

## ANNEXURE FC 54



# Procurement of 1064 Locomotives for the General Freight Business

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## A. PURPOSE

This business case provides the rationale to invest in the profitable General Freight Business (GFB) by procuring 1064 new locomotives (465 diesel, 599 electric). This business case demonstrates a clear need to *accelerate locomotive deployment* to enable delivery against Transnet's Market Demand Strategy (MDS) and achieve South Africa's broader socioeconomic objectives. The new locomotive purchase will:

- Create value for Transnet by enabling TFR to deliver 170 mt by 2018/19 and thereby achieve its MDS target. This will result in a positive NPV (R2.7 billion at the TFR hurdle rate of 18.56 percent and R34.1 billion at the TFR WACC of 12.56 percent), top-line growth, enhanced return on assets (ROA), and an improved environmental footprint.
- Lower the cost of doing business in South Africa by enabling operational efficiencies that will increase customer satisfaction and facilitate a shift from road to rail.
- Create and preserve 28,000<sup>1</sup> direct and indirect South African jobs, and R78 billion in economic impact through local supplier development.

A robust procurement strategy that is aligned with Government socio-economic policies and appropriate governance processes have been designed and instituted to ensure transparency, fairness, and value maximisation for Transnet and South Africa. A funding plan and forex management strategy are detailed in the business case.

The risks that are inherent in a procurement event of this nature have been identified and mitigation strategies are in place. Accordingly, it is recommended that the 1064 Locomotives Business Case be approved with estimated total costs of the acquisition of R38.6 billion as per the Corporate Plan (excluding the potential effects from forex hedging, forex escalation and other price escalations).

<sup>1</sup> Proportional to MDS-related job creation of 288,000

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## B. EXECUTIVE SUMMARY

### Business need

Transnet Freight Rail (TFR) is moving from a strategy of “responding to confirmed demand” to creating “capacity to unlock demand”. The MDS is informed by future planned investments that support the move from road to rail by targeting rail-friendly traffic currently on the road as well as other volume growth opportunities. As part of Transnet’s MDS, TFR has committed to grow its volumes by 143 million tonnes, from 208 million tonnes to 350 million tonnes; over 60 percent of this growth is expected to be delivered by the General Freight Business (GFB), which will grow from the current 82.6 million tonnes to 170 million tonnes by 2019. TFR plans to invest R194 billion in capital to deliver this growth in total volumes; of this, R143 billion is planned to be invested in GFB, R19 billion in export iron ore and R32 billion in export coal. Of the total capital invested in GFB, 53 percent will be expansionary and 47 percent sustaining capital.

This investment in growing GFB volumes make business sense, as it lowers the cost of doing business and accelerates a modal shift from road to rail. The majority (85 percent) of the growth in GFB demand is generated by: rail-friendly bulk commodities that need to be transported long distances such as manganese, magnetite, and domestic iron ore; bulk commodities with certain demand, like coal needed for Eskom’s power stations; and container-based commodities for which existing demand moves on road and will shift to rail. Moreover, South Africa is well-positioned on global cost curves for GFB commodities that are exported, such as manganese, magnetite, and thermal coal, which mitigates the volume downside due to inevitable global commodity volatility.

### Current and new fleet requirements

The average age of the TFR GFB fleet is currently 32 years and comprises 1889 locomotives, which are broadly divided into workhorses and shunters, with the workhorses being the prime income generators. There was a major procurement of over 1000 locally manufactured electric locomotives in the 1970s and 1980s, which became the workhorses of the current fleet. No new locomotives were purchased for GFB from 1992 through to 2008 when the GFB fleet was augmented by a series of purchases that included 50 “like new” diesels, 100 diesels, and 43 diesels; currently, 95 new electrics are on order from China. These purchases were not sufficient to meet market demand and achieve a road to rail migration.

The economic design life of a locomotive is 30 years. In the absence of new locomotives, the workhorse fleet was given life-extending upgrades where possible that extended the working life to 45 years. However, this has resulted in increased maintenance costs as well as difficulty in obtaining spares. As the most cost-effective and technology-compatible options for extending the life of a locomotive are exhausted, further extensions are no longer economically cost-effective or technologically practical.

### Proposed way forward on locomotive fleet expansion-related economic impact

The recommended way forward is for TFR to proceed with programmatic procurement of new locomotives. TFR has explored two options: continuing with the status quo, which is economically unviable and does not support the volume ramp-up envisaged by the MDS, putting the entire MDS at risk; new locomotive acquisition is the only viable and recommended option:

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- **A status quo scenario.** The current fleet has already begun to run out. Based on TFR's current Locomotive Fleet Plan, the number of locomotives in the GFB fleet will decline from 1889 in 2014 to 1592 by 2019, with further run-out thereafter as the oldest and costliest assets in the fleet are retired. Half the fleet will be retired within 10 years and nearly the entire fleet within 20 years. If this run-out is not addressed, TFR would only have capacity to transport 85 million tonnes in 2019 – 85 million tonnes short of its MDS commitment, representing a cumulative revenue shortfall versus the MDS plan of R73 billion over this period. MDS will not be executed and there will be a negative impact on cash interest cover (CIC) and gearing.
- **A new locomotive procurement scenario.** TFR has to invest in new locomotives to replace its current aged fleet and to support its planned volume ramp-up. To achieve this, TFR needs to procure 1064 locomotives (465 diesel and 599 electric) over the next 7 years. Procuring 1064 new locomotives between 2013/2014 and 2018/2019 would have a positive NPV of R2.7 billion (discounted using TFR's hurdle rate of 18.56 percent; NPV would be R34.1 billion if discounted using TFR's WACC of 12.56 percent). Accordingly, the only viable solution to deliver on GFB's R53.8 billion revenue MDS target in 2019 is to procure new locomotives.

### Benefits of the 1064 locomotive acquisition programme

The 1064 locomotive acquisition will benefit Transnet, South Africa and South African business.

For Transnet, the locomotive acquisition programme will:

- Enhance locomotive operational efficiency thereby increasing asset utilisation.
  - TFR will leverage new technology specification locomotive efficiencies. The new locomotives increase the rate of the fleet's availability and reliability. In addition, further operational efficiencies may be possible by leveraging increased tractive effort to limit the number of locos needed for a given flow or redesign of flows altogether (e.g., some flows have both AC and DC lines, which currently require stops and changeovers between different locomotive types but will not with dual-electric locomotives).
  - The programme offers TFR an opportunity to standardise its locomotive fleet by procuring a limited number of locomotive types. This will result in a host of benefits including simplified maintenance.
- Create business opportunities for Transnet Engineering (TE) to substantially participate in the localisation programme and thereby retain a portion of the locomotives' spend within Transnet.
- Significantly impact TE with respect to maintenance practices and consolidation of maintenance depots where the new locomotives have extended service intervals and on-board diagnostic health monitoring systems where full advantage is to be taken of the currently available technology and international best practice. This is the result of a full deployment plan developed by business unit, year, class of locomotive and depot.
- Enhance Transnet's return on assets and increase financial sustainability. This will be driven by volume growth and declining unit costs of production and will be achieved despite the increase in depreciation.

For South Africa, this large-scale procurement programme will:

- Create R68 billion in localisation benefits for the South African economy. Transnet stipulates local content of 55 percent for diesel and 60 percent for electric locomotives. Given the economies of scale on the purchase of 1064 locomotives with the stipulated localisation

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requirements, desired localisation can be achieved for only a 2 percent average cost of localisation – an additional investment of just over R600 million. This equates to a highly attractive benefit cost ratio of more than 125 to 1.

- Catalyse the sustainable development of a South African locomotive production industry based on the procurement of 1064 locomotives over approximately 7 years and an estimated on-going annual need of 80 locomotives driven by TFR's 30-year replacement life policy.
- Develop manufacturing skills, which will ultimately support not only the locomotive industry but also South Africa's manufacturing sector more broadly.
- 28,000 indirect and direct South African jobs, created and preserved.
- Achieve greater road safety and fewer road fatalities by supporting the shift from road to rail
- Energy savings will be achieved, with 8- 10% lower fuel consumption for diesels and 18% energy savings for electrics. For the diesel locomotives alone, this will result in savings of over 31,000 tonnes of CO<sub>2</sub> and R5 million per year by 2018/2019.

For South African business, the locomotive acquisition will:

- Increase customer satisfaction and enhance the ease of doing business as higher locomotive reliability results in better adherence to schedules.
- Lower the cost of doing business by catalysing a shift from road to rail, which is a more cost-effective mode of transportation for distances over 300 kilometres. Given the spatial dispersion of South African centres of economic activity and the distances between the centres of production and ports, this will benefit most businesses.
- Lower infrastructure repair costs driven by the road to rail shift as damage to roads from the current trucking of commodities like coal is reduced. In addition, it will contribute towards a reduction in road traffic fatalities.

#### **Programmatic procurement strategy and evaluation criteria**

Transnet's procurement strategy for the acquisition of 1064 new locomotives, approved by the Board, includes the following key aspects:

- Alignment with the Government of South Africa's socioeconomic policy framework, including CSDP, NGP, NDP, SSI, and IPAP2.
- Increasing local content through developing skills, creating jobs, and transferring technology. Transnet's programmatic procurement strategy follows threshold requirements for locomotive localisation, in line with those designated by the National Treasury (i.e., 55 percent for diesel, 60 percent for electrical locomotives).
- Approaching the market through an open tender process to attract the broadest possible supplier base and maximise value for South Africa and Transnet. Tenders have been issued for both locomotive types. The RFP closure date is April 28th, 2013.
- A six-step evaluation methodology will be applied based on the evaluation criteria: price 60 percent; supplier development 20 percent; and Broad-Based Black Economic Empowerment (BBEE) 20 percent.

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## Managing sensitivities and risks

Procuring Transnet's 1064 new locomotives in the most capital-efficient way requires a detailed understanding of inherent volatilities, risks, and mitigation plans. The locomotive requirement and the pace at which Transnet needs to deploy its capital in the base case scenario is shaped by two factors:

- **Volume volatility.** TFR's overall locomotive procurement programme is based on current, validated MDS GFB volumes. However, given the volatility in the global and domestic economy, the realisation of these volumes may be different than planned. If volumes grow faster or, vice versa, slower than the MDS plan, Transnet must adjust its locomotive procurement accordingly. This flexibility needs to be built into its procurement and contracting strategy to enable it to accelerate or throttle back the pace of locomotive purchases without penalties.
- **Operational efficiency potential.** TFR's current Fleet Plan estimates the number of locomotives including the potential efficiencies that can be captured from technology improvements and operational flexibility of new locomotives. Further operational efficiencies may be possible by leveraging increased tractive effort to limit the number of locomotives needed for a given flow or redesign of flows altogether. These operational efficiencies have not been incorporated in the business case- capturing them could reduce the number of locomotives needed and improve the upside of this business case. The aforementioned flexibility Transnet builds into its procurement strategy will also address this sensitivity.

The following are some of the key risks and sensitivities that are important to consider and mitigate:

- **Volumes.** Of all variables, volume risk has the greatest potential to impact NPV. For example, with a slight underperformance (7 percent versus MDS targets), Transnet would experience revenue shortfalls of R16.4 billion and a reduction in NPV of R1.7 billion. However, under the worst case scenario (growth of volumes in line with GDP as opposed to MDS), NPV would be reduced by over R20 billion. This reinforces the aforementioned need for a flexible procurement and contracting strategy, allowing locomotives to be brought online as they are needed.
- **Delivery schedule.** TFR already has a shortfall of DC electrics, with the electric locomotive shortfall projected to grow to approximately 122 electrics and 32 diesels by 2015. Given the previously expected timelines to procure new locomotives locally, TFR may not be able to close this shortfall until the end of the MDS period. Under the base case (procurement in line with schedules stipulated in the RFP), R13.3 billion in MDS revenues would be at risk; this would more than double under a moderately delayed scenario with further downside under the worst-case scenario. As a result, procurement and production timelines are being tightly managed to ensure the swiftest possible locomotive delivery, and immediate mitigation strategies are being explored. These include front-loading orders with international suppliers and exploring leasing options.
- **Tariffs.** The MDS GFB tariffs are expected to increase faster than CPI through 2020 (7 percent versus 6 percent). Given that the pricing on almost all GFB commodities is below the cost of full economic recovery even after taking into account all efficiencies, the pricing corridor in TFR's plan is achievable. However, should global and local economic conditions create challenges and tariffs above CPI cannot be implemented, the implication would be a reduction in the NPV of the business case by upwards of R4 billion.
- **Foreign exchange exposure.** Assuming target levels of localisation, a change in the Rand to US dollar exchange rate of 10 percent would represent a ~R1.2 billion impact on capital expenditure. Given 15 percent devaluation of the rand against the US dollar over the past year

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- alone, such volatility is not unrealistic. See the Treasury Section below for the mitigation strategy.
- **Locomotive purchase price.** Closely linked to foreign exchange fluctuations are additional locomotive price risks that need to be actively managed during contracting and negotiations (e.g., change order risks related to detailed specifications). A purchase price increase of 10 percent would have a -R1.5 billion impact on NPV.

#### Transnet Treasury requirements relating to the locomotive acquisition

**Funding plan.** The acquisition of 1064 locomotives will cost R38.6 billion and has been included in the overall MDS funding amount of R86.5 billion over the next 6 years. Consequently, the funding options will include those in the borrowing plan as contained in the approved Transnet Corporate Plan 2013/2014. A mixture of cash generated by operations and external borrowing will be used to fund the acquisition. Two-thirds are assumed to be financed using cash generated by operations, and about R13 billion will need to be raised externally. The external funding will be raised utilising both the Global Medium Term Note programme for dollar funding and established domestic sources for Rand funding – e.g., the Domestic Medium Term Note programme. In addition, options like development finance institutions (DFIs) and export credit agencies (ECAs) will be considered to lower the cost of funding.

**Foreign exchange exposure management.** Transnet's Group policy on Financial Risk Management requires that all contracts must be either Rand-based or effectively hedged to minimise the risk of financial loss due to exchange rate fluctuations. Should a Rand-based contract not be possible, hedge accounting will be applied to manage any foreign exchange volatility. The project will be hedged according to the Group Financial Risk Management Framework.

#### Robust governance

Given the magnitude of this transaction, Transnet has developed a clear governance framework, including:

- The highest standards of confidentiality, reinforced through a High-Value Tender process with oversight from Transnet Internal Audit.
- A 1064 Locomotive Steering Committee meeting, chaired by the Group Chief Executive Officer, has been instituted. This Steering Committee is constituted as a sub-committee of Group ExCo.
- A PMO has been established at TFR with specific responsibilities for: tracking progress towards milestones; establishing and owning a virtual data room based on best practice; scheduling Steering Committee meetings at the request of the Chair and following up on action items; and ensuring that confidentiality protocols are in place.

#### Ensuring operational readiness

TFR has operational readiness plans in place to ensure efficient deployment of its new locomotives:

- **Critical path interdependencies – integrating locomotives, demand, wagons, infrastructure and operations.** Wagons are tightly linked to the commodities they transport, while locomotives relate to the mass but not the commodity itself; thus, locomotives are allocated according to the tonnes transported over the particular operating section.

The proposed diesel locomotives can operate over most of the network with the notable exception of long tunnels. Current single voltage electric locomotives (AC or DC) are confined

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according to the current electrification network. This imposes operational inefficiencies due to the traction changes. The new electric locomotives will be dual voltage, eliminating the need to change tractive power and enabling trains to bypass yards.

In addition to the flexibility afforded by the locomotive standardisation above, the 1064 locomotive dependencies with megaprojects, such as Manganese and Waterberg, have been considered and addressed. Human Resources planning is equally critical to execute a programme of this magnitude. For example, to support the overall TFR fleet ramp-up, TFR will need to train 3065 train drivers and assistants. To address current driver shortfalls and increasing requirements over time, TFR will need to begin training drivers immediately.

- **Maintenance regime.** TE will be significantly impacted with respect to maintenance practices and the consolidation of maintenance depots. New locomotives have extended service intervals and on-board diagnostic health monitoring systems, requiring a different maintenance regime than TE currently delivers (e.g., larger “super depots” for large-scale maintenance, with smaller stations for refuelling and other basic services).

### Conclusion

Transnet’s purchase of 1064 locomotives is a critical procurement event that will facilitate Transnet’s delivery against its MDS targets, transform the business, increase operational efficiencies and support local supplier development. Transnet’s procurement strategy will be flexible enough to adapt to actual locomotive demand that is realised over time.

### Recommendation

Transnet recommends to the Board of Directors for approval:

- The acquisition of 1064 locomotives for the General Freight Business
- Estimated total costs of the acquisition of R38.6 billion as per the Corporate Plan (excluding the potential effects from forex hedging, forex escalation and other price escalations).

Signed by:

\_\_\_\_\_  
Brian Molefe  
Group Chief Executive

\_\_\_\_\_  
Siyabonga Gama  
TFR Chief Executive

\_\_\_\_\_  
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Johannesburg, 25<sup>th</sup> April 2013

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## C. BUSINESS CASE

### 1. Context

Transnet's MDS is driven by Transnet's shift in strategic focus from "responding to confirmed demand" to creating "capacity to unlock demand". In addition, it is a response to the National Development Plan and National Growth Plan imperatives seeking to contribute to South African economic growth and create jobs on an unprecedented scale.

#### Shift in Transnet's strategic focus and resulting infrastructure needs

The TFR MDS was borne of a number of strategic drivers. These include:

- The intent to make a significant contribution to national objectives embedded in the New Growth Path and the National Development Plan – to create capacity, to enable an export-led strategy, to develop infrastructure and to create jobs and develop skills.
- To address the legacy structural imbalances in the freight transport system. Significant tonnages of freight are conveyed by road rather than rail which contribute to high logistics costs (and compromises country competitiveness) and to the cost of externalities. Greater tonnages of traffic being transported by rail would make a significant contribution to reducing the number of heavy trucks on roads; overall transport and logistics costs; cost of externalities i.e., road damage, road accidents, road congestion, noise pollution, carbon emissions, the impact of rising fuel prices.
- To pursue opportunities for growth in transportable GDP by targeting rail-friendly opportunities.

The MDS is informed by future planned investments that generate rail-friendly traffic and target rail-friendly traffic currently on the road. As part of this strategy, TFR has committed to grow its volumes by 142 million tonnes to 350 million tonnes by 2018/19. Over 60 percent of this growth is expected to be delivered by the General Freight Business (GFB), which will grow from the current 82.6 million tonnes to 170 million tonnes by 2019 and is the focus of this business case. To enable this strategy, Transnet plans to invest R308 billion over the next 7 years. The total investment directed to TFR will be R194 billion to deliver on its significant volume growth targets; of this R143 billion is planned to be invested in GFB, R19 billion in export iron ore, and R32 billion in export coal. Of the total capital invested in GFB, 53 percent will be in expansionary projects.

