract was signed on 20 August 2008 and was to start on 28th August 2008 and end on 25th April 2009. The scope of work comprised road formation; clearing and grubbing; gravelling and re-gravelling and installation of 900mm (46) and double pipe 900mm (3) culverts respectively. The project was supervised by the Northern Province Regional Engineer under RDA.

As of October 2009, K9,810,466,434 had been paid to the contractor and 64 km out of the 125km contracted had been done representing 44% of the total works.

The following were observed:

i. Variations and Extension of Time

According to the contract the completion date was 8 May 2009. On 6 May 2009, the contractor requested for an extension of 130 days due to heavy rainfall. However there was no evidence that RDA approved the extension. No liquidated damages had been charged on the contractor despite the delay.

ii. Unaccounted for Supervision Funds

Out of the K132,000,000 claimed by the contractor in respect of funds paid to the Agency for supervision allowances, maintenance and service of engineers vehicles, fuel and other miscellaneous expenses as provided in the contract, only K27,949,712 had supporting expenditure details leaving a balance of K104,050,288 unaccounted for.

SUBMISSION BY THE CONTROLLING OFFICER, MINISTRY OF WORKS AND SUPPLY, AND MANAGEMENT OF ROAD DEVELOPMENT AGENCY MANAGEMENT

The Controlling Officer, Ministry of Works and Supply in conjunction with RDA Management submitted as set out below.

a. Periodic Maintenance of Kusefya Pang'wena Road

i. Poor Project Planning (Optimisation of intervention)

JB Carriers and General Suppliers was awarded emergency repair works with a limited scope to facilitate the visit of VIPS to the Kusefya Pang'wena Traditional Ceremony while the other project by Pacific Parts had a wider scope. The contract was awarded in emergency circumstances.

ii. Monitoring Progress Against Programme

The contractor delayed completing the works, mainly, because of the variation order issued to him to construct the Milando Bridge which was in a deplorable state. This bridge was not originally in the contract. Extension of time of two months was granted as a consequence.

b. Rehabilitation and Maintenance of Hospital Road in Nakonde District

i. Supervision Funds

The Project Manager was the Council Secretary, Nakonde District Council, and the K 9,174,500.00 supervision money was paid to the Council.

ii. Physical Verifications

The project was substantially completed and all the defects had been corrected as part of the snag list provided to the contractor.

c. Emergency Construction of Rosa Bridge in Mungwi

i. Irregular Procurement

The Manager-Construction and Maintenance at RDA instructed the Contractor to carry out the reinstatement of the Rosa Bridge based on the information that it was part of an existing contract and this did not require the CEO to authorise.

He added that when it was realised that the bridge was not part of the priority river crossing, a variation Order could not be issued to the contract at the time because the Reconstruction of Priority River Crossings in Northern Province was being financed by the World Bank who had rigid procedures for varying works. Despite indicating to him that the works were not part of the World Bank project, the contractor went ahead to carry out the works prior to signing of a contract because he needed to access the other structures that were in his contract across the Rosa River. Although the issue of the variation order was discussed at several meetings, neither the Consultant, Regional Engineer nor the Contractor prepared any documentation to be presented to the procurement committee. This information was only presented on 3 April 2009. He added that it should be noted that the contractor was not paid the said money for the bridge. The RDA did not make any payment due to the unresolved cost (adjudicated by the consultant) and requirement for procurement authority.

RDA internal processes ensured that no funds were spent until all contractual requirements were documented in a variation order before payment could be made. This variation order or addendum to the existing contract was never prepared or signed as the matter had remained unresolved. One of the main motivations for the contractor to construct Rosa Bridge (Box Culvert) was because it provided access to the other crossings he was required to construct.

ii. Questionable Pricing

The understanding by the contractor when he made his first claim was that the construction of the Rosa Bridge would be paid through a new contract because we could not vary the other contract which should have used the rates in the priority river crossings contract. The contractor therefore submitted the initial price using new rates. These rates were indeed higher than those in the priority river crossings contract. The Consultant and Contractor made mistakes in the presentation of the cost estimates hence the non-payment of the claims. The Consultant has re-evaluated the cost of the reconstructed Rosa Bridge and communicated to the Contractor. The Contractor has not provided a reaction to this.