GFB's current situation is an important point of departure to fully understand the business case. While TFR has steadily ramped up investments since 2004/05, these have been largely directed at the export iron ore and export coal businesses. By contrast, little has been spent on expanding GFB capacity and infrastructure since 1992. Even in more recent years, as per the Exhibit below, the focus of GFB capex has been maintenance rather than expansion.

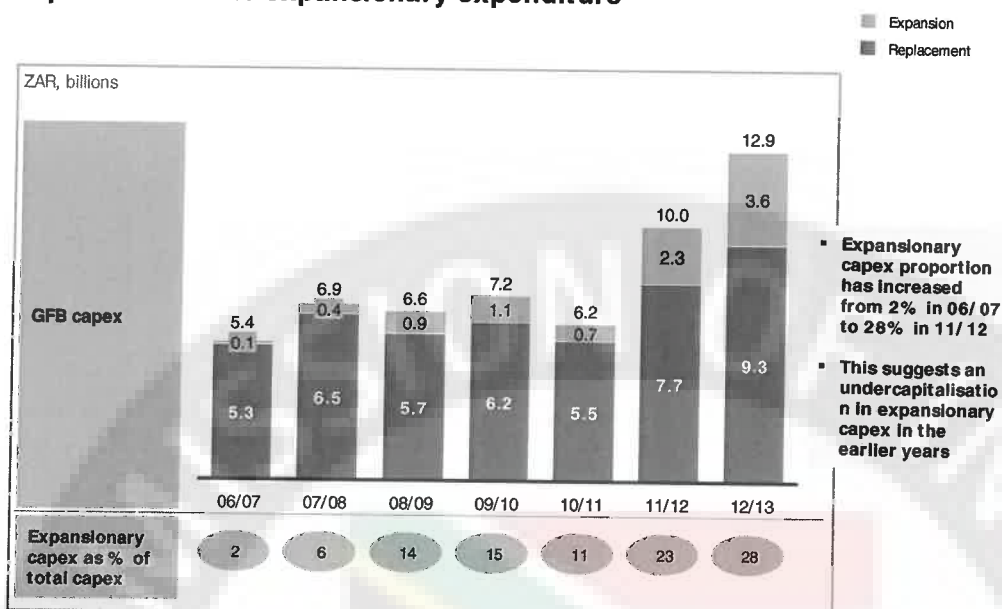
Even in more recent years, as seen in the exhibit below, the focus of GFB capex has been maintenance rather than expansion.

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## EXHIBIT 1

### GFB expansionary has historically been undercapitalised with focus on replacement over expansionary expenditure



This has left GFB highly undercapitalised, with its aging infrastructure unable to meet current market demand let alone generate and service new freight demand in sectors where South Africa has a comparative advantage. This not only limits the growth of Transnet but more importantly hampers the growth of South Africa's economy and leaves the cost of doing business in South Africa uncompetitive, particularly as the road share of total freight transport has increased over time at the expense of rail. It is therefore imperative to rectify this and to enable TFR to service current rail-friendly demand, stimulate further demand, and catalyse a shift from road to rail.

The MDS will address these issues, laying out a plan to improve financial stability, productivity, and operational efficiency and to shift demand from road to rail. Through this strategy, Transnet will: reduce its cost of doing business while becoming more carbon efficient; enable economic growth, job creation, and skills development; and create opportunities for localisation, empowerment, and transformation.

Investing in GFB is a sound business decision. The growth in GFB volumes is driven by commodities and flows that are rail-friendly and attractive for TFR. The majority (85 percent) of the growth in GFB demand is generated by rail-friendly bulk commodities that need to be transported long distances – manganese, magnetite, domestic iron ore, containers; with certain demand – e.g., coal needed for Eskom's power stations; and commodities for which existing demand moves on road and will shift to rail. Moreover, South Africa is well-positioned on global cost curves for GFB commodities such as manganese, magnetite, and thermal coal, which mitigates the volume downside due to inevitable global commodity volatility.

Although global growth has been constrained by the slowdown in global and local economic activity, the strategic intent of the MDS remains, and volumes are projected to grow from 82.6 million tonnes in 2012/13 to 170 million tonnes in 2018/19.

## National Development Plan (NDP) and National Growth Plan (NGP) imperatives

Transnet is an important enabler of South Africa's NDP and NGP.

### *Alignment with priority infrastructure initiatives for South Africa*

The NDP aims to address poverty and inequality by creating a favourable environment for public and private investment to create jobs and increase disposable incomes. Its imperatives include economic growth, job creation and skills transfer, infrastructure investment in rail, power, and other industry, a reduction of GHG emissions, and positioning South Africa positively. To achieve full employment, the economy will have to create 11 million jobs by 2030, requiring economic growth of 5.4 percent. The South African government has made infrastructure a major priority, recently announcing the establishment of a Presidential Infrastructure Coordinating Commission and planning investments of more than R800 billion over the next 3 years. Transnet's major infrastructure projects are important pillars of Strategic Integrated Projects (SIPs) and playing their role in delivering on economic growth and job creation objectives.

### *GHG emission commitments*

As a state-owned enterprise and one of the top 10 carbon emitters in South Africa, Transnet has placed reducing carbon emissions high on its agenda. South Africa – having set aggressive targets for carbon mitigation (a 34 percent reduction by 2020 committed at COP 15<sup>2</sup> in Copenhagen) and hosting COP 17<sup>3</sup> in Durban in 2011 – will count on state-owned entities to be role models in this regard.

With the National Treasury making significant strides towards implementing a carbon tax, and the Department of Environmental Affairs developing national marginal abatement cost curves (MACCs) and carbon budgets, carbon reduction will become a strategic imperative for major emitters like Transnet.

## 2. Business need

To deliver on MDS, GFB will need to grow its volumes transported from 82.6 million tonnes to 170 million tonnes between 2012/13 and 2018/19.

### 2.1 The shift from road to rail

One of the drivers of this shift is TFR's stated objective to capture market share from road. The rationale for this is that:

- Rail is cheaper than road for long-haul transportation of large parcel sizes, thus reducing the cost of doing business and making South African goods more competitive.
- Rail produces lower emissions per gross tonne kilometre than road, thus assisting South Africa's GHG emissions reduction effort.
- Haulage by road damages road infrastructure, requiring a significant investment to repair the roads.

<sup>2</sup> The 15th Conference of the Parties (COP 15) to the United Nations Framework Convention on Climate Change (UNFCCC) – Copenhagen.

<sup>3</sup> The 17th Conference of the Parties (COP 17) to the United Nations Framework Convention on Climate Change (UNFCCC) – Durban, South Africa.

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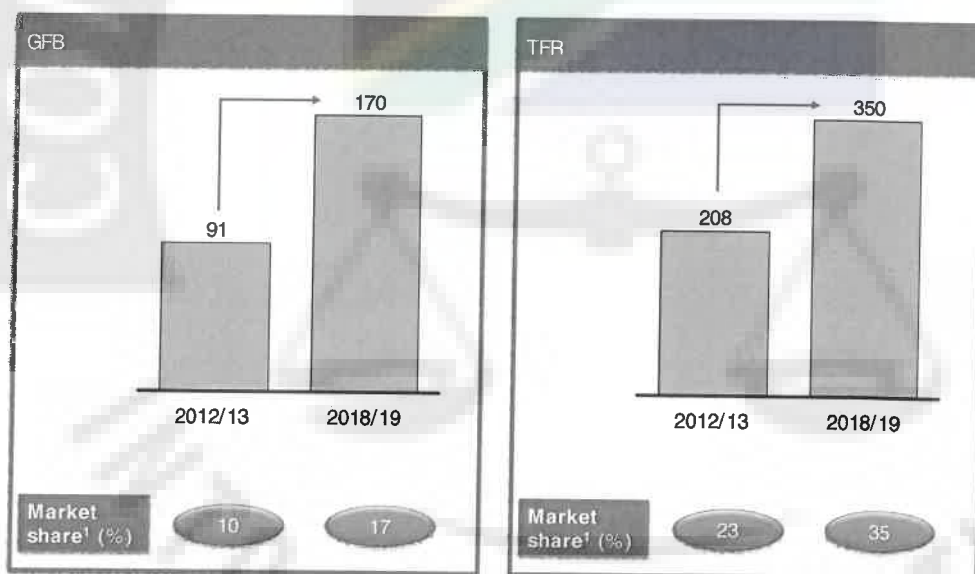
Furthermore, for developing economies like South Africa, economic growth results in a relatively higher increase in trade volumes – and therefore freight demand – than GDP growth rates would otherwise imply (i.e., a higher container volume multiplier, which measures the marginal effect of economic growth on freight volumes).

Therefore, given the clear impetus for volume growth and a shift from road to rail, delivering on the MDS depends on TFR's ability to capture volumes. TFR plans to capture rail-friendly volumes from road by developing a comprehensive value proposition based on customer needs. Rail-friendly goods are typically mineral and mining commodities and some manufactured goods, as well as raw material inputs to manufactured goods (such as steel and cement) that are conveyed from siding to siding in large parcel sizes, over relatively long distances. 66% of the projected volume growth of 79.2mt from 2013/14 to 2018/19 will be transported over distances greater than 300kms, a distance by which rail is cheaper than road. Transnet believes the rest of the flows will have preference for rail transportation (e.g., the bulk of the remaining volumes relate to Eskom coal flows which are rail preferred due to Eskom simplifying their logistics chain, public sentiment against road transportation for coal and reducing the damage to road infrastructure). TFR's market share is expected to grow from 23% to 35% as shown in the exhibit below.

#### EXHIBIT 2

##### Both GFB and TFR are expected to capture significant market-share over the MDS period

Millions of tonnes per annum



<sup>1</sup> Refers to share of total South African land freight market  
SOURCE: TFR corporate plan 2013/14

## 2.2 GFB demand increase by commodity

From the TFR Corporate Plan, freight rail volume projections per commodity from 2013-2019 are summarised in the following exhibit. The projections represent a market demand view of volumes in support of South Africa's New Growth Path (moderated in line with port capacity and Eskom electricity supply), and they reflect a significant growth in volume for the overall general freight commodities.

### EXHIBIT 3

#### MDS volumes by commodity

Business Unit	2013/14 Budget	2014/15	2015/16	2016/17	2017/18	2018/19
Agriculture & Bulk Liquid	12.66	14.39	15.63	18.02	18.66	19.26
Coal	16.86	19.92	24.93	36.34	44.61	48
Manganese	8.7	8.72	11.57	13.05	15.56	17.03
Containers and Automotive	12.63	14.27	18.32	19.94	15.25	16.71
Mineral Mining & Chrome	18.53	20.32	24.45	28.89	30.11	30.57
Steel & Cement	21.84	26.66	32.37	35.23	36.47	38.89
<b>General Freight (mt)</b>	<b>91.21</b>	<b>104.27</b>	<b>127.27</b>	<b>151.46</b>	<b>160.66</b>	<b>170.45</b>
Coal (Export Coal)	77	81	81	84	95	97.5
Export Iron Ore	61.5	62.3	62.3	70.3	78.3	82.5
<b>TFR Total (mt)</b>	<b>229.71</b>	<b>247.57</b>	<b>270.57</b>	<b>305.76</b>	<b>333.96</b>	<b>350.45</b>

To capture these increases in freight demand, GFB has developed a commodity-level commercial strategy. The next two exhibits show the sources of growth from the major commodity flows and the various strategies developed to address them. See Supporting Documentation section EI for the full 7-year commodity growth. Growth in coal volumes will be driven by Eskom's shift from road to rail on the Eskom-Tutuka and Eskom-Majuba flows and the development of new power stations. Steel and cement will be driven by a competitive pricing strategy aiming to capture domestic coal, and iron ore volume growth from the government infrastructure development plan. The focus on unlocking capacity for junior miners will capture volume growth from manganese export. Mineral volume growth will be secured through penetrative pricing strategies in the growing market.

## EXHIBIT 4

**Rationale for 79mt increased commodity demand for GFB from 91mt in 2013/ 14 to 170mt in 2018/ 19 (1/ 2)**

Flow	Commercial strategy	Key flows	Growth (Δ mt)	Rationale
Coal	<ul style="list-style-type: none"> <li>Capture increasing coal export volumes</li> <li>Eskom move from road to rail</li> <li>Secure volumes through take or pay contracts</li> </ul>	▪ Export TCM/ Maputo	8.1	▪ TCM to expand due to Limpopo projects (Vele and Makhado)
		▪ Eskom – Tutuka	6.5	▪ Transition from rail containers to tippler solutions in 2 years
		▪ Eskom – Majuba	5.2	▪ Eskom road to rail migration plan
		▪ Coal - Other	11.3	▪ Sustained strong demand for SA coal due to China and India emerging as net thermal coal importers
Steel and cement	<ul style="list-style-type: none"> <li>Customer-focused value proposition to secure volumes</li> <li>Revision of pricing strategy</li> <li>Exploring markets ex-SA</li> </ul>	▪ Coal (domestic)	3.8	▪ Driven by growth in other industries (e.g., Steel, timber)
		▪ Iron ore (domestic Sishen)	2.8	▪ Domestic and regional consumption of steel fuelling demand for iron-ore & new iron ore export from Thabazimbi to Richards Bay/Maputo
		▪ S&C - Other	10.4	<ul style="list-style-type: none"> <li>Cement volumes to increase in line with SA's GDP growth (4% on average)</li> <li>Freight rail is also targeting rail-friendly volumes in this sector</li> </ul>
Manganese	<ul style="list-style-type: none"> <li>Unlock capacity for junior miners</li> <li>Capacity review process</li> </ul>	▪ Manganese	8.3	▪ SA's share of world output set to grow with expansion projects planned by both traditional miners and junior miners

## EXHIBIT 5

**Rationale for the 79mt increased commodity demand for GFB from 91mt in 2013/ 14 to 170mt in 2018/ 19 (2/ 2)**

Flow	Commercial strategy	Key flows	Growth (Δ mt)	Rationale
Mineral, mining and chrome	▪ Pricing aimed at market penetration	▪ Magnetite (Export Maputo)	2.4	▪ Demand from China driven by steel production
		▪ MMC - Other	9.6	▪ Gold ore and other minerals enjoy healthy demand
Intermodal	<ul style="list-style-type: none"> <li>Containerise mineral products</li> <li>Develop Freight hubs in key areas</li> </ul>	▪ Coal (Eskom – Camden)	2.6	▪ Demand increase driven by increased electricity usage
		▪ Containers	1.6	▪ Rail container volumes to increase in line with Freight rail's objective of increasing market share along key intermodal routes such as the Natcor
Agriculture and bulk liquid	<ul style="list-style-type: none"> <li>Transnet Rail and Port capacity support for agri-logistics and rural infrastructure</li> <li>Demand shift from road to rail</li> </ul>	▪ Grain, maize, wheat and foodstuffs	2.1	▪ Demand increase driven by increased electricity usage
		▪ Other	4.5	<ul style="list-style-type: none"> <li>Increased over border demand from Botswana and Mozambique</li> <li>Sappi expansion</li> </ul>
Total			79.2	



## 2.3 Investment history and locomotive fleet run-out in GFB

### Overview

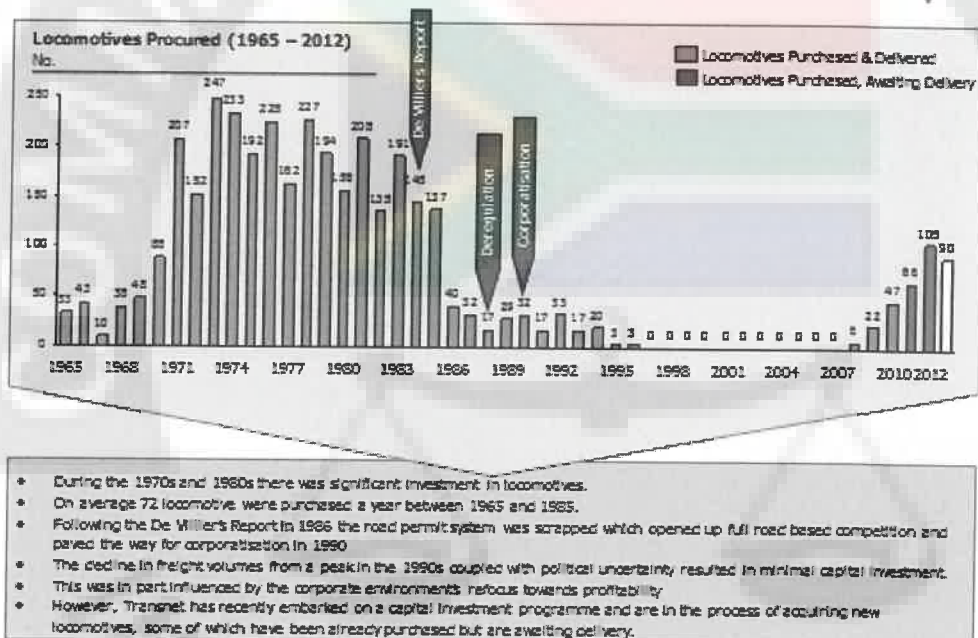
This section demonstrates that the current fleet is incapable of meeting demand. Half the fleet will need to be retired within 10 years and nearly the entire fleet within 20 years.

### Investment history

TFR is generally considered to be under capitalised with an aging infrastructure unable to deliver and consequently hampering South Africa's economic growth. TFR has three distinct areas of operations, namely General Freight, Coal Export and Iron Ore Export. The Coal and Iron Ore Export operations are ring-fenced operations with assets dedicated to a single commodity. Since 2004/05, they have been upgraded and expanded to take advantage of the commodity boom. By contrast, little has been spent on General Freight since 1992, as can be seen in the next exhibit.

### EXHIBIT 6

The decline in general freight volumes, political uncertainty and corporatisation of rail led to a significant fall in investment



Source: Team Analysis, Transnet Locomotive Modernisation Fleet Plan – December 2010

1

### Remedial actions to mitigate locomotive run-out

The expected useful life of a locomotive is 30 years with a full mid-life intervention at approximately 16 to 18 years, which is part of the normal life cycle of the locomotive. The average age of the TFR General Freight Locomotives is 32 years and current programs have extended the life of the workhorse locomotives to a maximum of 45 years. All the locomotives that were suitable for life extending interventions have already been targeted and the remaining locomotives are technologically incompatible.

Locomotive mid-life interventions are part of the normal life-cycle process to achieve the design life of a locomotive. The mechanical components have a life of 30 years but the electrical and electronic

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components and systems have a shorter life based on natural degradation and the rapid evolution of control technology. Electrical spares generally have a ten year guaranteed availability after which they become obsolete and often unavailable. Component replacement within the design life of a locomotive is not life extending but part of the planned total cost of ownership.

However, although Transnet policy assumes a locomotive lifecycle of 30 years, two primary strategies were adopted to mitigate locomotive run-outs and extend the useful locomotive life to 45 years.