Physical Reports

The remedial works to the bridge have not been carried out due to the unresolved cost.

d. Periodic Maintenance of Kasama – Mbala – Mpulungu Road Lot 2

Your Committee heard that the Contractor delayed in mobilisation on Lot 2 as he initially concentrated on mobilising on Lot 1. The Government owed the Contractor a lot of money which had contributed to the slow progress. The contractor had requested for extension of time which was still under adjudication.

Submission by The Managing Director Raubex Construction Limited

The Managing Director of Raubex Construction submitted that V02 of Lot 2 that was submitted in August 2009, had still not been officially approved although it was noted as being approved in the

minutes of several meetings. He however, failed to understand what was causing the delay.

Accompanying V02 was a claim for extension of time until the end of April 2010. This extension had also been agreed with the consulting engineer and the RDA although the official V02 had for some inexplicable reason not yet been signed by the RDA.

The work on this contract was officially completed at the end of April 2010. On 20 April 2010, Raubex requested for a site inspection to officially hand over the site and for the issuance of a Certificate of Practical Completion.

e. Periodic Maintenance of Kasama – Mbala – Mpulungu Road, Lot 1

Contractor mobilised two sets of equipment for both Lots which was confirmed and verified by the Consultant in order to speed up progress.

Test Results

The methodology and test used was not clear since layer thicknesses for surface dressing was never specified. They submitted that:

1. The use of one sample at one point for the entire stretch of the road was inconclusive. It was not clear on which Lot or chainage the sample was taken from; Surface dressing follows the original profile there was no correct thickness of surface dressing as implied.
2. The defect was noted and would be followed up, however the offsets and chainages were required. The project was yet to be completed and defective work would constitute a snag list. The test carried out was not clear.
3. The size of the aggregates was not stated in the AR and the location had not been stated either.
4. There was need to specify the chainage at which the sample was taken and the sizes of the aggregates that were found.
5. The observation regarding the ACV value of 25 was agreed to, however it was not clear what the sample size and location it was taken from.

The RDA was currently following up on all the issues that had been raised in the Audit Report and where corrective action was required it would be undertaken.

Submission by the Managing Director Raubex Construction Limited

The Managing Director of Raubex Construction informed your Committee that the completion date of 19 October 2009 quoted in the Audit Report was wrong. The correct completion date of the contract was 19 December 2009. Extension of time was granted until 19 December 2009.

The contract was completed before 19 December 2009.

On 8 December 2009, a letter requesting an inspection for the handover of the site was written as work had been completed and also requested that a Certificate of Practical Completion be issued.

The Audit Report revealed that progress was behind schedule. It was not. The contract was completed on time.

f. Reconstruction and Realignment of Luwingu to Kasama Road M3

i. Delayed interest

The contract being referred to is the old contract which has since been closed and interest claimed was as a

result of Government failure to make timely payments to the Contractor. This was also subjected to an independent review and the document is available for scrutiny.

ii. Performance Bond

The contractor had submitted the correct Performance Bond.

iii. Late Engagement of the Consultant

The observation by the Auditors had been noted. BCHOD had been re-appointed as the supervising Consultant. The Regional Engineer was supervising the works before the appointment of the consultant.

iv. Failure to Surrender Project Assets

The laboratory equipment from the old contract was still being used on the new contract as there was no item for supply of new laboratory equipment on the current contract. The assets would be handed over to RDA on completion of the current contract. He added that due to the long service period, from 2001 to 2007, the said motor vehicles had outlived their usefulness and they could be inspected at the following locations:

- 2x Land cruiser station wagons – Lubanseshi in Luwingu
- Toyota Hilux Single cab - Lubanseshi in Luwingu
- 2x Nissan Hard body – Sable yard in Lusaka
- Nissan Maxima boarded for sale by RDA Hq Lusaka

v. None Adherence to Contract Specifications

The RDA investigations revealed that the correct thickness was achieved.

Ch 33+300 150mm Thick Base Layer measured on shoulder.

Submission by the Partner Brian Colquhoun Hugh O'Donnell and Partners

The Partner for BCHOD the consulting engineers in his response to the queries submitted as set out below.

Non Adherence to Contract Specification

Field investigations revealed that the standard cross section of the road which was 9.1m shoulders inclusive provides for one base (150mm), one sub base (150mm) and one sub grade (150mm) respectively. In line with the queries, trial pits at points disputed by the Client were done and the following were the findings, at Chilanga point 33+600km on the RHS with an offset of 2m the base thickness measured was 145mm and a double seal consisting of 13mm for the first seal and 6.7mm for the second seal. Furthermore, trial pits at km23+600, km33+300 and km 116+900 showed that the road was built with a base thickness of 150mm and a double seal consisting of 13mm stone as the first seal and 6.7mm stone as the second seal respectively.