The first implementation was to upgrade the workhorse 6E series of locomotives to the 18E series through a partial redesign, a rebuild and upgrade of components, and the replacement of the electro-mechanical control system with an electronic control system. These upgrades improved locomotive output from 170kN to 200kN and extended locomotive life by 15 years. The first of the upgraded locomotives will run out in 2017/18.

The second implementation was an upgrade program to the class 34D and 37D locomotives supplied by General Electric (GE) and General Motors (GM). These upgrade programs comprise a mix of extensive routine maintenance, rewiring and partial body repair. The differentiating upgrade feature is replacing the outdated and obsolete control systems with state of the art electronic control systems which improve control and prevent driver abuse. By analogy, it can be compared to traction control on a modern motor car that prevents wheel spin.

#### **The impact of undercapitalisation on locomotive performance**

The extension to 45 years was a consequence of not being able to afford new locomotives at the time and was not a formal restatement of policy; given the low investment in GFB By extending a locomotive's life to 45 years, TFR has suffered higher faults per million kilometres, lower gross tonne kilometres, and substantially higher maintenance costs. This has decreased customer satisfaction, leading to a shift from rail to road, increased the Total Cost of Ownership (TCO) of locomotives and reduced TFR's ROA.

Life extension programmes normally range from 10 to 15 years. Beyond the 15-year period the technology becomes outdated. Although refurbishment options may seem cost-effective on the surface, as the life of a locomotive is extended, failures increase. As locomotives age, maintenance becomes increasingly difficult. Spares become difficult to obtain because of shrinking markets and outdated technologies. There are also fewer skills to maintain dated technologies, as newer entrants are unwilling to skill themselves on previous technologies. These operational inefficiencies and failure rates have compromised TFR's ability to increase its volumes and have contributed to a rail-to-road shift.

#### **Lease vs. buy**

For leasing to be an effective option, there should be a viable and readily accessible market for leased locomotives. This is not the case for Transnet and South Africa.

South Africa is almost unique in the world with its narrow meter gauge (as opposed to standard gauge) 3kV electrification network. There is only one other railway (in India) with similar infrastructure. Because of this, all the electric locomotives for South Africa have been bespoke designs.

There is an international market for diesel locomotives, but for South Africa this is moderated by distance from those markets and the metre gauge, which requires shipping and change of the bogies to

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accommodate the wider standard gauge. There is a limited Africa market but this is again moderated by the infrastructure limitation of 15 tonnes per axle.

Without a viable second hand market, the lessor would price the long term risk into the leasing costs resulting in higher net costs for TFR.

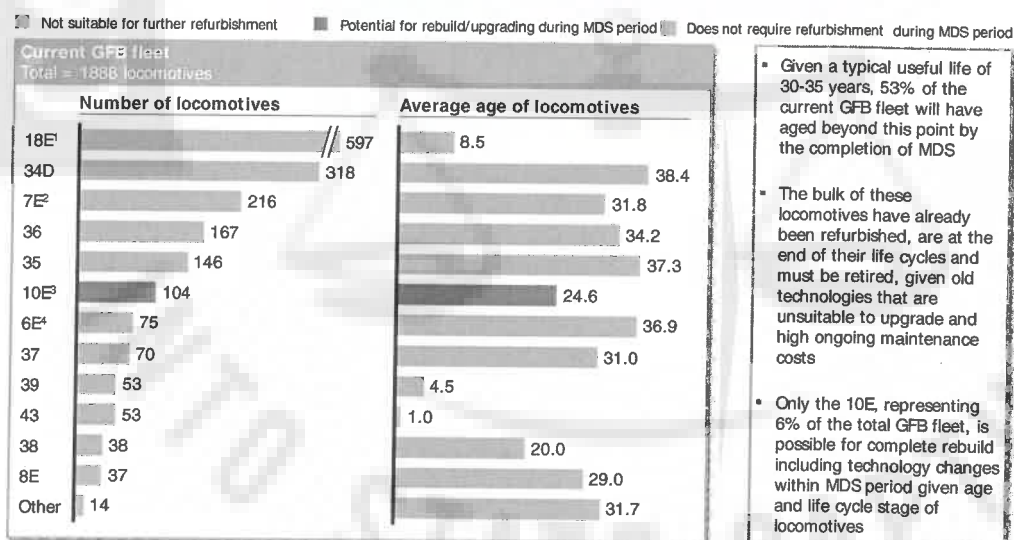
### Implication for Transnet

Purchasing new locomotives would allow TFR to depreciate its costs over a 30-year useful life. More importantly, due to the increased reliability that new locomotives provide, Transnet would be able to significantly increase the volumes it transports. This would drive substantially higher ROA for the business.

Leasing is not an option and through past refurbishment strategies, *TFR has exhausted almost all meaningful rebuild opportunities*. Thus, even if it were decided to extend the life of current assets once again (and suffer continued operational inefficiencies and lower ROA), TFR would not be able to do so. The next exhibit shows life extension options are limited to 6 percent of the fleet, as the aged locomotives have gone through extensive refurbishment over time to a point where they can no longer be refurbished. Even the “young” locomotives in the fleet are refurbished versions of older models. For example, although the 18E is listed at an average age of 8.5 years, it is, in reality, an upgraded version of the 6E, a locomotive that was purchased in the 1970s.

### EXHIBIT 7

#### The current GFB fleet is aged – life extending options have been exhausted - only 6% targeted for a complete rebuild



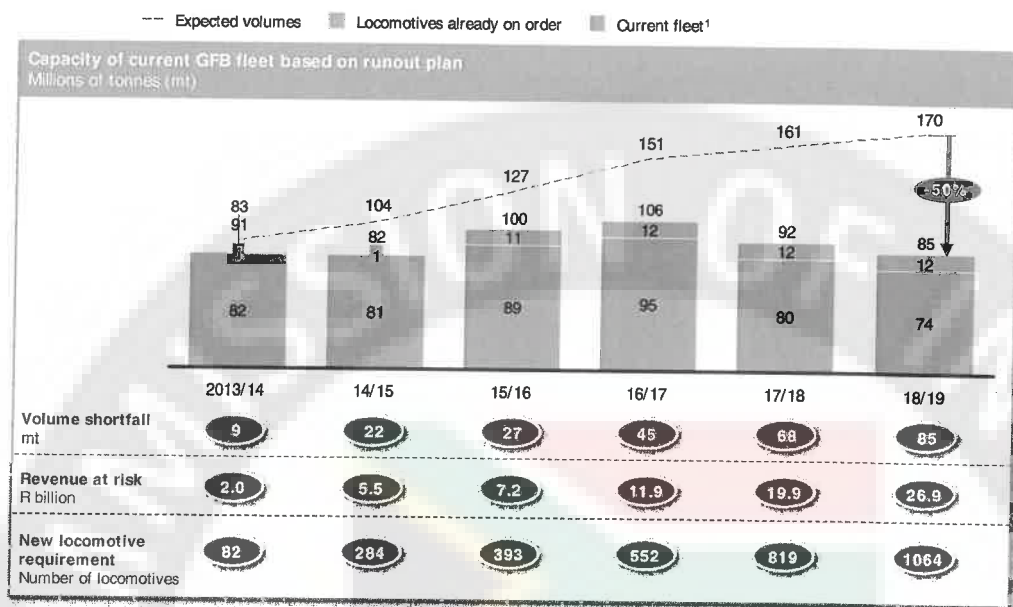
**Conclusion:** TFR will experience a R73 billion revenue shortfall if the procurement option is not exercised. The next exhibit shows that, unless new locomotives are purchased, the fleet will lose 85million tonnes per annum in capacity by 2018/19.

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## EXHIBIT 8

**Given the current trajectory of TFR's fleet runout plan, cumulative revenues of R73bn will be at risk by the end of MDS in 2019, with further revenue at risk thereafter**



<sup>1</sup> Includes cascading from Export Ore and Export Coal lines to GFB

### 3. Proposed solution

#### 3.1 Overview

To meet the fleet requirements necessary to support the MDS volumes, TFR needs to procure 1064 new locomotives. However, flexibility must be built into procurement to account for two factors – demand fluctuations and operational efficiencies captured – that will ultimately affect the timing of locomotive requirements.

#### 3.2 Locomotives required to service market demand

TFR's Locomotive Fleet Plan was presented to the Transnet Board in April 2011 and was approved. This plan provided details on the fleet's composition; how it would run-out subject to the availability of funding; the locomotive upgrades; and the new locomotives required to achieve volumes of 110 million tonnes per annum. Since then, the plan has been updated to reflect the fleet GFB requires to meet the revised MDS volumes, which ramp up from 82.6 million tonnes in 2012/2013, to 127 million tonnes in 2015/16, to 170 million tonnes in 2018/19.

The plan's key objectives are to:

- Maintain and expand current capacity to meet the increasing demand:
  - New locomotives required to sustain the current fleet.

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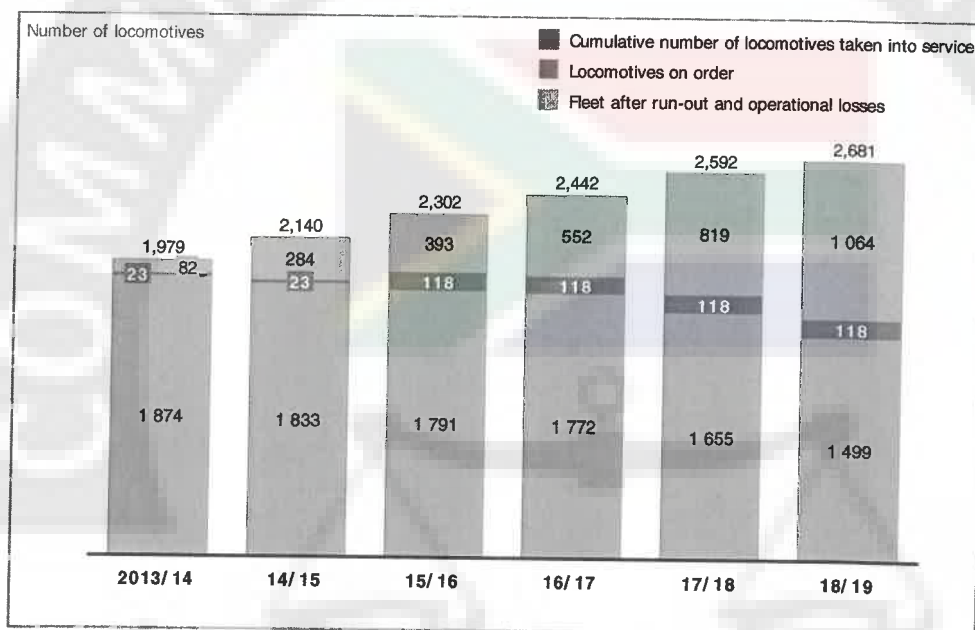
- New locomotives required to deliver the increase in volumes.
- Standardise the fleet to resolve both operational and maintenance difficulties – such as training drivers, planning route designs, and maintaining locomotives – that arise with a diverse fleet of multiple locomotive types.
- Capture improved operational efficiencies provided by new generation locomotives.

The following exhibit summarises the current and proposed locomotive fleet for general freight up to 2018/19.

The Fleet Plan is Transnet's current estimate of the number of locomotives it will require to meet its MDS commitments.

#### EXHIBIT 9

##### Locomotives required according to fleet plan



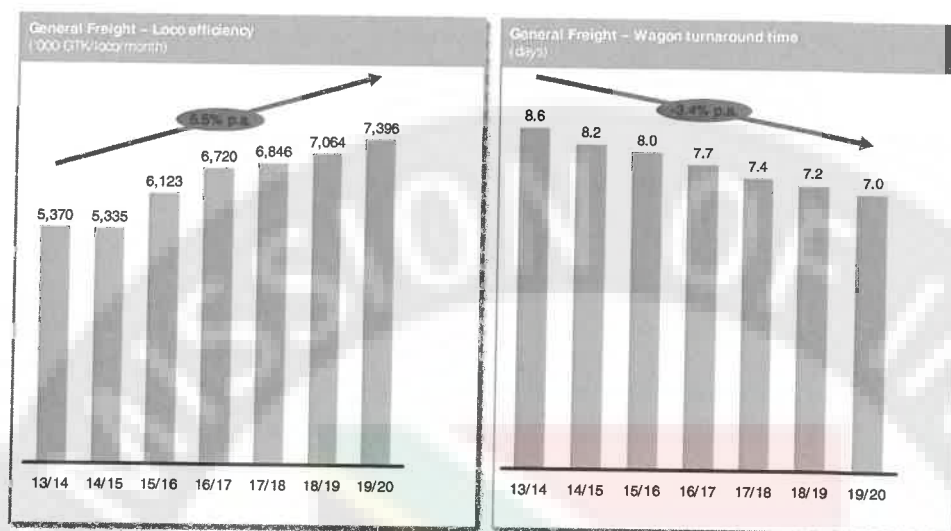
### 3.2.1 New locomotive procurement

New locomotive procurement is a catalyst to unlock this demand through standardisation which increases flexibility to deliver increased operational efficiencies. This will increase customer satisfaction and enable the shift from road to rail. For example, the exhibit below shows how locomotive efficiency and wagon turnaround times would improve with a renewed fleet. Refer note below.

However, the ultimate number of locomotives needed could change over time depending on the operational efficiencies captured and volumes realised.

## EXHIBIT 10

### Improved operational performance and increased customer satisfaction from the upgraded fleet



SOURCE: 2013/2014 Transnet Corporate Plan

The increase in locomotive efficiency is based on three factors; firstly, an inherent improvement in utilisation of the current fleet; secondly, in greater tractive effort per locomotive of the proposed procurements; and thirdly, operational flexibility.

#### Volumes

Increasing volumes during the MDS period are a primary driver of locomotive requirements. However, Transnet's ability to meet the targets set out in the MDS will depend on external market conditions, including the growth of the South African economy and changes in the demand for commodities shipped. Should conditions change (e.g., modifications to Eskom's new build timelines would have a significant impact on domestic coal requirements, and a slowdown in GDP growth would result in fewer containers shipped), locomotive demand will change. As a result, locomotive procurement timelines must be flexible enough to adapt to potential changes in volumes based on macroeconomic and demand conditions.

#### Operational efficiencies

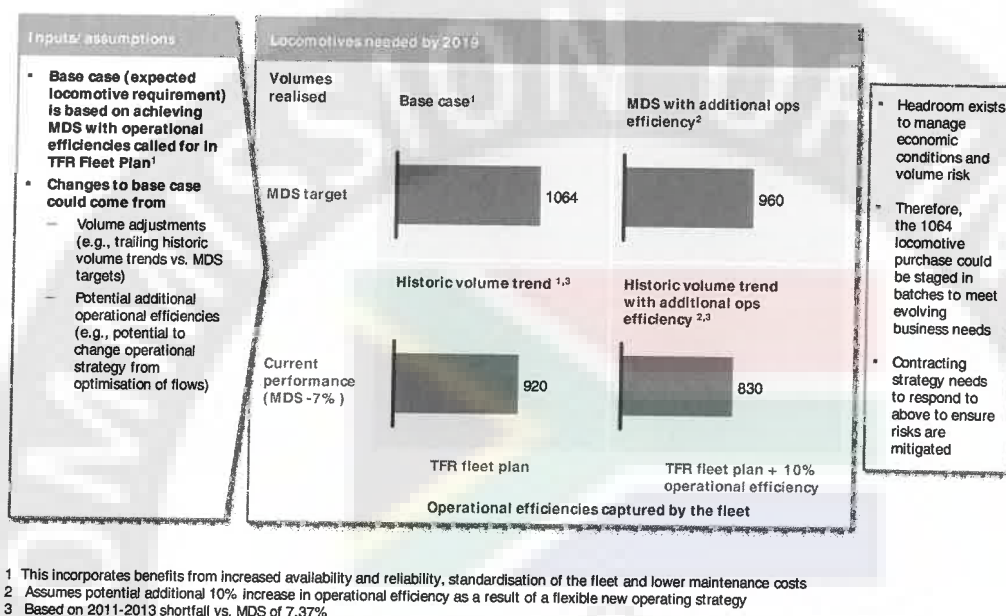
The Fleet Plan will be affected by the operational efficiencies captured from new locomotive technology. The plan takes the position that new locomotives' improved performance will enable operational efficiencies to be captured (e.g., increased availability, reliability and operational flexibility and lower maintenance). Rightly – and conservatively – the Fleet Plan does not estimate unproven potential additional operational efficiencies that could be achieved from optimisation of flows based on the new technologies (e.g., running dual-electric locomotives across routes that previously required multiple changeovers from AC to DC technologies).

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The following exhibit shows how different assumptions of volume and operational efficiency could ultimately lead to different locomotive requirements. Thus, to account for factors that could affect how quickly locomotives are needed, Transnet must pursue a flexible procurement schedule, building in trigger points that will be staged throughout the MDS period.

#### EXHIBIT 11

**The need for 1064 locomotives is determined by the realisation of volumes and operational efficiencies – which informs the procurement strategy**

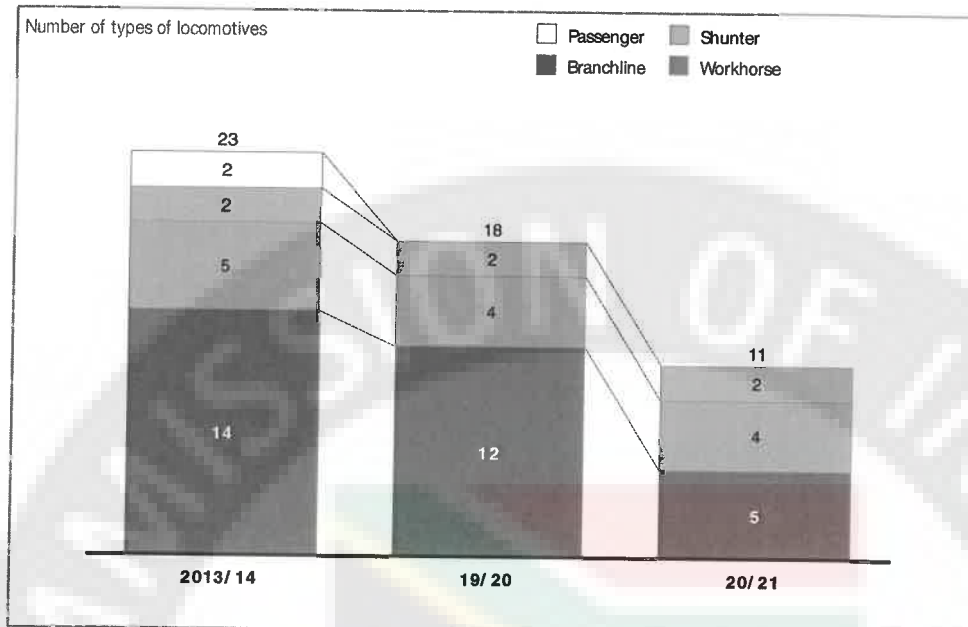


### 3.3 Impact on locomotive standardisation

The purchase of relatively small numbers of locomotives at a time in the past has resulted in a diverse fleet which in turn has not delivered the benefits of standardisation. The TFR locomotive fleet plan recommends progressive standardisation of the locomotive fleet to enhance interoperability, minimise spares holding and simplify maintenance procedures and driver training. With the imminent run out of the current fleet there will be a natural rationalisation of current locomotive types as depicted in the exhibit below.