Below was a table showing results in the Auditor-General's Report and by the inspectors from BCHOD.

<i>Queried Base thickness at chainage</i>	<i>Thickness as of Auditor-General's Report</i>	<i>Thickness as of BCHOD inspectors</i>
<i>KM 23+600</i>	<i>140mm</i>	<i>150mm</i>
<i>Km 33+300</i>	<i>120mm</i>	<i>150mm</i>
<i>Km 33+600 RHS</i>	<i>110mm</i>	<i>145mm</i>
<i>Km 116+900</i>	<i>120mm</i>	<i>150mm</i>

The procedure taken during construction of the sections in question, was that levels were taken on the sub-base at five points, that is, the centreline, one point on either sides of the carriageway and one point on either shoulder. The levels were again taken for the same points on the base. This was used to calculate and verify the thickness of the base.

This is according to SATCC specifications of Road and Bridge Works, Section 7205 which stated that "Layer thickness might be determined by means of level measurements taken before and after construction of the layer in exactly the same position, but might augment by thickness

measurements taken by means of holes made in the layer.” The actual readings were attached in the appendices which were supplied during the presentation.

According to SATCC specifications of Road and Bridge Works, Section 3405, under the heading Construction Tolerances – layer thickness, the maximum deviation allowed was 27mm. (Internationally, tolerances for the same range between 20 and 30mm). Below was the table showing layer thickness tolerances referred to in Clause 7205 SATCC Specifications.

	<i>D</i>	<i>D</i>	<i>D</i>
<i>Selected Layer</i>	<i>30mm</i>	<i>40mm</i>	<i>10mm</i>
<i>Sub-base</i>	<i>21mm</i>	<i>27mm</i>	<i>5mm</i>
<i>Base</i>	<i>21mm</i>	<i>27mm</i>	<i>5mm</i>
<i>Wearing Course</i>	<i>-</i>	<i>30mm</i>	<i>0mm</i>
<i>Shoulders</i>		<i>30mm</i>	<i>0mm</i>

Delayed Interest

The previous contract for Kasama-Luwingu project included a clause for interest payment for any delayed interim payment certificate (IPC). The payment period for all interim certificates was 28 days. Beyond that, the IPC attracted compound interest as per conditions of contract. Interest, therefore, accumulated on the contract because of funding problems that the Ministry of Works and Supply experienced.

The current contract, however, had a simple interest clause and to date this had not been applied.

Failure to Surrender Project Assets

The old (previous) Kasama-Luwingu project provided for provision of laboratory equipment and 5No. motor vehicles. Both the laboratory equipment and the vehicles were supposed to revert to the client at the end of the contract.

The laboratory equipment from the old contract was, however, being used on the new contract. The new contract did not provide for the supply of the new laboratory equipment because it was envisaged that the new contract would utilise the equipment from the old contract.

Bill No. 1.5 payment reference No. B14.016 provided for the Service and Maintenance of the project managers, laboratory and survey equipment. It was envisaged that the equipment would be handed over to the client at the end of the current contract.

The vehicles, on the other hand, had outlived their usefulness. The old contract ran from November 2001 to December 2007. The vehicles had been in service for a long time and below was their status:

- Station Wagon Land Cruiser- in Lubansenshi (in Luwingu);
- Toyota Hilux Single Cab – Lubansenshi (in Luwingu);
- Nissan Hardbody 2 No. –both at Sable yard in Lusaka; and
- Nissan Maxima – RDA Headquarters.

g. Periodic Maintenance of Senga Hill to Chinakila Road

i. Lack of Completion Certificate

The completion certificate was not issued until the lapse of the defects liability period, which in this case, was September 2009. The completion certificate had been issued following the lapse of the defects liability period and this was available for inspection.

ii. Physical Verifications

The average road width was about 7 meters. This road width was in fact more than the specified road width of 6.1 meters on this contract.

h. Periodic Maintenance of (D56) Safwa to Chinsali Road

i. Variation and Extension of Time

There was a general suspension of earthworks on all the projects due to heavy rains in the province. The project was extended by 4 months as a result of inclement weather. The project was subject to liquidated damages after the extension of time. Attached were approved extension of time; this, therefore, meant that no liquidated damages had been charged until the expiry of the extended period.

ii. Unaccounted for Supervision Funds

Further to the K27, 949,712.00, the Regional Engineer had retired the imprest amounting to K22, 000,000.00 which was received by his office.