## EXHIBIT 12

**Procurement of the 1064 locomotives will result in locomotive standardisation, reducing types of locomotives from 23 currently to 11 by 2020/ 21**



While 20/21 is outside the current 7 Year MDS, it reflects the “waterfall” run out of locomotives that lies just outside of the current 7 year MDS. The exhibit is a summary from the General Freight Locomotive fleet plan where the run out of each type and class can be seen. It refers only to GFB and does it reflect the heavy haul classes of the export coal and iron ore lines. Where locomotives are cascaded from the Coal Export Line to General Freight, the classes and types are included.

To prevent further diversification of the fleet, it has been recommended that the electric workhorses and diesel workhorses be procured from no more than two OEMs. In the event that the proposed procurement coincides with a type and class already in use, it will be benefit the standardisation program.

### 3.4 Impact on safety

Aside from the human component, safety on the GFB network will be determined by locomotives, wagons and infrastructure. The procurement of the 1064 locomotives is expected to improve safety in the GFB network. The new locomotives will have the following systems, which will provide safety advancements to the user and TFR:

- Onboard computers (OBC) that will prevent drivers from exceeding speed limits. Some of the locomotives in the current fleet have been fitted with OBC and it shown a proven ability to modify driver behaviour to adhere to speed limits and improve safety.
- Cameras employed as standard equipment which will allow behaviour modification as well as allow TFR to have real time data during any incident that should occur.
- Electronic Brake Rack over the current mechanical brake racks. This will allow for better monitoring and application of brakes.

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- Remote monitoring of locomotives while in operation. This will allow monitoring of the usage of the locomotives and remote pick up of any breaches in application of parameters being exceeded. This will therefore allow behavioural modification and a reduction in abuse of the assets which in turn will bring down unscheduled failures and costs thus providing the evolution in maintenance to Reliability Centred Maintenance.

New wagons will retain existing systems which have been proven to be effective with regards to safety. The planned increase in the axle load of the core network (See Network standardisation- section C6) will also improve the structural integrity of the network.

### 3.5 Role of Transnet Engineering (TE)

Rolling stock covers a range of asset classes used by railways for specific purposes, including wagons and locomotives. TE is already competitive in wagon manufacture and the procurement of IO64 locomotives could position it for similar competitiveness in locomotive manufacture.

At the base level, South Africa has remained competitive in the production of wagons, which retain very high levels of local content. Local manufacturers such as TE continue to hold dominant market positions in this space and export to customers outside SA. In addition, they behave very much as OEMs through their understanding of the technology and design requirements of this type of rolling stock. In recent years, TE has developed capabilities in more complex forms of rolling stock such as locomotive assembly and associated component assembly and manufacture. Various other players in the private sector have also benefited from recent purchases of locomotives through the Competitive Supplier Development Programme (CSDP) driven by Transnet.

TE currently does locomotive maintenance for TFR. However, the purchase of IO64 locomotives by TFR could create an additional opportunity for TE to play a strategic role in design, integration and supplier development of locomotives in addition to its expected role in maintenance. This could elevate TE beyond the assembly function to hold a more strategic position in the future development of locomotive technologies and enhanced maintenance capability as shown in exhibit 12. However this opportunity is subject to competitive bidding against other local suppliers.

#### Scope of work for TE

There are two categories of local work that emerge from the IO64 locomotive tender where TE could be strategically repositioned:

- Development of locomotive technologies and capabilities in integrated design and control system design and the adaptation of these systems to local operating environments.
- Development and design of high-value complex components and alignment of maintenance regimes to best serve the needs of Transnet Freight Rail as the operator of these assets.

The drive to localise a considerable portion of a locomotive would be undertaken to competitively position local private sector suppliers, particularly those demonstrating strong B-BBEE credentials. Thus, whilst Transnet would seek to empower TE strategically and as an integrator and assembler of locomotives, the majority of lower tier supply would be outsourced competitively to competent local manufactures.

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The main focus for TE lies in the area of final assembly of the locomotive, development of important sub systems and integration of the locomotive control systems. This additional scope of work would provide TE with additional skills in ongoing locomotive maintenance and the feedback from the maintenance programmes associated with existing locomotives would provide valuable insights into the design and manufacture of the various sub-assemblies and components that make up the new diesel and electric locomotives.

Although TE is strategically positioned to play a dominant role in these areas it would do so under the custodianship/leadership of the locomotive OEM selected to provide the diesel and electric locomotive contracts. In addition, providing this scope of work would require integrating the supply base from both local private sector specialist firms and global specialists in each respective area. This would open up considerable scope for local manufactures to play a role in conjunction with the locomotive OEM and TE in elevating South Africa's manufacturing capability in each of these areas.

#### Opportunities for private sector in local content

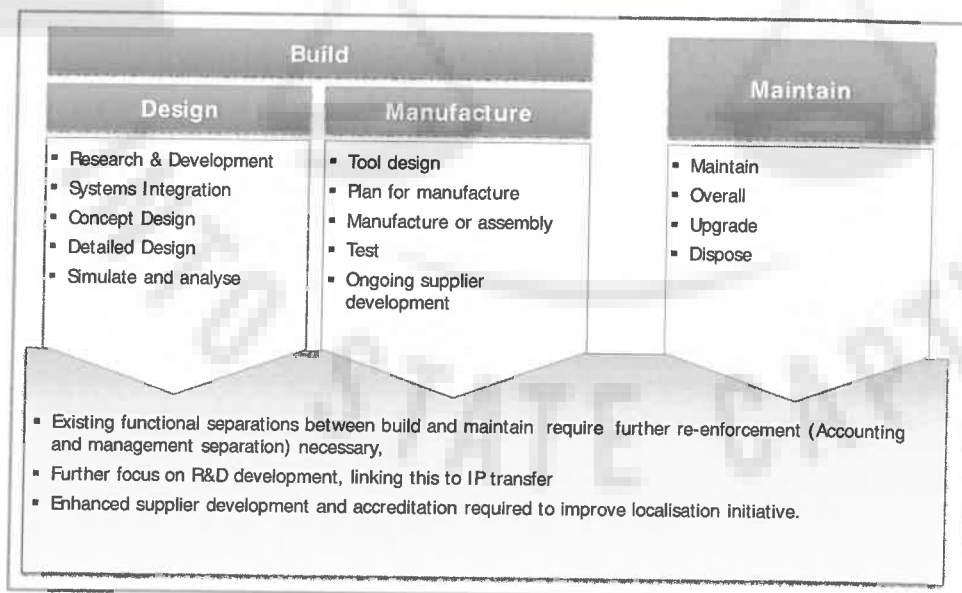
Transnet Engineering (TE) must obtain certain skills through the approach described above in order to reposition itself strategically.

Transnet's detailed component analysis is based a market related costs structure informed by the bills of materials used in assembly and maintenance of various locomotive components. It thus closely emulates current market pricing within the locomotive market.

The analysis identifies certain areas of expertise and components where Transnet Engineering will be strategically positioned, as well as scope of work and expertise that will directly benefit South African private sector manufacturers.

#### EXHIBIT 13

##### Greater specialisation and focus by splitting Build and Maintain functions within Transnet Engineering



## Impact of the new deployment plan on TE

Locomotive deployment is never static and changes dynamically in accordance with commodity and market requirements. It is also influenced by standardisation of maintenance facilities and crew trained in operating a particular type of locomotive. The proposed new locomotives are however specified to enhance standardisation and be deployed over the entire core network with the exception of diesels going through long tunnels.

The new deployment plan will also significantly alter the way TE operates. It will have an impact on:

- **Locomotive maintenance strategy and practices.** The new locomotives will have added features that will reduce maintenance and increase reliability, requiring a contemporary maintenance regime to exploit these features. For example, the Class 34 diesels generally have a 28-day intervention where the locomotive travels to a depot, with major interventions taking place at specific depots. The new Class 43 diesels, however, have a service interval of 90 days that can possibly be extended to 180 days. Where an intervention may be required between service intervals, this would entail the technician coming to the locomotive rather than the locomotive going to the depot. As TFR improves its efficiencies, it will result in lower downtime and increased availability of locomotives.
- **Maintenance technologies.** New maintenance technologies are anticipated, include:
  - LCMS. A Locomotive Control Monitoring System continuously reports the locomotive status to a central Locomotive Control, helping achieve optimum locomotive utilisation.
  - Acoustic Bearing Monitor. This wayside equipment acoustically monitors the rolling stock bearings as they pass the wayside station, analysing the bearing “noise signature” for signs of failure. The signature provides sufficient warning that the locomotive can be diverted to a depot for bearing replacement in a timely fashion. This extracts the maximum possible life out of the bearing as opposed to the conservative time-centred replacement that is the current practice.
- **Skills and staffing.** The skills needed will change from a mechanical maintenance paradigm (electrical and diesel fitter) to one of an electronic diagnostician. Should this change not be contextualised and internalised and old maintenance practices continue, reliability and availability will be compromised and locomotive life will be lessened. Although maintenance staffing requirements will be reduced, potential exists to reallocate these resources to build-based activities.
- **Depot evaluation.** Current, older locomotives must be serviced for several weeks at a time. Even for some of the heaviest maintenance, a new locomotive is expected to be in a workshop for no more than 72 to 96 hours. This will bring about a shift in the way TE conducts maintenance operations. Today, Transnet has over 130 locations throughout the country. In the future, TE will require a smaller number of very large super-depots that can handle a range of activities, including all types of major component exchange for both diesel and electric locomotives. Additional smaller facilities will still be required for servicing, fuelling, preparation, and vehicle recovery in case of breakdown.

See the Supporting Documentation section E5 (Deployment Plan) for more detail on TE’s new maintenance philosophy and proposed changes.

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### 3.6 Other benefits to South Africa

#### Lower costs of transportation

As described in the Business Needs Section, a more efficient and reliable fleet will support the transition from road to rail, which is typically more cost-effective for transporting goods more than 300 kilometres. This shift will lower infrastructure repair costs (given the damage to roads from the current trucking of commodities like coal) and contribute towards a reduction in road traffic fatalities.

#### Lower costs of emissions per tonne

Modern locomotive technologies will also result in energy savings – (8- 10% lower consumption for diesels and 18% energy savings for electrics) given manufacturer insights and internal studies conducted. Therefore, this will result in savings of over 31,000<sup>4</sup> tonnes of CO<sub>2</sub> and R5<sup>5</sup> million per year by 2018/19 for diesel locomotives and potential additional savings in electrics. Today's diesel fleet is more than 30 years old and therefore not emission-efficient. The electric locomotives, which haul approximately 86 percent of the total gross tonne kilometres moved per annum, are not considered heavy polluters. However, given the coal pollution from Eskom electricity generation, total emissions attributable to the locomotives are higher. The new electricity-increased energy efficiency would lessen their environmental impact, as well as the demand on the power grid.

Although meeting Transnet's MDS targets would naturally entail increased locomotive use – and thus increased emissions – the new locomotives' greater energy efficiency will help offset this. The new diesels and electrics would, at a minimum, meet United States Environmental Protection Agency Tier 3 and Tier 4 standards when they come into effect. For diesels, the new locomotives are expected to be 10 percent more efficient in energy conversion than current diesels. In electrics, the Ore Line 9E and the new 15E series are at least 18 percent more efficient in energy conversion. A similar improvement is expected in the new general freight electric workhorse with AC traction motors that will replace the 18E series with DC traction motors.

## 4. Detailed analysis of recommended option

### 4.1 Financial analysis overview

#### 4.1.1 Overview

The capital expenditure for the 1064 locomotive procurement transaction is expected to be R38.6 billion, assuming current exchange rate assumptions hold. Using TFR's hurdle rate of 18.56 percent, the NPV of the transaction is R2.7 billion; applying TFR's WACC of 12.56%, would increase the NPV to R34.1 billion. The following sections describe the approach used to calculate the NPV and expected capital expenditure.

#### 4.1.2 Base case NPV

Key assumptions into this base case NPV calculation are in the exhibit below.

<sup>4</sup> Savings over the current locomotive emissions per MGTK

<sup>5</sup> Given the expected tariff structure from 2015

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## EXHIBIT 14

**The NPV of the 1064 locomotives transaction is R2.7bn (hurdle rate) or R34.1bn (WACC)**

Base case assumptions	
<b>Fleet strategy</b>	<ul style="list-style-type: none"> <li>Increased operational efficiencies from new locomotives called for in TFR Fleet Plan will be achieved</li> <li>Run-out optimised for current refurbishment state, by loco class</li> </ul>
<b>Volume</b>	<ul style="list-style-type: none"> <li>Delivery on MDS targets, with volumes increasing from 91mt in 2013/14 to 170mt in 2018/19</li> </ul>
<b>Delivery schedule</b>	<ul style="list-style-type: none"> <li>Delivery schedule called for in the diesel and electric RFPs can be met (e.g., calls for first 100 diesels in 2013/14 and first 65 electrics in 2014/15)</li> <li>All 1064 locomotives procured by 2019</li> </ul>
<b>Forex</b>	<ul style="list-style-type: none"> <li>Current forward ZAR/USD exchange rates at average of 11.0 over the acquisition period</li> </ul>
<b>Price</b>	<ul style="list-style-type: none"> <li>USD 2.6 million/R25.2 million per diesel and USD3.5 million / R33.9 million per electric, assuming 50% localisation and a 2% localisation premium. RSA component escalated with inflation. USD component escalated at US inflation and converted back to ZAR based on forward exchange rate</li> </ul>
<b>Tariffs</b>	<ul style="list-style-type: none"> <li>Tariffs as per MDS commitments (escalation ~ 7% per year from 0.42 R/tonKm in 2013/14 to 0.58 R/tonKm in 2018/19)</li> </ul>

**Capex:  
R38.6bn  
aligned to  
corporate plan<sup>1</sup>**

**NPV: R2.7bn<sup>2</sup>**

<sup>1</sup> Escalated capex for the acquisition of 1064 locomotives in 2013/14 - 2018/19

<sup>2</sup> Calculated using hurdle rate of 18.56%; NPV would be R34.1bn if TFR's WACC of 12.56% is used

#### 4.1.3 Fleet plan versus RFP delivery timelines

The number of locomotives required to deliver MDS is based on TFR's Fleet Plan and planned run-out strategy. It is based on the assumption that TFR will capture operational efficiencies from new locomotives (e.g., increased availability, reliability and operational flexibility, lower maintenance costs). This fleet requirement is also driven by volumes, which are assumed to be TFR's MDS targets for GFB.

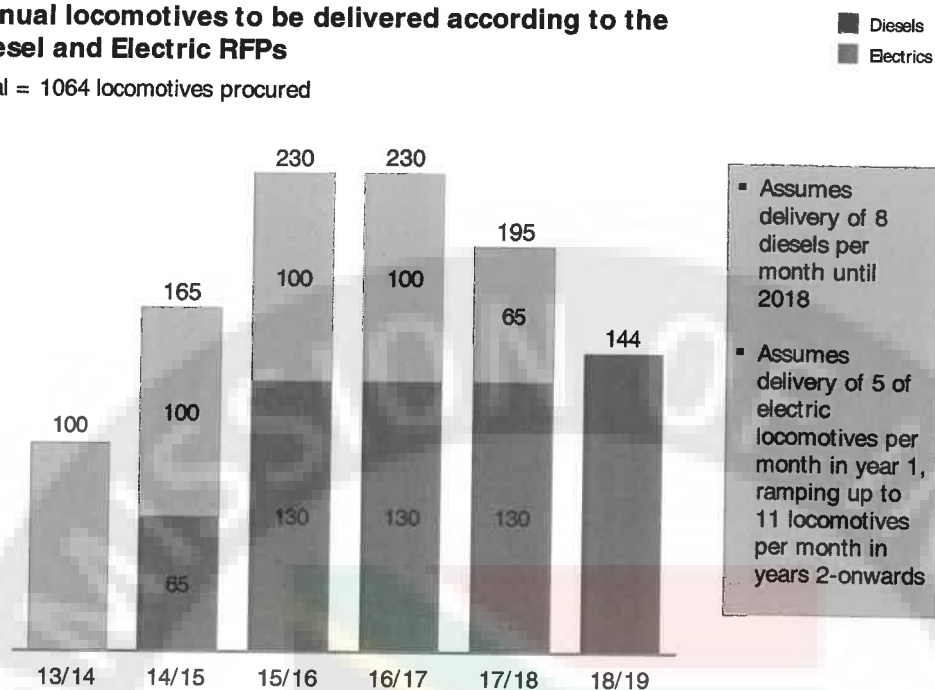
The 465 diesel and 599 electric RFP delivery timelines, which are currently in the market, were used to understand the timing of the locomotives. The exhibit below details the locomotive delivery timelines that were modelled as per the RFPs and used as the base case assumption.

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## EXHIBIT 15

**Annual locomotives to be delivered according to the Diesel and Electric RFPs**

Total = 1064 locomotives procured

**4.2 Approach to revenue calculations**

Revenues were calculated based on the incremental volumes attributed to the 1064 procured locomotives and the average forecasted GFB tariffs from the MDS 2012/13. Volumes to be attributed to the 1064 locomotives were calculated using a bottom-up approach, which used historical GFB productivity (million gross tonne kilometres, MGTK) for each of the locomotive types and the number of locomotives within each type aggregated to a fleet level productivity capacity. The incremental volumes for the 1064 procured locomotives were calculated on the difference between the capacity required to achieve the MDS and the existing fleet capacity, subject to the maximum capacity of the procured locomotives.

**Bottom-up volume calculations based on locomotive productivity**

The total MGTK was transformed into net tonnes volumes using a historical GTK/NTK ratio and forecasted average distance using the MDS forecasts. Locomotive productivity assumptions for locomotives without an applicable historical productivity were based on similar locomotive types within the fleet. The productivity estimates for the new procured locomotives were based on the historical average productivity levels achieved by the TFR fleet. The existing fleet breakdown and productivity for 2013/14 is detailed in the exhibit below.

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## EXHIBIT 16

Existing fleet GFB at 2013/14			
Fleet type	Number of locos	GTKm per loco	Cumulative GTKM
6E	75	33	2 507
7E	58	130	7 520
7E1	48	107	5 137
7E2	45	94	4 217
7E3	65	98	6 351
8E	37	1	19
10E	104	133	13 795
14E	8	41	330
18E	597	57	34 026
33D	5	8	38
34D	318	24	7 689
35D	146	7	1 006
36D	167	1	244
37D	70	20	1 372
38D	38	22	827
39D	53	54	2 852
43D	55	80	4 395
<b>Total</b>	<b>1 889</b>	<b>49</b>	<b>92 324</b>

Volume capacity was calculated and split across three different categories:

- TFR fleet requirement capacity (based on TFR fleet requirements, Supporting Documentation Section E4-7-Year Locomotive Requirement).
- Existing TFR fleet capacity (based on the TFR fleet run-out schedule and expected locomotives on order, Supporting Documentation Section E2 -General Fleet Runout).
- 1064 procured locomotives capacity (based on the procurement assumptions above).

The incremental volumes for the 1064 procured locomotives were calculated on the difference between the capacity required to achieve the MDS and the existing fleet capacity, subject to the maximum capacity of the procured locomotives. The existing fleet capacity also accounts for lost capacity due to locomotive write-offs due to incidents, with 7 diesels and 8 electric locomotives assumed to be written off each year. The productivity lost was based on average locomotive productivity for diesel and electric locomotives.

## EXHIBIT 17

Productivity MGTK (2013/14 to 2018/19)						
	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
MDS required capacity	86,401	98,479	120,811	138,409	148,467	158,434
Existing fleet capacity	79,403	79,697	98,478	101,730	90,848	86,130
Written-off (lost) capacity	1,101	2,201	3,302	4,446	5,591	6,736
Required capacity	8,099	20,983	25,634	41,126	63,211	79,040

**Translation into volumes required**

The aforementioned required capacity amount is converted into required net tonnes based on the average distance travelled for GFB traffic and the historical ratio of GTK to NTK.

The table below represents the incremental volumes attributed to the 1064 locomotives. TFR experience a large volume shortfall in the first 3 years due to DC locomotive shortfalls. Without planned mitigation strategies, this shortfall will persist till 2018/19 given that TFR fleet requirements are assessed as of the beginning of the fiscal year but locomotives would be delivered throughout the year (e.g., in 2018/19, 1064 locomotives are required at the start of the year, but the 1064<sup>th</sup> locomotive will only be expected later that year). Refer to Section 5 on Risks for a description of TFR's planned mitigation strategy.

These volumes can be combined with the expected tariffs for GFB during the MDS period, as per the exhibit below:

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## EXHIBIT 18

Volumes (net tonnes)						
	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
MDS target	91	104	127	151	161	170
Existing fleet	83	82	100	106	92	85
1064 locomotives	1	7	21	41	60	77
Volume shortfall	7	15	6	4	9	8

As per the exhibit below, putting volumes and tariffs together yields a view of revenues – MDS targets, revenues allocated to the existing fleet, revenues derived from the new locomotives, and potential shortfalls.

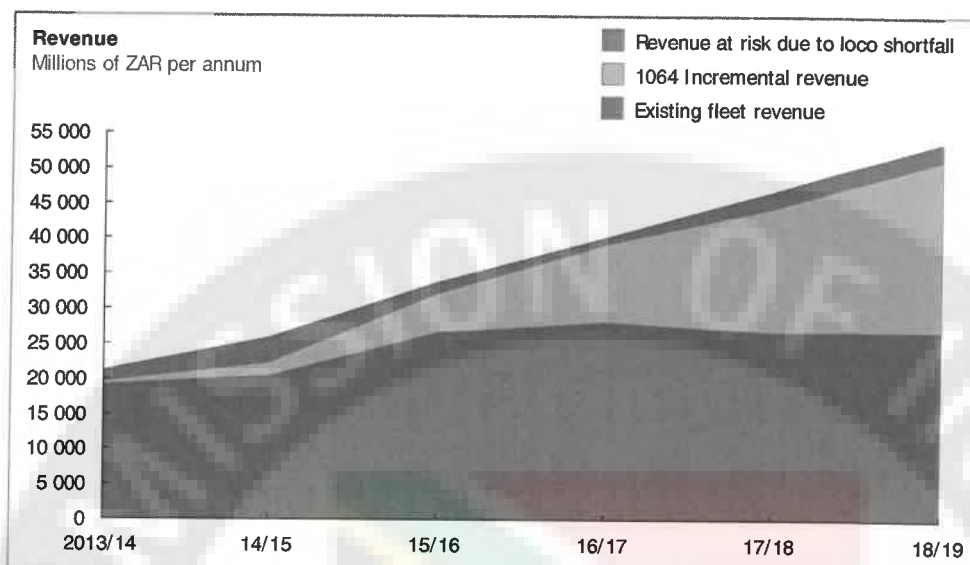
## EXHIBIT 19

GFB tariff average (R/Net tonKm)					
2013/14	2014/15	2015/16	2016/17	2017/18	2018/19
0.42	0.45	0.48	0.50	0.54	0.58



## EXHIBIT 20

**The 1064 locomotives are instrumental in capturing MDS target revenues, but a revenue shortfall will persist due to procurement timelines lagging target demand**



### 4.3 Approach to cost calculations

Cost schedules were calculated for the entire life cycle of the 1064 fleet split into the categories listed below, including: a) Total cost of ownership (TCO); and b) capital and other costs, including wagon cost, infrastructure cost, overheads, and tax.

#### 4.3.1 Total cost of ownership of new locomotives

The TCO of locomotives was calculated using bottom up analysis and expert input and has the following components:

- Purchase price.** As mentioned above, the purchase price is assumed to be R25 million (US \$2.6 million) for a diesel locomotive and R34 million (US \$3.5 million) for an electric locomotive in 2013/14. The purchase price of both diesel and electric locomotives assumes a conservative 50 percent localisation component with a 2 percent localisation premium applied. The localisation component ramps up over time. The USD price component was forecasted by escalating at USD inflation and converting back to ZAR using forward ZAR/USD hedge rates. The local price component was escalated at South African PPI. Refer to Exhibit 21 for the TCO breakdown and Exhibit 22 for the purchase price cost breakdown. An important consideration in the negotiation of the purchase price is the amortisation of the development costs over the quantity ordered demonstrated in Exhibit 23. The analysis indicates that the procurement order quantity for the 1064 locomotives will significantly reduce the development costs component of the locomotive price and has been factored into determine the price estimates.

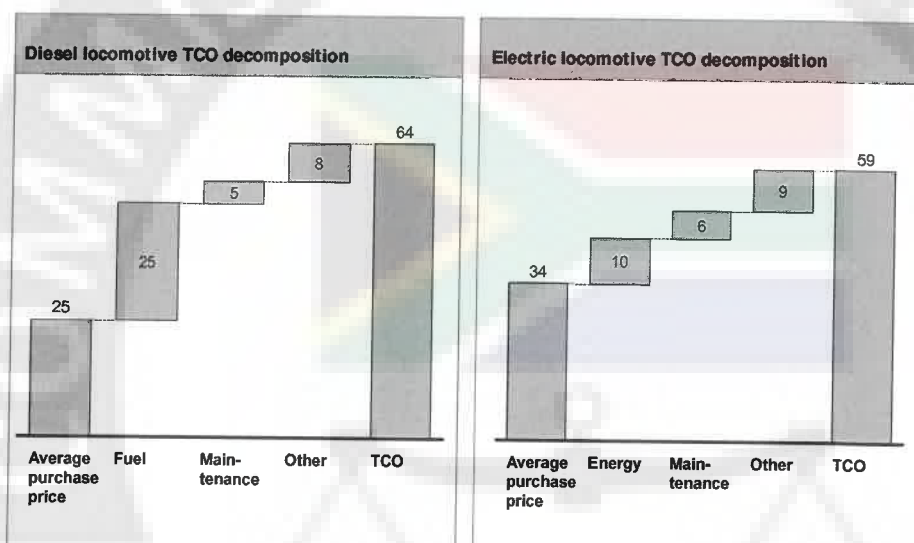
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- **Diesel costs.** The diesel costs for the 465 locomotives were based on the GTK of the locomotives and diesel consumption per GTK. Prices were escalated from a 2013/14 price of R11 per litre escalated at R/USD forward rate percentage change and US inflation.
- **Electricity costs.** The electricity costs for the 599 locomotives were based on the GTK of the locomotives and consumption per GTK. Electricity costs were escalated at forecasted Eskom tariff rate increases of 8 percent up to 2017/18 and an average of forecasted CPI and PPI thereafter.
- **Maintenance costs.** Expected maintenance cycles over the lifecycle of locomotives were calculated. The cash flow profiles for diesel and electric locomotives are presented in Exhibit 24.
- **Insurance.** Assumes an expected wreck cost per year escalated at the average of CPI and PPI.

## EXHIBIT 21

**Electric locomotives have a lower TCO than diesels, but their upfront cost is higher than diesel locos**

ZAR, millions

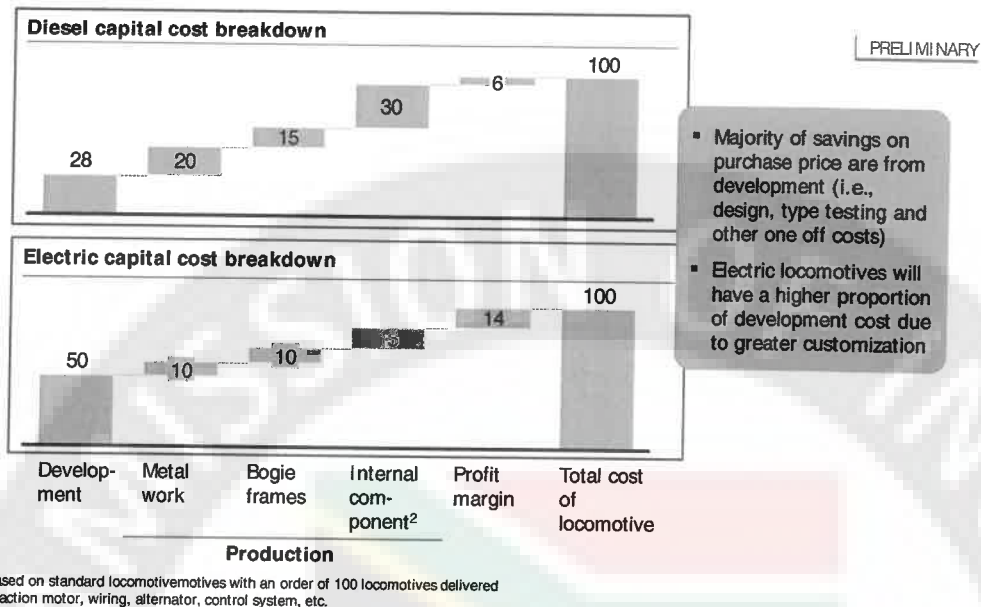


SOURCE: Transnet 1064 Loco Business Case, Expert interviews



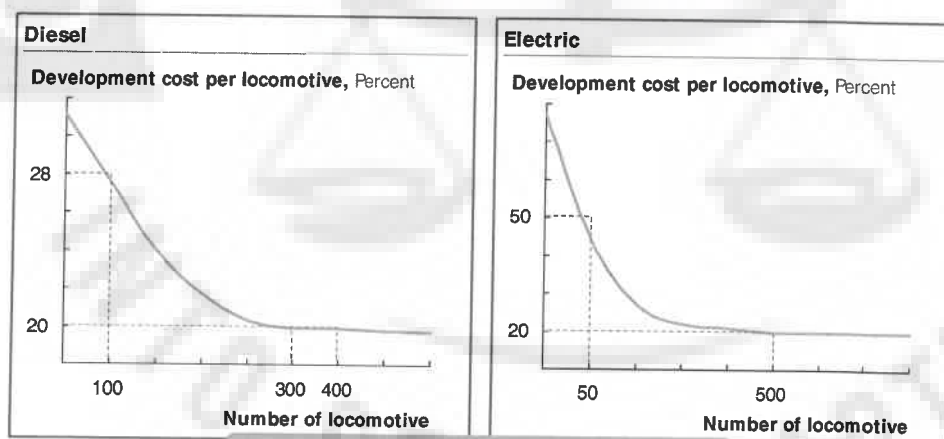
## EXHIBIT 22

**Development costs are the largest components of total capital cost of both diesel and electric locomotives**



## EXHIBIT 23

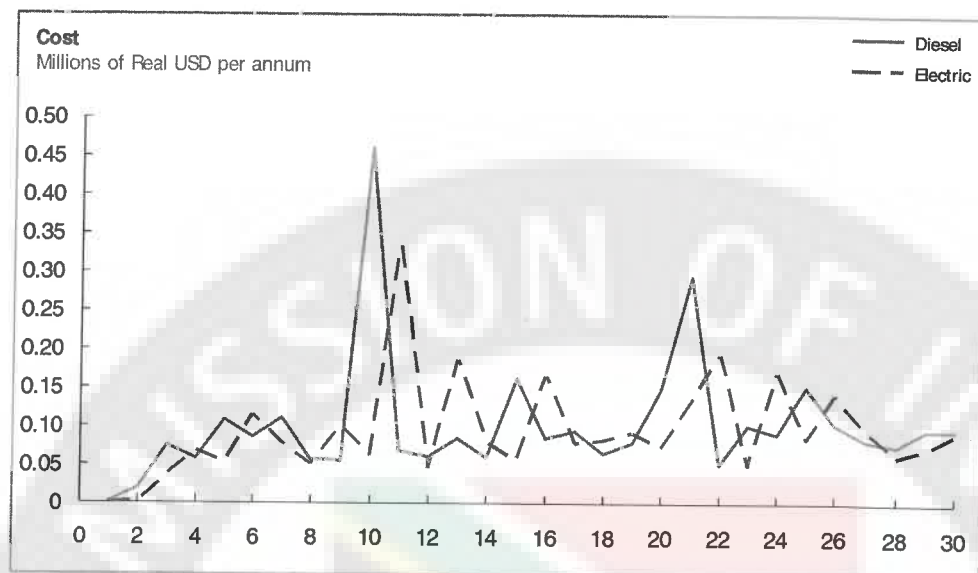
**Electric locomotive price is more sensitive to order size than diesel locomotives**



SOURCE: Source

## EXHIBIT 24

### Maintenance TCO for Diesel and Electric locomotives for a 30 year lifecycle



#### 4.3.2 Capital and other costs

Capital cost outflows for the procured locomotives have been structured with a conservative payment strategy of 90 percent of the locomotive purchase is paid on delivery of the locomotive and 10 percent on acceptance. Upfront costs of R250 million for diesel locomotives and R300 million for electric locomotives will be paid on signing the supplier contract and will offset against the cost of the first batch purchased. The purchase price of both diesel and electric locomotives assumes a 50 percent localisation component, with a 2 percent localisation premium applied.

In addition to modelling the capital costs for locomotives to be procured for the 1064, associated wagon and infrastructure costs have been allocated as per the 2013 Transnet Corporate Plan – the exhibit below shows the capital costs for diesel and electric locomotives, wagons, and infrastructure.

## EXHIBIT 25

Capital expenditure schedule								
Rm Cashflow	PV	13/14	14/15	15/16	16/17	17/18	18/19	19/20
Diesels	8 314	2 433	2 552	2 709	2 881	2 064	0	0
Electrics	1 225	300	1 860	4 665	5 042	5 360	6 284	217
Wagon capex	1 001	3 022	3 417	3 462	3 228	2 559	649	0
Wagon copex	1 583	3	23	70	151	242	339	420
Infra capex	9 513	1 026	2 787	3 379	3 023	3 092	4 967	0
Infra copex	8 978	60	384	795	1 249	1 627	1 837	2 253
<b>Total</b>	<b>50 656</b>	<b>6 844</b>	<b>11 023</b>	<b>15 079</b>	<b>15 575</b>	<b>14 944</b>	<b>14 075</b>	<b>2 890</b>

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- **Wagon costs:** Costs were calculated based on the expansionary number of wagons required to achieve 170 million tonnes (16,459 wagons) based on the proposed capex budget in the Supporting Documentation Section E12 (Wagon Requirements). Opex and copex costs are incurred according to incremental volumes moved.
- **Infrastructure costs.** Costs were calculated using the total required expansionary GFB infrastructure to deliver 170 million tonnes based on the latest corporate plan. Infrastructure copex costs are incurred according to incremental volumes moved.
- **Overhead costs.** GFB overhead costs were calculated using actual 2011/12 TFR overhead costs allocated according to the ratio of GFB personnel to total TFR personnel. Procured IO64 overhead costs were allocated from the GFB overhead costs on the ratio of IO64 incremental volumes to GFB volume required.
- **Tax costs.** Tax costs were based on an assumed tax rate of 28 percent and calculated against net cash flows (revenues – costs) and adjusted for capital cost distributions of locomotive, wagons, and infrastructure expansion. The capital costs for locomotives and wagons were depreciated over 5 years since the purchase date and infrastructure has been depreciated over 30 years. Tax credit income has been included as a cash inflow in the following year of accrual.

#### 4.4 Breakeven points for NPV: volumes and tariffs

The business case proves to be neutral at the following volumes and tariffs:

- Volume (everything else fixed). CAGR of 11.7 percent from 2013/14 to 2018/19 (160 mt p.a. realised in 2018/19 vs. 170 mt p.a. as per MDS), which is below the MDS target of 13.3 percent.
- Tariffs (everything else fixed). CAGR of 6.1 percent from 2013/14 to 2018/19, which falls directly between CPI (5.6 percent) and the MDS target (6.6 percent).

### 5. Treasury Considerations

The acquisition of IO64 locomotives will cost R38.6 billion and has been included in the overall MDS funding amount of R86.5 billion over the next 6 years. Consequently, the funding options will include those in the borrowing plan as contained in the approved Transnet Corporate Plan 2013/2014. A mixture of cash generated by operations and external borrowing will be used to fund the acquisition. Two-thirds are assumed to be financed using cash generated by operations, and about R13 billion will need to be raised externally. The external funding will be raised utilising both the Global Medium Term Note programme for dollar funding and established domestic sources for Rand funding – e.g., the Domestic Medium Term Note programme. In addition, options like development finance institutions (DFIs) and export credit agencies (ECAs) will be considered to lower the cost of funding.

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## EXHIBIT 26

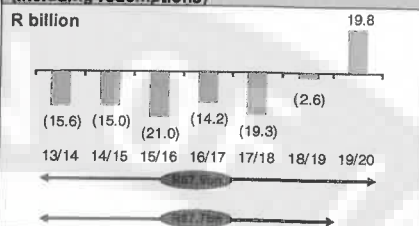
## Funding plan

## Objectives of Funding Plan

- Ensure sufficient cash is available to meet operational and capital requirements;
- Diversify funding sources;
- Raise cost effective funding;
- Manage interest rate, foreign exchange and refinancing risk;
- Manage liquidity risk; and
- Reduce WACD.

## Focus for 2013/ 14

- Continue to use the domestic capital markets as a primary funding source with emphasis on the following:
  - Issue new long term fixed bonds;
  - Issue medium term floating rate note bonds;
  - Use commercial paper for working capital needs.
- Continue utilising Export Credit Agency and DFI funding;
- Upsize the GMTN Programme to \$6bn and issue a Global ZAR bond under the Programme;
- Implement a Debt Redemption Fund;
- Explore Project Finance for MDS mega projects;
- Explore opportunistic bank and private placement funding.