The contractor had been asked to remit the balance of K82,050,288 to the RDA HQ account. He noted that this project was still ongoing and no final account had been generated. The supervision funds would be utilized and the balance would be retired in due course.

Submission by the Secretary to the Treasury

On reported cases where the RDA was being paid supervision fees by the contractors, the Treasury expected the National Road Fund Agency (NRFA) to provide funds to meet supervision costs to RDA. The practice of RDA getting funds through the contractor potentially led to compromised supervision of works. It had been agreed with the Controlling Officer, RDA and NRFA that supervision funds would be provided directly to RDA by NRFA for it to meet the costs of supervision

COMMITTEE'S OBSERVATIONS AND RECOMMENDATIONS

a. Periodic Maintenance of Kusefya Pang'wena Road

i) Poor Project Planning (Optimisation of Intervention)

Your Committee observes that RDA conducts its affairs in a very casual way without due regard to transparency and accountability. The Controlling Officer is urged to impress upon the RDA to improve in the way they manage public projects.

ii) Monitoring Progress Against Programme

Your Committee resolves that the matter should be closed subject to verification.

b. Rehabilitation and Maintenance of Hospital Road in Nakonde District

i) Supervision of Funds

Your Committee resolves that the matter should be closed.

ii) Physical Verification

Your Committee resolves that the remedied works should be verified.

c. Emergency Construction of Rosa Bridge in Mungwi

i) Irregular Procurement

Your Committee reiterates their recommendation that RDA should be transparent and accountable in its operations. The Manager-Construction and Maintenance and the Regional Engineer should be made to account for their actions on this matter.

- ii) **Questionable Pricing**
Your Committee observes that the familiarity factor may be having an effect in the way RDA relates with contractors. The consequence of this will be lack of professionalism in the execution of duty. Your Committee urges the Controlling Officer and the RDA Management to caution the consultant and the contractor against coming up with unrealistic rates. The Controlling Officer should report progress on the agreed cost of the bridge.
- ii) **Physical Reports**
Your Committee requests the Controlling Officer and the RDA Management to act on the defects before the bridges collapses and the project becomes a waste of public resources.
- d. **Periodic Maintenance of Kasama – Mbala – Mpulungu Road Lot 2**
Your Committee requests the Controlling Officer to report progress on the outcome of the adjudication and completion of the project.
- e. **Periodic Maintenance of Kasama – Mbala – Mpulungu Road Lot 1**
Your Committee observes that the contractor appears not to have the necessary capacity to undertake road works on the two lots simultaneously. Your Committee urges the Controlling Officer and Management at RDA not to allow contractors to work on two Lots, if they do not have capacity.

Test Results

Considering the seriousness of the matter and the opposing views on the method of testing, your Committee resolves that the tests should be redone in the presence of all parties.

- f. **Reconstruction and Realignment of Luwingu to Kasama Road M3**
 - i) **Delayed Interest**
Your Committee resolves that the matter should be verified.
 - ii) **Performance Bond**
Your Committee observes that this appears to be a problem on most RDA projects. This may be another effect of the familiarity factor. Your Committee urges the Controlling Officer to direct the RDA to immediately address the problem.
 - iii) **Late Engagement of the Consultant**
Your Committee reiterates its recommendation that the RDA should adopt a working practice that will ensure that consultants are engaged before the commencement of a road works contract.
 - iv) **Failure to Surrender Project Assets**
Your Committee advises the Controlling Officer and RDA Management that, procedurally, there should have been a formal transfer of the assets to the new contract. Your Committee, therefore, urges the Controlling Officer and the Management at RDA to regularise the transfer.
 - v) **Non Adherence to Contract Specifications**
Considering the seriousness of the matter and opposing views on the methodology for testing, your Committee recommends that fresh tests should be carried out using an agreed method with all parties present.
- g. **Periodic Maintenance of Senga Hill to Chinakila Road**
 - i) **Lack of Completion Certification**
Your Committee resolves that the matter should be closed.
 - ii) **Physical Verification**
Your Committee resolves that the road width should be re-measured with all parties present.

h. **Periodic Road Maintenance of (D56) Safwa to Chinsali Road**

i) ***Variations and Extension of Time***

Your Committee resolves that the matter should be closed.

ii) ***Unaccounted for Supervision Funds***

Your Committee urges the Controlling Officer and RDA Management to have the retirement documents for the K22, 000,000 verified and ensure that all future payments are adequately supported.

GENERAL OBSERVATIONS AND RECOMMENDATIONS

19. Your Committee, after detailed scrutiny of various submissions from witnesses, observes the following:

- i) the Road Development Agency Board of Directors, which is defined as the Agency, has not been performing all its functions as specified in the National Roads Act No. 12 of 2002 specifically on the preparation and awarding of contracts which partly led to some of the issues raised in the Audit Report such as over commitment on road projects; section 4(2)(l) of the National Roads Acts provides that the Agency shall prepare and award contracts and certify works for public roads;
- ii) coordination, cooperation and linkages between the RDA and NRFA are very poor despite the existence of the Committee of Ministers, Committee of Chairpersons of the three road Agencies (RDA, NRFA and RTSA) and each institution being represented on the Board of Directors of the other;
- iii) in some instances, there are differences of opinion between RDA, consultants and contractors on the design of some roads, which may have an effect on the quality of completed road works; for example, in the use of 19.5 and 13.5 mm size aggregates as apposed to 19.5 and 9.5 mm which is viewed as appropriate;
- iv) there is a conflict between the Public Finance Act and the Public Procurement Act with respect to multi year contracts; and
- v) the disclosure by the Director-General of the Zambia Public Procurement Authority that only five institutions have submitted their procurement plans for 2010 indicates that there are still weaknesses in procurement; the RDA is one of the institutions that have not submitted their procurement plans.

Your Committee, therefore, recommends the following:

- i) the Controlling Officer should ensure that Members of the Agency are involved in the preparation and award of contracts as is provided for in the National Roads Act No. 12 of 2002 and not leave everything to management; this will ensure that there are checks and balances in the way contracts are entered into;
- ii) there is need for the Government to urgently address the existing poor relationship between the RDA and NRFA;
- iii) there is need to harmonise provisions in the Public Finance Act and the Public Procurement Act on multi-year contracts which should also address linkages between MTEF annual budgets and procurement plans;
- iv) in order to ensure that quality roads are delivered, there is need for the Ministry of Works and Supply and the RDA to ensure that designs of roads are in line with best practices in terms of quality assurance and not necessarily suiting available resources;
- v) there is need to strengthen the National Council for Construction (NCC) so that it can perform its functions effectively; a number of contractors have simply come on the scene to make money out of the Government and not necessarily to provide quality service to the Zambian people. It is the NCC that can assist the Government to ensure that there are genuine contractors on the market;
- vi) the Zambia Pabic Procurement Authority should be given powers to take disciplinary action when provisions of the Public Procurement Act are abrogated;
- vii) since there are indications of weaknesses in the procurement of works in some government institutions, including the RDA, the Government should re-assess the pace at which decentralisation of the procurement functions is carried out to avoid worsening the current situation;
- viii) On the RDA;
 - a) there is need to come up with a new framework on how roads contracts should be managed. Local councils should be taken into account being key authorities in the road sector;
 - b) there is need to strengthen the Monitoring and Evaluation Unit and Internal Audit Unit at RDA;

- c) consultants should be engaged before the commencement of any road works contract. The RDA should, however, sternly deal with consultants that fail to perform satisfactorily. A number of queries in the Audit Report were as a result of poor supervision; and preparation of the Procedures Manual should be expedited.

Conclusion

20. Your Committee wishes to express its gratitude to you, Mr Speaker, and the Office of the Clerk for the support rendered to them when considering the Report of the Auditor-General on the Road Development Agency for the period January 2006 to December 2009. Your Committee further wishes to thank the Hon Minister of Works and Supply, the Secretary to the Treasury, the Controlling Officer, the former Chairperson of the RDA Board of Directors and RDA Management for responding to the queries that were raised in the Audit Report.

Your Committee is indebted to some of the key stakeholders in the road sector who provided additional information on some issues contained in the Report, namely, Raubex Construction Limited, Brian Colquhoun Hugh O'Donnell and Partners, the Zambia Public Procurement Authority and the National Road Fund Agency.

Finally, your Committee acknowledges the valuable input from the office of the Auditor-General and that of the Accountant-General when considering submissions from the witnesses.

E M Hachipuka, MP
CHAIRPERSON

July 2010
LUSAKA