Seven Year Funding Requirement  
(including redemptions)

PAGE 1

The planned new fleet is estimated to cost R38.6 billion using escalated calendar year 2013 prices. The acquisition of the 1064 locomotives will be funded using a mixture of cash generated by operations and external borrowings. Assuming that two-thirds will be financed using cash generated by operations, about R13 billion will need to be raised externally.

## 5.1 Funding options

### EXHIBIT 27: POTENTIAL FUNDING SOURCES FOR MDS

## Potential funding sources

	Available facilities	Expected drawdowns 2013/14
<b>Development Finance Institutions (DFI's)</b>		
African Development Bank A loan	R1,7 billion	R1,7 billion
<b>Export Credit Agency (ECAs)</b>		
US Exim Tranche 2	R1,3 billion	R1,3 billion
<b>Global Medium-term Note (GMTN)</b>		
Available under the GMTN Programme <sup>1</sup> US\$250 million	(R2 billion)	R2 billion
<b>Domestic Medium-term Note (DMTN)</b>		
Available under the DMTN Programme (Commercial Paper (CP) and Bonds)	± R22,5 billion	
• Available for bond issuance		R4,4 billion
• Available for CP issuance		R3,3 billion
Bank loans (Domestic banks)		R1,9 billion
DFIs/ECAs		R1,0 billion
Committed facilities available within 24 hour notice	R5,0 billion	
<b>Total</b>	<b>R33,0 billion</b>	<b>R15,6 billion</b>

Transnet will further explore new funding solutions, investors and markets such as:

- Issuing bonds in other markets (Yen; US Dollar; Euro; Australian Dollar; Swiss Franc; Sukuk markets). The cost of the possible funding to be raised will be evaluated relative to Rand funding
- Issuing a Global ZAR Bond in the international debt capital markets;
- Project bonds and project finance;
- Extending the duration of Transnet's existing domestic bonds, as well as the issuance of new types of bonds for purposes of building Transnet's yield curve; and
- Expand Development Finance Institution (DFIs) and Export Credit Agency (ECA) financing, thereby further diversifying Transnet's funding sources.

1. The GMTN will be upsize to US\$6 billion in 2013/14, catering for more issuance under the Programme.

1. The GMTN will be upsized to US\$6 billion in 2013/14, catering for more issuance under the Programme.

Based on the above, Transnet's ability to meet its short and long-term funding requirements is adequate and will not impact the going concern financial position of the Company.

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### EXHIBIT 28

Amount in R billions	13/14	14/15	15/16	16/17	17/18	18/19	19/20	Total expenditure
Diesel locomotives - 465	2.43	2.55	2.71	2.88	2.06	-	-	12.63
Electric locomotives- 599	0.30	1.86	4.67	5.04	5.36	6.28	0.22	23.73
Locomotive contingency	0.17	0.27	0.45	0.49	0.46	0.39	0.01	2.24
<b>Total</b>	<b>2.90</b>	<b>4.68</b>	<b>7.83</b>	<b>8.41</b>	<b>7.88</b>	<b>6.67</b>	<b>0.23</b>	<b>38.60</b>

#### 5.1.1 Funding risks

The fleet cost is based on a set of assumptions including the timing of contracting, ZAR/USD exchange rate, and the mix between local and foreign content, interest rate, volume growth, revenue growth, inflation, operational efficiencies, and steel prices. Any negative movement on the base assumptions exposes TFR to a potential risk. In addition to the abovementioned risks and sensitivities (see Section 7), the following risks and implications need to be closely monitored:

- Implications to funding of actual versus planned cash flows.
- The implications of Basel III on swap costs, terms and conditions of derivative transactions, and availability and quantum of credit lines, monitor ETC and impacts on cash interest cover, gearing and S&P liquidity ratio.

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## 5.2 Forex risk mitigation

Forex risk mitigation will be imperative for a transaction of this size. A change in the Rand to US dollar exchange rate of 10 percent would represent a R1.2 billion impact based on the amount of localization assumed. Given 15 percent devaluation of the rand against the US dollar over the past year alone, such volatility is not unrealistic. Forward exchange rate projections suggest a devaluation of the Rand versus the US dollar over the next few years.

### Transnet's hedging approach

Transnet's preferred option is to enter into Rand based supplier agreements with OEMs, with the hedges undertaken by the OEMs themselves. However, even when hedging is conducted by the OEM, Transnet ultimately pays for the cost of hedging, which is factored into the purchase price. The main advantage of a Rand based supplier agreement is the elimination of volatility in the Group's financials and the non-utilisation of bank credit lines for hedging purposes.

Should Transnet not be in a position to enter into a Rand based agreement, all foreign exchange exposures will have to be hedged as per the Board approved Financial Risk Management Framework (FRMF). It is anticipated that Transnet should be in a position to obtain the necessary credit lines to hedge the FX risk exposures. However, this cannot be guaranteed, as a number of banks will have to be approached to diversify their risk exposures and the banks will have to obtain approval from their respective credit committees. However, there is a risk that the magnitude of this transaction will add pressure to the availability of hedging lines for future MDS requirements.

Long dated hedges as anticipated in this transaction are expensive due to banks' capital requirements. The exhibit below shows Transnet Treasury's view of a ZAR/USD forward curve including the cost of hedging, used in the business case.

EXHIBIT 29

Spot	1 Year	2 Year	3 Year	4 Year	5 Year	6 year	7 year
\$R9.13	\$R9.59	\$R10.04	\$R10.52	\$R11.00	\$R11.48	\$R11.98	\$R12.55

### Impact of localisation

Localisation of production is a natural hedge. Exposure would increase with lower a lower level of localisation (and, by extension, decrease with a higher level of localisation). The exhibit below shows foreign currency exposure for a 10 percent devaluation scenario to be ~R1.2 billion given 70% localisation of component manufacture. Without any localisation, exposure under this scenario would be ~R4 billion, suggesting a localisation benefit of ~R2.8 billion.

## EXHIBIT 30

	Forward Rand value of imported component at current market rates	Impact of a 5% weakening of Rand against USD	Impact of a 10% weakening of Rand against USD
Assuming a 60% localisation	R15.4 bn	R0.8 bn	R1.5 bn
Assuming a 70% localisation	R11.6 bn	R0.6 bn	R1.2 bn
Assuming a 80% localisation	R7.7 bn	R0.4 bn	R0.8 bn

Thus, hedge accounting will be used to minimise exchange rate volatility on the Group income statement, but localisation is a critical lever to reduce the ultimate cost of the hedge.

## 6. Operational readiness

### 6.1 HR plan

A procurement event of this magnitude will require a significant increase in in GFB's workforce. GFB's 7-year human resource requirements are part of a TFR-wide workforce plan as train drivers and assistants are often interchangeable across TFR's businesses. All train personnel are sourced from Transnet's School of Rail.

According to TFR's 7-Year Man Plan (see Section E10) 2012 figures, TFR has a driver shortfall of 529. It is also estimated that over the life of MDS, TFR will require an additional 3 065 drivers above current staffing levels. This need is dependent on delivery against MDS volumes across the GFB, Coal and Ore businesses.

Currently, TFR only has capacity to train on average 500 drivers per year. However, at its peak in 2015-2016, TFR will require an additional 791 drivers. TFR has transitioned from a mandatory Refresher Training every 2 years to a Continuous Professional Learning programme. This will cut training time from 22 days every 2 years at the School of Rail to 6 days every 2 years on site according to best practice as shown in the exhibit below, freeing capacity at the School for additional training of new recruits. This expected reduction in training time is based on a joint exercise done with DB Siyaya and international benchmarking of TFR's methods in conjunction with other railways.

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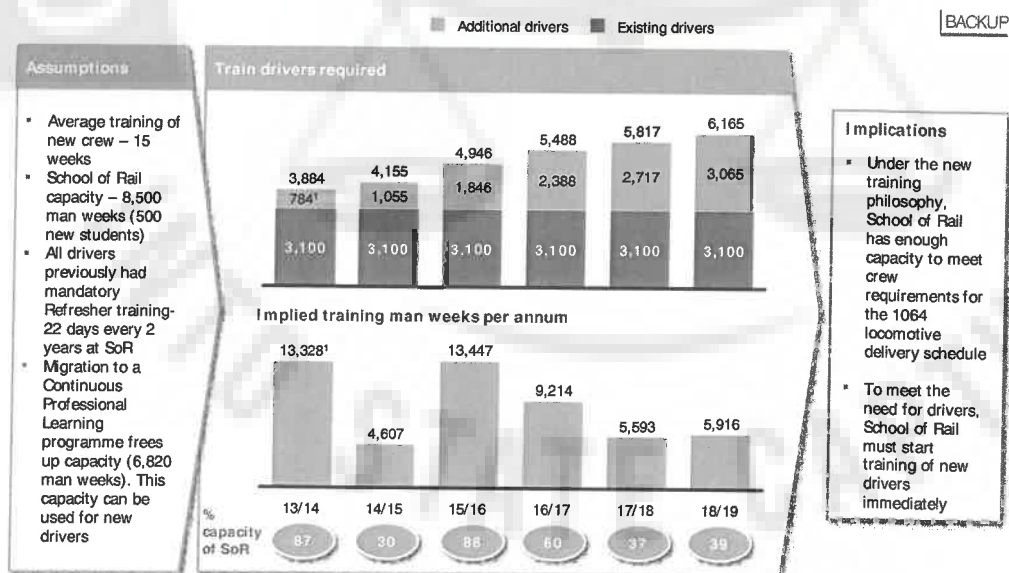
## EXHIBIT 31

**The new CPL programme will significantly reduce the training time and fee capacity at the School of Rail**

	Refresher training	New CPL programme
Length	22	6
Frequency	Once every 2 years	Continuously over 2 years
Location	School of Rail	Operational area
Content	Not sensitive to operational needs	Determined by BU and train
Impact	Does not promote continuous proficiency	Promotes continuous proficiency

## EXHIBIT 32

**Under the new training philosophy, Transnet's School of Rail can supply enough train drivers and assistants to sustain the 1064 delivery schedule**



<sup>1</sup> Includes a 2012 shortfall of 529 which has not been met yet and thus carried forward

The exhibit above shows the drivers required every year over the MDS period, highlighting how many additional drivers need to be trained. It also shows the School's capacity requirements over the period. The new training philosophy will give an additional 6,820 man weeks (80 percent increase) of capacity to the facility, allowing it to meet TFR requirements. However, TFR will need to start training new drivers immediately to close the driver shortfall before the peak demand period in 2015/16. In addition, the one man crew project, if successfully tested, will allow TFR to fast track trained assistants to become train drivers if successfully tested.

## 6.2 Infrastructure dependencies

To deliver against MDS volumes, the 1064 locomotives must perform as part of a railway system well equipped to move such volumes. Therefore, sustaining and expanding investment in infrastructure and other key projects within the system will be critical to support MDS delivery.

### Infrastructure dependencies

Locomotive deployment is tightly mapped to the railway infrastructure and routes. Route characteristics (e.g., power source on route, axle loading capacity, and the presence of long tunnels or tight bends) largely determine the type of locomotive that can be used on a particular route.

As part of the MDS' planned R308 billion spend, TFR will also invest in projects to sustain and expand rail network capacity and footprint. The strategy pursued by the Rail Network over the 9-year planning horizon covers two key strategic focus areas to enable volume growth and systemically improve the safety of operations. Programmes aim to:

- **Expand infrastructure**, creating capacity ahead of demand. Supporting Information Section EI2 (Infrastructure Plans) depicts the current status of the network in terms of axle loading and electrification, respectively, and Section FI1 depicts the future status of the network in terms of axle loading and electrification are also depicted in Section EI1.
- **Sustain existing infrastructure** through accelerated maintenance programmes. In addition to the railway network, there are also programmes for the sustenance and expansion of supporting infrastructure. The tables in the Supporting documentation Section EI1 are extracted from the TFR Business Plan 2013/14 – 2018/19 and detail both the expansion and the sustaining maintenance programmes for Perway, Electrical, Signalling, and Telecommunications.

The exhibit below shows key strategic projects planned over the 7-year period involving both the extension of the electrified network and the axle loading of specific routes.

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## EXHIBIT 33

### Key infrastructure programmes will enable the 1064 locomotives' delivery of expected volumes

ZAR, billions

Rail line section	Total seven year spend (ZAR bn)	Timeline
Eskom and coal line to 91mtpa+	8	2012-2019
Waterberg	5	2012-2020
Ore line to 90mtpa	6	2012-2019
Swazi rail link (SA Portion only)	0	2012-2015
Manganese General Freight 16mtpa	35	2012-2019
Gauteng Freight ring	0	2018-2019
Terminals	0	2012-2018
Maputo link	1	2012-2016
Natcor	0	2013-2017
<b>Grand total</b>	<b>31</b>	

## EXHIBIT 34

### Expansionary infrastructure expenditure timeline

**Bold text** = interdependencies with GFB volume expansion

[BACKUP](#)

Business focus	Preparation for growth (zero to two years)	Sustained growth (two to five years)	Consolidate (five to seven years)
Infrastructure expansion: Perway/ axle loading	<ul style="list-style-type: none"> <li><b>Increase axle loading</b></li> <li><b>Increase coal line capacity to 81mt</b></li> <li><b>Eskom 32mt project</b></li> <li><b>Partial doubling of RCB-Nsezi line</b></li> <li><b>Waterberg – Phases 2-5 additional passing loops</b></li> <li><b>Manganese 16mtpa (Hotazel – Coega)</b></li> <li><b>Swazi rail link 15mt</b></li> <li><b>Increase axle loading on Groenbult– Hoedspruit</b></li> </ul>	<ul style="list-style-type: none"> <li>Increase axle loading</li> <li>Increase coal line capacity to 81mt</li> <li>Coal 91mt project (including Overall tunnel doubling)</li> <li>Eskom 32mt project</li> <li>Geluksploas grade separation</li> <li>Line tripling Broodsniersplaas-Ermelo</li> <li>Waterberg – Phases 2-5 additional passing loops</li> <li>Manganese 16mtpa (Hotazel – Coega)</li> <li>Ore line Phase 2A to 82.5mtpa</li> <li>Swazi rail link 15mt</li> </ul>	<ul style="list-style-type: none"> <li><b>Increase axle loading</b></li> <li><b>Overall tunnel doubling</b></li> <li>Coal 91mt project (including Overvaal tunnel doubling)</li> <li>Eskom 32mt project</li> <li>Line tripling Broodsniersplaas-Ermelo</li> <li>Swazi rail link 15mt</li> <li>Doubling of all critical deviations</li> </ul>
Infrastructure expansion: Electrical	<ul style="list-style-type: none"> <li>Increase electrical capacity on the AC section on the coal line</li> <li><b>Upgrade section Rooikop-Newcastle, Manganese 16mtpa New and Upgraded sub-stations and OHTE</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Manganese 16mtpa New and Upgraded substations</b></li> <li>Ore line Phase 2A to 82.5mtpa power upgrade (including of OHTE)</li> <li>Increase electrical capacity on the AC section on the coal line</li> <li>Coal 91mt project</li> <li>Upgrade substations and electrical equipment</li> <li>Commence with the conversion of 3kV DC to 25kVAC Ermelo-Pyramid South</li> </ul>	<ul style="list-style-type: none"> <li><b>Completion of the conversion of 3kVDC to 25kVAC Ermelo-Pyramid South</b></li> <li>Coal 91mt project</li> <li>Eskom 32mt project</li> <li>Upgrade substations and electrical equipment</li> <li>Waterberg – Phase 6 (23mtpa) commence with the electrification of Thabazimbi-Lephalale</li> <li>Conversion of 3kVDC to 25kVAC on Ermelo-Pyramid South</li> </ul>
Infrastructure expansion: Signaling	<ul style="list-style-type: none"> <li><b>Manganese 16mtpa</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Pyramid South – Lephalale: Communication based authorisation (CBA) pilot installation</b></li> <li>Manganese 16mtpa</li> </ul>	<ul style="list-style-type: none"> <li>Commence with the re-signaling of the coal line (CBA)</li> </ul>

Considering the existing network capacity and the expectation that these projects will be completed according to plan, network capacity is not seen as a constraint to achieving the MDS targets.

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## Network Standardisation

Network standardisation is a long term project extending well beyond the current 7 Year MDS. This project is expected to include increasing axle loading in the core network (that conveys roughly 90% of GFB traffic); extending the 25 kV AC to close gaps in the existing electrification network and replacing the 3kV DC electrification network with the 25 kV AC network in high tonnage corridors as shown in the exhibits above.

Excluding the export iron ore and export coal lines with their 30 and 26 ton per axle loading respectively, the core network for general freight traffic, which has a loading capability of 20 tonnes per axle, conveys more than 90% of the general freight traffic. This core network will be enhanced to 26 tonnes per axle as part of the maintenance program. Increasing the axle loading capability of the network enables increased wagon loads which increase the tonnes throughput per train. The majority of growth is in mineral and mining commodities which will be the prime drivers for heavier axle loads. There are no plans to increase the axle loading capabilities of branch lines of 18.5 tonnes per axle and lower as it is not warranted by the anticipated traffic growth.

The extension of the 25 kV AC electrification is firstly strategically targeted to close gaps in the existing electrification network that conveys high tonnages to reduce locomotive changeovers and the operating delays that they introduce. Secondly, the 25 kV AC network will replace the existing 3kV DC electrification network in high tonnage corridors. This is because the 25 kV AC is technically better suited to the high volumes requiring a lighter mast and fittings and fewer substations spaced further apart; this is less restrictive on the number of trains in the section. Finally, the 25 kV AC will be extended into currently non-electrified lines as and when the volumes make it economically viable.

## 6.3 Wagons

Transporting the volumes envisaged in the MDS requires sufficient an appropriate rolling stock in wagons and locomotives. TFR has three distinct operations; General Freight Business, and the heavy haul operations of the Coal Export and Iron Ore Export Lines. Each of these has their own unique set of wagons and locomotives. This business case addresses the General Freight locomotive requirements only though they are lightly interlinked with the other operations.

The MDS predicates growth over a number of flows and which extend over a number of operating areas where locomotives are changed because of traction changes dictated by the rail network infrastructure. Wagons are tightly linked to the commodities they transport while locomotives relate to the mass but not the commodity itself; accordingly locomotives are allocated according to the tonnes transported over the particular operating section.

To meet MDS volumes, wagon capacity needs to expand for all TFR businesses. In addition to producing new wagons through TE, there are various life extension strategies are in place to sustain capacity within the business.

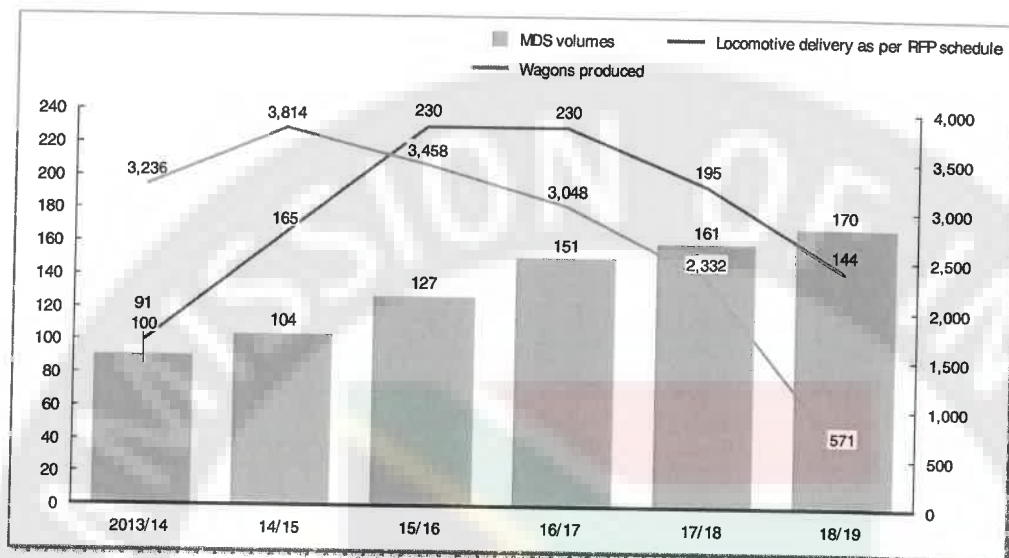
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## Wagon production

### EXHIBIT 35

#### The wagon build programme will deliver wagons in advance of demand thus enabling the delivery of MDS volumes

Millions of tonnes (mt)



The exhibit above shows that wagon production will peak well in advance of MDS volumes and locomotive delivery. Therefore, wagon capacity will likely not be a constraint in the delivery of MDS volumes.

In addition to all these elements, TFR has also developed a change management plan including assimilation of new technology, implementation of the new operational philosophy and execution of the new maintenance strategy. (See section E16, Change management plan)

## 7. Risk management

### 7.1 Risk overview

A transaction of this magnitude in the public sector has inherent risks that should be addressed. Some of the main categories of risks are planning risk, market risk, exchange rate risk, operational readiness risk, transaction governance, legal risk, and exogenous risk. Transnet uses a CURA framework to categorise and assess risks, as per the exhibit below.

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## EXHIBIT 36

- High medium likelihood, high impact
- High medium likelihood, medium impact/ Medium likelihood, high impact

- Medium likelihood, medium impact
- Low likelihood, low impact

## Risk assessment and rating

Risk	Risk ranking	Mitigation action
Planning	I	<ul style="list-style-type: none"> <li>Specialized procurement and planning team</li> <li>Conservative payment regimes to incentivize delivery</li> <li>Optimize number of OEMs for planning required and benefit realized</li> </ul>
Market	I	<ul style="list-style-type: none"> <li>Staged procurement strategy to maintain flexibility in delivery schedule and continuous monitoring of performance against MDS estimates</li> <li>Execute against Market Development Strategy</li> <li>Open sheet costing to unpack key locomotive cost components</li> </ul>
Exchange rate	I	<ul style="list-style-type: none"> <li>Hedge all foreseeable foreign currency-based expenditure as per Transnet policy</li> </ul>
Operational readiness	II	<ul style="list-style-type: none"> <li>Develop people infrastructure plan</li> <li>Upgrade training modules in line with new locomotives</li> <li>Include maintenance staff training in supplier contract</li> </ul>
	II	<ul style="list-style-type: none"> <li>Implementation of 7 year maintenance plan</li> <li>Increase capacity by increasing production lines and shifts</li> <li>Regular review of build programme that aligns TRE factories</li> </ul>
	III	<ul style="list-style-type: none"> <li>Develop infrastructure expansion business plan</li> <li>Implement infrastructure maintenance plan</li> </ul>
	V	<ul style="list-style-type: none"> <li>The IATS' technologies as part of the new locomotives specifications</li> <li>School of Rail to provide appropriate IATS training</li> </ul>
Transaction governance	II	<ul style="list-style-type: none"> <li>Minimize size of working team and minimize dissemination information where possible while enforcing strictest confidentiality</li> <li>Enforce protocol on document sharing and data rooms</li> </ul>
Legal	I	<ul style="list-style-type: none"> <li>Ensure transparent procurement process with accountability</li> <li>Contract with multiple OEMs</li> </ul>
Exogenous	II	<ul style="list-style-type: none"> <li>Explore long term supplier agreements with Eskom while also taking advantage of electric locomotive regenerative powers</li> </ul>

Information and Administrative Technology Services

## 7.2 Planning and delivery risk

There are three elements of delivery risk: approval delays, procurement process delays, and production delays. First, a lack of the appropriate approvals at the required time could result in delays in the transaction process. A major risk is TFR's current PPPFA exemption status that has lapsed. TFR is currently awaiting a PPPFA exemption for the IO64 locomotive procurement that will allow it to procure using the 60:20:20<sup>6</sup> criteria as planned. Second, procurement delays during the tender and negotiation processes may also cause delivery risk and will be managed by the TFR procurement team with a robust procurement strategy, processes, and contingency plans. Third, production risk may arise if a supplier is unable to meet its delivery targets for the IO64 locomotives. Delays of the delivery schedule are a critical risk to Transnet's ability to meet its MDS commitments and the sensitivities are modelled below.

### 7.2.1 Delivery schedule sensitivities

Given expected production and procurement timelines, it is unclear whether the quantities demanded by the RFP (100 diesel locos in 2013/14) are achievable.

Even assuming that the RFP procurement schedules are achieved, as per the base case in Exhibit 37, TFR would experience locomotive shortfalls from 2014 to 2019, peaking at approximately 150 locomotives in 2014-2015, because of the procurement delivery lagging the required fleet demand. This results in a cumulative volume shortfall of 49 million tonnes for the MDS period.

<sup>6</sup> Breakdown of bid evaluation criteria: 60 percent price, 20 percent local supplier development, and 20 percent B-BBEE.

Delivery schedule sensitivity 1 and 2, which factor in delays in procurement and production, show significant impact on volume shortfalls (110 million tonnes and 155 million tonnes respectively), highlighting the importance of expediting delivery schedule to meet MDS targets.

Delivery schedules impact the cash interest cover CIC ratio significantly, decreasing the ratio for 3.6X to 3.0X.

To mitigate the risk of delays, TFR will pursue a number of strategies simultaneously, including contracting multiple suppliers; staging procurement by using international suppliers for initial batches as local supplier development ramps up; and pursuing a conservative payment strategy<sup>7</sup> to incentivise delivery. TFR will also examine mitigation strategies to address the immediate locomotive shortfalls, including leveraging existing contracts, front-loading orders with international suppliers, exploring leasing, and revising the fleet run-out strategy.

## 7.3 Market risk

The inherent risk – which is also the greatest risk to realisation of Transnet’s road to rail strategy – is that anticipated market growth will not materialise. This growth is dependent on South Africa’s economic growth and the growth of its trading partners. Realisation of this risk could result in underutilised assets and diminished financial performance given the high-fixed-cost nature of the business. In addition, given that tariffs are projected to grow at a faster rate than CPI under the MDS plan, there is a risk that tariff increases are not fully realised. Other key business risks include inflated purchase prices (not related to forex changes) and cost increases exceeding forecasts.

### 7.3.1 Volume

Purchasing 1064 locomotives without matched volume demand will lead to a significant loss of value on the transaction. Sensitivities 1 (shortfall vs. MDS) and 2 (growth with GDP) in Exhibit 37 indicate the large swings in NPV due to MDS volumes not materialising with NPV dropping to R1.0 billion and –R20 billion, respectively.

Should sensitivity 2 (the worst case scenario, with volumes growing with GDP) materialise, the gap in NPV from the base case would only be closed with annual tariff increases of 14% during the MDS period. The infeasibility of increasing tariffs at this rate further underscores the importance of a flexible procurement strategy with key determinates regularly reviewed to inform the strategy

Volume sensitivities also have the biggest impact on CIC, with Sensitivity 1 decreasing the cash interest cover ratio (CIC) from 3.3X to 3.1X in 2013/14 and Sensitivity 2 decreasing the CIC from 4.1X to 2.7X from 2015/16 onwards. To mitigate this risk, as mentioned in Section 3, Proposed Solution, TFR should stage procurement to maintain flexibility.

Exhibit 37 demonstrates that tariff growth impacts the NPV value significantly, with CPI-related growth 1 percent lower than the MDS base case of 7 percent, results in an NPV of –R1.5 billion. Accelerated tariff growth 1 percent above MDS results in a positive NPV of R7.8 billion. Tariffs have a marginal impact on CIC with the biggest impact in 2015/16, dropping from 4.0X to 3.9X. To mitigate the value at risk, TFR will execute against its Market Development Strategy, building strong customer satisfaction that will enable it to deliver target volumes.

<sup>7</sup> Bulk of payment made on delivery and acceptance.

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## EXHIBIT 37

**Demand, tariffs, and delivery schedule risks must be managed (1 / 2)**

■ Greatest impact on NPV

	Sensitivities			Impact		
	Base case	Sensitivity 1	Sensitivity 2	Base case	Sensitivity 1	Sensitivity 2
<b>1 Delivery schedule</b>	<ul style="list-style-type: none"> <li>Delivery as per RFP: first 100 diesels in 2013-2014; first 65 electrics in 2014/15</li> </ul>	<ul style="list-style-type: none"> <li>6 months to complete procurement process</li> <li>12-month diesel production</li> <li>22-month electric production</li> <li>~ 120 diesels per year</li> <li>~ 125 electrics per year</li> </ul>	<ul style="list-style-type: none"> <li>8 months to complete procurement process</li> <li>18-month diesel production</li> <li>28-month electric production</li> <li>~ 120 diesels per year</li> <li>~ 125 electrics per year</li> </ul>	<ul style="list-style-type: none"> <li>Volume impact: -49mt</li> <li>Revenue impact: -R13.3bn</li> <li>NPV: R2.7bn</li> <li>CI C: 3.3x to 3.1x (2013/14)</li> </ul>	<ul style="list-style-type: none"> <li>Volume impact: -110mt</li> <li>Revenue impact: -R30.2bn</li> <li>NPV: R2.2bn</li> <li>CI C: 3.6x to 3.0x (2014/15)</li> </ul>	<ul style="list-style-type: none"> <li>Volume impact: -155mt</li> <li>Revenue impact: -R43.1bn</li> <li>NPV: R1.5bn</li> <li>CI C: 3.6x to 3.0x (2014/15)</li> </ul>
<b>2 Volume</b>	<ul style="list-style-type: none"> <li>MDS volumes achieved</li> </ul>	<ul style="list-style-type: none"> <li>Current performance vs. MDS (~ 7% below)</li> </ul>	<ul style="list-style-type: none"> <li>Volumes grow with projected GDP</li> </ul>	<ul style="list-style-type: none"> <li>NPV: R2.7bn</li> </ul>	<ul style="list-style-type: none"> <li>Volume impact: -59mt</li> <li>Revenue impact: -R16.4bn</li> <li>NPV: R1.0bn</li> <li>CI C: 3.3x to 3.1x (2013/14)</li> </ul>	<ul style="list-style-type: none"> <li>Volume impact: -239mt</li> <li>Revenue impact: -R67.9bn</li> <li>NPV: -R20bn</li> <li>CI C: 4.1x to 2.7x (2016/17)</li> </ul>
<b>3 Tariffs</b>	<ul style="list-style-type: none"> <li>~ 7% annual escalation to 2019 and CPI thereafter</li> </ul>	<ul style="list-style-type: none"> <li>Escalation with CPI (~ 6%)</li> </ul>	<ul style="list-style-type: none"> <li>Escalation at more than MDS (8%) to 2019; CPI thereafter</li> </ul>	<ul style="list-style-type: none"> <li>NPV: R2.7bn</li> </ul>	<ul style="list-style-type: none"> <li>Revenue impact: -R5.4bn</li> <li>NPV: -R1.5bn</li> <li>CI C: 4.0x to 3.9x (2015/16)</li> </ul>	<ul style="list-style-type: none"> <li>Revenue impact: +R9.7bn</li> <li>NPV: R7.8bn</li> </ul>

**7.3.2 Purchase price**

There are two elements of price risk. Firstly, there is the risk that TFR will not be able to purchase locomotives at the price estimates in this business case. Purchase price sensitivities detailed in Exhibit 38 indicate a moderate impact on NPV with a 10 percent increase in base price resulting in a reduction in NPV of R1.5 billion. To mitigate the risk of inflated purchase prices, clean sheet costing should be performed to unpack components of the locomotive price and support effective commercial negotiations. Secondly, there is the risk that price escalations in the future will be higher than current assumptions. To mitigate this, Transnet will deploy capable procurement team with a clear and effective contracting strategy.

**7.3.3 Costs**

Exhibit 38 indicates that cost base movements will have a moderate impact on NPV, decreasing it by R3.5 billion for a 5 percent increase in base costs. Costs have been budgeted according to Transnet's Corporate Plan.

**7.4 Forex risk**

Forex movement sensitivities in Exhibit 38 indicate a moderate impact on NPV with a 10 percent devaluation in Rand versus USD resulting in a -R2.4 billion movement in NPV. To mitigate the risk of exchange rate fluctuations, the project will be hedged according to the Group policy.



## EXHIBIT 38

**Demand, tariffs, and delivery schedule risks must be managed (2/ 2)**

	Sensitivities			Impact		
	Base case	Sensitivity 1	Sensitivity 2	Base case	Sensitivity 1	Sensitivity 2
<b>4 Fleet strategy</b>	TFR Fleet Plan	TFR fleet plan with 5% additional efficiencies	TFR Fleet Plan with 10% additional efficiencies	NPV: R2.7bn	NPV: R5.2bn	NPV: R7.6bn
<b>5 Forex</b>	Hedging at current forward rate	10% devaluation of ZAR vs. USD	10% appreciation of ZAR vs. USD	NPV: R2.7bn	NPV: R0.3bn	NPV: R5.2bn
<b>6 Price</b>	USD2.6m (diesel), USD3.5m (electric) before escalation	Price increase by 10% over base case	Price decrease by 10% from base case	NPV: R2.7bn	NPV: R1.2bn	NPV: R4.3bn
<b>7 Costs</b>	Costs classified as locomotives, wagons and infrastructure with an allocation of GFB overheads	5% increase on base costs	5% decrease in base costs	NPV: R2.7bn	NPV: -R0.8bn	NPV: R6.3bn

**7.5 Transaction governance risk**

For a transaction such as this, confidentiality is of the utmost importance to maintain the integrity of the procurement process and prevent unwanted media interest. Failure to uphold strict confidentiality may result in procurement delays or even compromise the entire transaction. This risk will be mitigated by implementing a governance framework that includes a High-Value Tender (HVT) process, a Steering committee to oversee the transaction and protocols (e.g. PMO and data room) to monitor and track the transaction. These items are described in depth in Governance (see section C8) and briefly below:

- A key objective of the High-Value Tender (HVT) Gateway Review Process is to provide real-time guidance, support and assurance against the PPM, tender management control framework, and procurement best practice at each gateway in the tender process.
- The IO64 Locomotives Steering Committee, which is chaired by the Transnet Group Chief Executive, has taken overall ownership of the final draft business case for locomotive investment and the procurement process.
- A PMO has been established at TFR with specific responsibilities for tracking progress towards milestones and establishing and owning a virtual data room to track dissemination of information and flag incidences.

**7.6 Operational readiness risk**

Operational readiness risk refers to TFR's potential inability to integrate the new fleet into its operations because of a lack of skills, infrastructure capacity, long-term maintenance strategy, and poor technology

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integration in the fleet. Operational readiness, as well as Transnet's preparations, are detailed in the operational readiness section 6.

## 7.7 Exogenous risks

### 7.7.1 Energy security

Eskom supply remains constrained as South Africa's reserve margins have dropped to as low as just over 1 percent in the past 6 months compared to best practice of 15 percent. It is almost certain that South Africa will experience electricity shortages in the next few years. The resulting power outages will likely have knock-on effects on industry and slow down economic growth in the medium term as electricity supply continues to lag demand. Transnet faces at least four inter-related major risks related to energy security that must be appropriately mitigated:

- Delays could occur in Eskom's IRP build programme, resulting in a shortage of electricity for South Africa. South Africa hopes to meet forecasted demand by adding 21 GW of new capacity by 2030 through the IRP build programme. However, the programme is running behind schedule. Strike action and equipment failure earlier this year has made it likely that the Medupi plant will miss its deadline of coming online at the end of 2013. IPPs and nuclear power plants will most likely not have the capacity to have any meaningful impact on the supply shortfall in the medium term given the current lack of regulatory frameworks and procurement delays. Furthermore, Eskom has only been granted about 50 percent of the tariff increases it requires to finance infrastructure investment, which may also have long-term implications for Eskom's ability to meet demand.
- Energy costs could increase should the IRP's planned capacity be commissioned on schedule but at a cost much higher than in the initial plan. The cost of electricity is expected to rise at 8 percent per annum in the next 5 years to finance the required infrastructure investment. The planned migration to relatively more expensive clean energy will cause energy costs to rise even further.
- Timely decisions may not be made for electricity supply beyond Kusile capacity, resulting in a shortage of power beyond 2017.
- Electrification infrastructure may not be installed in the appropriate geographies to enable Transnet to capture volumes from new regions as planned.

### 7.7.2 Potential strike action

Given recent history, there is some risk of strike action along the local supply chain over the life of the transaction (i.e., at locomotive assembly factories, TFR, coal mines, and Eskom). Strike action at any point in the supply chain could delay delivery of locomotives, increase costs, and compromise operations of the fleet, resulting in lower volumes moved.

## 8. Governance

To ensure effective governance of the 1064 locomotives transaction, a number of structures have been implemented:

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- A Steering Committee with the primary purpose of providing oversight of the transaction, including developing a business case, submitting this business case to the appropriate governing bodies, and overseeing the procurement process.
- A high-value tender process managed in conjunction with Transnet Internal Audit (TIA) with the mandate to protect against fraud and corruption.
- A Project Management Office (PAO) to manage processes and timelines related to the transaction, including a confidential data room and the management of non-disclosure agreements (NDAs) and access to information.

## 8.1 Steering Committee

The 1064 Locomotives Steering Committee, which is chaired by the Transnet Group Chief Executive, has taken overall ownership of the final draft business case for locomotive investment and the procurement process. Key activities that have been overseen by the Steering Committee include:

- Developing the business case and approval for submission to Transnet's governing bodies.
- Submission of the business case to the Department of Public Enterprise (DPE)
- Appointment of working team members and accountabilities.
- Understanding operational requirements and alignment to business case
- Recommending a procurement strategy, including goals related to environmental issues, supplier development and localisation.
- Understanding and recommending strategies to address all legal ramifications of the locomotive procurement process.
- Ensuring procurement process transparency.

## 8.2 High-Value Tender Process (HVT)

### Objective of the HVT

- A key objective of the High-Value Tender (HVT) Gateway Review Process is to provide real-time guidance, support and assurance against the PPM, tender management control framework, and procurement best practice at each gateway on tenders above R50 million.
- The purpose of the HVT Gateway Review Process is to increase the likelihood that the processes undertaken for these tenders are fair, transparent, equitable, competitive and cost-effective.
- The High-Value Tender (HVT) Gateway Review Process provides a platform for:
  - Providing assurance to BAC and other key stakeholders within Transnet on the effectiveness of the processes followed for high-value tenders.
  - Providing input into updating of procurement procedures and supporting controls, thereby strengthening the overall control environment for high-value tenders over time.
  - Fewer queries/challenges raised by DACs and/or bidders during high-value tenders
  - Reduction in timelines due to reduction in number of re-tenders resulting in faster capacity creation.

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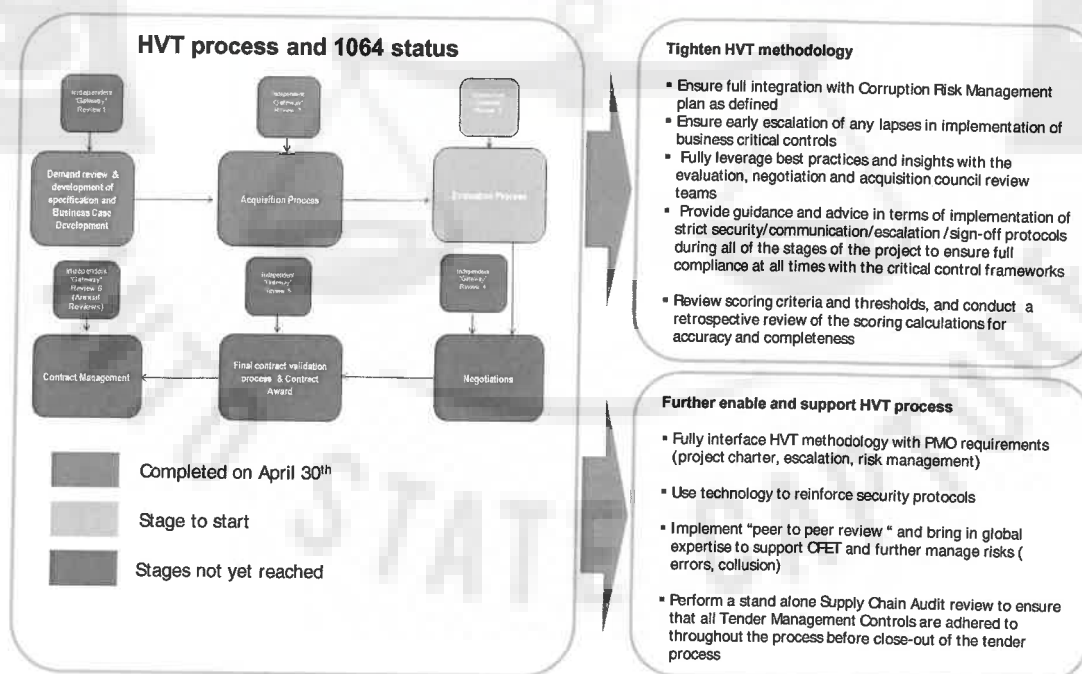
- Rolling out and sharing of best practice across all ODs to improve the efficiency of procurement processes.
- Long term up-skilling of procurement staff.

### Design principles of the HVT

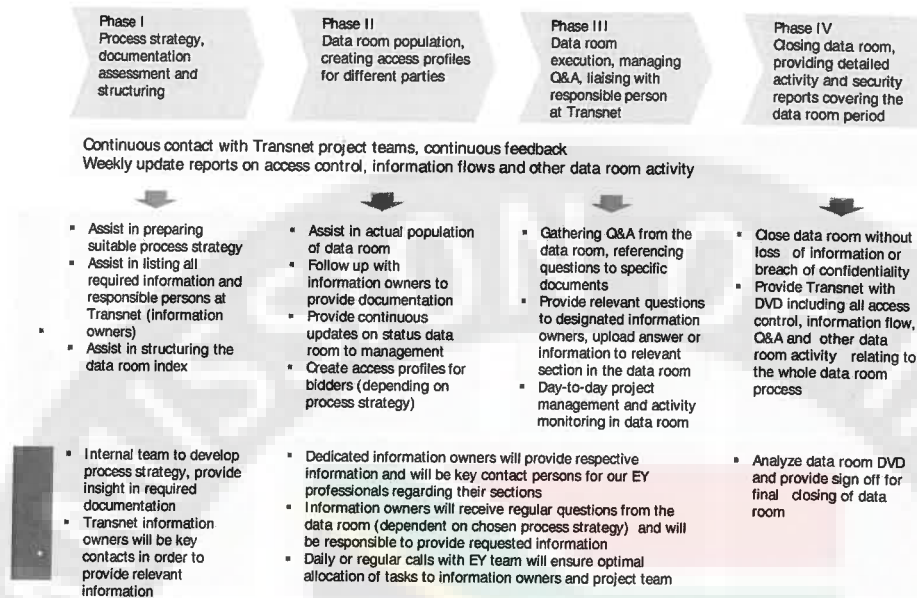
- Drawing on recent lessons learnt from 85 electric and 43 diesel locomotives tenders, enhance the overall tender process for improved efficiency, effectiveness and enhanced control.
- Play a greater role in the planning and coordinating activities to support the PMO.
- Ensure full integration with the Risk (Forensic) management plan developed for the 1064 locomotive acquisition.
- Introduce an international peer-review mechanism to bolster the team structure in the evaluation and negotiation stages to make the award “bullet-proof”.
- Provide end-to-end support including the contracting stage to ensure there is no “leakage” between negotiations and contracting stages.
- Generally place added emphasis on ensuring that TIA is proactively involved at all stages of the gateway review process and are able to fully share best practices and insights with the evaluation, negotiation and acquisition council review teams.

### EXHIBIT 39

#### Approach to the 1064 Locos HVT



## EXHIBIT 40

**Data Room Project Management Process**

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**8.3 Project Management Office (PMO)**

A PMO has been established to monitor process and timelines related to the 1064 locomotives transaction, including the following items:

- Tracking project milestones and critical path and ensuring that progress is on-track against key deliverables.
- Scheduling Steering Committee meetings at the request of the Chair (GCE).
- Following up on action items emerging from SteerCo meetings.
- Ensure implementation of key confidentiality protocols/requirements (e.g., NDAs signed by all parties, data room access is restricted to a small group, etc.).

The PMO is also responsible for owning and managing the transaction's central data repository ("data room"). This includes:

- Maintaining and regularly work with content owners to ensure availability of latest final deliverables (e.g., RFP, Business Case, etc.) and working documents (industry analyses, cost build ups, etc.).
- Categorising and standardising file names to enable easy tracking.
- Most critically, the data room will also provide transparency (as needed) to enable tracking of downloads (who, when, frequency) and assist in internal auditing.

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## 9. Conclusion

Having explored all options, Transnet's purchase of 1064 locomotives is a critical procurement event that will transform the business, increase operational efficiencies, support local supplier development, and enable Transnet to meet its MDS targets.

Key risks are being mitigated: volume volatility will be addressed through flexible procurement, foreign exchange risks are being mitigated through hedging and potential shortfalls are being mitigated through efficient procurement and accelerated locomotive orders. The business will be operationally ready to take on new locomotives and interdependencies are being planned for.

Therefore, Transnet recommends the purchase of 1064 new locomotives (465 diesel, 599 electric) at an estimated purchase price of R38.6 billion.

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## D. PROCUREMENT STRATEGY

The benefits in this section are contingent on:

- Responses from bidders
- PPPFA exemption
- Post-tender negotiations

### 1. Overview

#### 1.1 Contracting strategy

Transnet's contracting strategy includes a number of key aspects, including alignment with the Government of South Africa's socioeconomic policy framework, an open tender process, approaches to ensure flexibility and an appropriate number of suppliers. The outcome of Transnet's contracting strategy is subject to bid evaluations and supplier negotiations.

##### Socioeconomic policy and localisation

The transaction will be aligned with the Government of South Africa's socioeconomic policy framework, including CSDP, NGP, NDP, SSI, and IPAP2. In addition, local content will be increased through skills development, job creation and technology transfer. Transnet's programmatic procurement strategy follows threshold requirements for locomotive localisation, in line with those designated by the National Treasury (i.e., 55 percent for diesel, 60 percent for electrical locomotives). To ensure sufficient locomotive production to enable development of local industry in South Africa, Transnet will procure a minimum number of locomotives per year, which will be agreed upon with vendors through negotiations.

A six-step evaluation methodology will be applied, based on the evaluation criteria: price 60 percent; supplier development 20 percent; and Broad-Based Black Economic Empowerment (B-BBEE) 20 percent.

##### Open tender process

Transnet is approaching the market through an open tender process to attract the broadest possible supplier base and maximise value for South Africa and Transnet. Tenders have been issued for both locomotive types. The RFP closure date is April 28th, 2013. Integrity of the transaction will be ensured through a High Value Tender (HVT) process overseen by Transnet Internal Audit (TIA).

Once OEMs are selected through the open tender process, Transnet reserves the right to contract independently with the chosen OEMs for the transfer of skills and support of maintenance activities.

The aforementioned localisation requirements suggest an opportunity for TE to be involved in locomotive production. However, TE will compete with other bidders for local content. The selected OEMs will in turn partner with the most competitive local supplier(s).

##### Flexibility

There will be flexibility to adapt procurement to the way locomotive demand materialises – based on volumes achieved and operational efficiencies realised. Transnet will conduct an annual forward review of its locomotive fleet requirements. This long-term view will enable it to amend order quantities as required while sustaining local industry development, providing sufficient notice to account for the production lead times of manufacturers (e.g., 18-24 months). The ultimate number of locomotives

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procured is assumed to remain fixed, as is the aforementioned minimum quantity, but flexible procurement could impact the timing by which Transnet acquires its 1064 locomotives subject to annual reviews of Transnet's fleet requirements.

### Number of suppliers

A number of factors will inform the decision on the number of suppliers Transnet will select through the procurement process:

- Ability to deliver against timeline. To fast-track timelines and mitigate potential locomotive shortfalls, Transnet may procure from more than one supplier in parallel, which could increase the number of suppliers needed.
- Ability to achieve standardisation. Transnet's new maintenance philosophy will require interoperability. This will lead to a stronger balance sheet and reduce the requirement for spares. However, this could reduce the number of suppliers needed.
- Ability to secure supply and price. Security of supply and protection against potential price escalations – both for locomotive prices and after-sales support and maintenance – suggest the need for more than one supplier.

## 1.2 Procurement overview

In accordance with Transnet's Board approved Supply Chain Policy Transnet shall apply Section 217 of the Constitution of the Republic of South Africa, (Act No 108 of 1996, as amended) by contracting for goods and services in accordance with a system which is fair, equitable, transparent, competitive and cost effective.

Transnet shall reform all its procurement activities in order to align them in an integrated manner with national developmental goals, relevant legislation that enforces the goals and relevant governmental supply chain management approaches that are cost-effective.

Transnet has been mandated by government to assist in lowering the cost of doing business in South Africa, enabling economic growth and security of supply through appropriate ports, rail and pipeline infrastructure as well as operations in a cost effective and efficient manner within acceptable benchmark standards.

The aim of the Supply Chain Policy is to ensure that Transnet gets value for money in the procurement of goods and services in order to fulfil its mandate while redressing the economic imbalances that have been caused by unfair discrimination in the past.

The focus for Transnet with respect to its SD activities will involve, among others, the leveraging of its procurement to increase local content through the development of skills, job creation and technology transfer. This will lead to decreased costs in its supply chain and an overall increase in its competitiveness. Transnet's aim is to build stronger and more meaningful relationships with its suppliers, to find mutually beneficial mechanisms to extract maximum value.

Transnet's procurement of rolling stock and in particular the 1064 locomotives provides a unique opportunity for both localised assembly and localised manufacture of component parts, but in addition an opportunity to strategically re-position the rolling stock industry. This is particularly true of the role

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and function of the largest incumbent rolling stock manufacturer in South Africa, Transnet Engineering as well as players in the private sector.

There is a drive by Government to increase the localisation of rolling stock. Government has strong leverage over the procurement of these assets as they reside almost completely within state owned companies, predominantly in Transnet and PRASA. Other sectors such as mining and the power sector bear close similarities in the production processes and heavy engineering requirements associated with rolling stock and thus the manufacturing sector would benefit substantially through the additional manufacturing capability and demand that this order would provide.

The Department of Trade and Industry (DTI) have identified the localisation opportunities in rolling stock as part of a number of key sectors within the industrialisation programme of South Africa as contained within the Industrial Policy Action Plan (2011/12). Transnet has identified the same opportunities as part of its MDS and through its Supplier Development Plan seeks to develop and empower local business providing goods and services to the parastatal.

## 2. Procurement strategy

Transnet promotes open competitive bidding as its default procurement mechanism since this is the best means of obtaining value for money. All Transnet procurement shall be done in a way that ensures that Transnet obtains quality goods and services at competitive prices. It was therefore decided to follow an open tender process for the locomotives acquisitions. In crafting the procurement strategy, which informed the RFPs, the following aspects were focussed on and considered.

### Transformation and Empowerment

In order to address economic imbalances that have been caused by unfair discrimination, government developed the black economic empowerment policy.

- Black economic empowerment is broad-based;
- Black economic empowerment is an inclusive process;
- Black economic empowerment is associated with good governance; and
- Black economic empowerment is part of the country's growth strategy.

Government uses a number of instruments to achieve black economic empowerment. It has developed a "balanced scorecard" to measure progress made in achieving B-BBEE objectives by enterprises and sectors. This has been included in the tender.

In evaluating and awarding the locomotive tenders, Transnet shall award preference points in regard to the contribution that a supplier makes towards the achievement of broad-based black economic empowerment objectives, namely.

- Ownership and Control;
- Management;
- Skills Development;
- Employment Equity;
- Preferential Procurement;

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- Enterprise Development; and
- Socio-economic Development.

Additionally, Transnet will award further recognition points for B-BBEE based on the extent to which a supplier commits to improving its B-BBEE status over the contract period. This is referred to as Further Recognition Criteria (FRC).

B-BBEE has been set as 20 points in the overall scoring for the tenders assuming PPPFA exemption is given.

### **Job creation**

Transnet must be a major contributor to job creation. Therefore, Transnet's procurement shall focus consistently on areas that have the potential for creating employment on a large scale in order to contribute substantially to the national employment creation effort. As the main economic agent in the South African transport and logistics infrastructure, Transnet's planned capital expenditure forms the big bulk of Transnet's procurement spend. This is the single largest procurement spend of the MDS and as such has been planned on a programmatic basis so as to obtain maximum benefit to achieve industrialisation which will in turn create long-term sustainable job opportunities particularly among the previously disadvantaged members of the South African society.

### **Local Content**

This procurement has been designed in a manner that builds industry capacity around its build programme. Transnet has identified this as its key programmatic procurement and consequently developed a long-term procurement and local content plan. Tender requirements include local procurement and supplier development (SD), which will also address the transformation agenda.

Transnet has included the local content percentages as detailed in the National Treasury Instruction Note issued on 16<sup>th</sup> July 2012 that highlights a local content percentage of 55 percent for diesel and 60 percent for electric locomotives. This is in line with the DTI's Industrial Policy Action Plan II in driving strategic fleets. Local content is included as a threshold.

Current local content for diesel locomotives and for electric locomotives has increased over the recent acquisitions due to the CSDP. The technology and competence in the production of locomotives occupy a different space in the challenge to localise in comparison to wagons. Globally, there are few large suppliers or OEMs of locomotives and their market dominance of the technology, the supply chain, and the know-how require nuanced and technology capture localisation strategies in order to create real sustainable local manufacturing benefits.

The approach adopted by Transnet has been to stipulate the following required minimum threshold requirements for locomotive localisation that are in line with those designated by National Treasury as highlighted above:

1. 55 percent for diesel locomotives; and
2. 60 percent for electric locomotives.

Transnet's assessment of this opportunity is that the economies of scale in purchasing 1064 locomotives are sufficiently large so as to create localisation opportunities that could elevate percentage localisation above these minimum thresholds at very little additional price premium to Transnet.

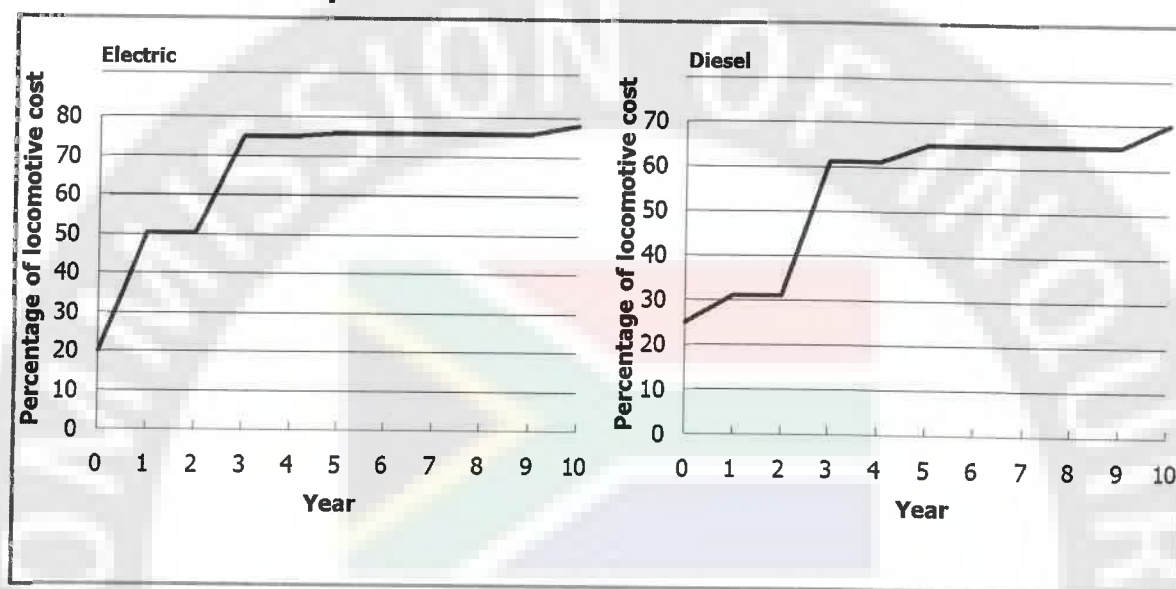
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South African component suppliers are not yet able to produce the inputs and require build-up to reach substantial levels of localisation. Transnet estimates that this will take at least a full 3 years to complete, even though there may be certain components (particularly those used in electric locomotives) that can be localised much earlier.

#### EXHIBIT 41

### Estimated time to localise localisable components across diesel and electric locomotive platforms



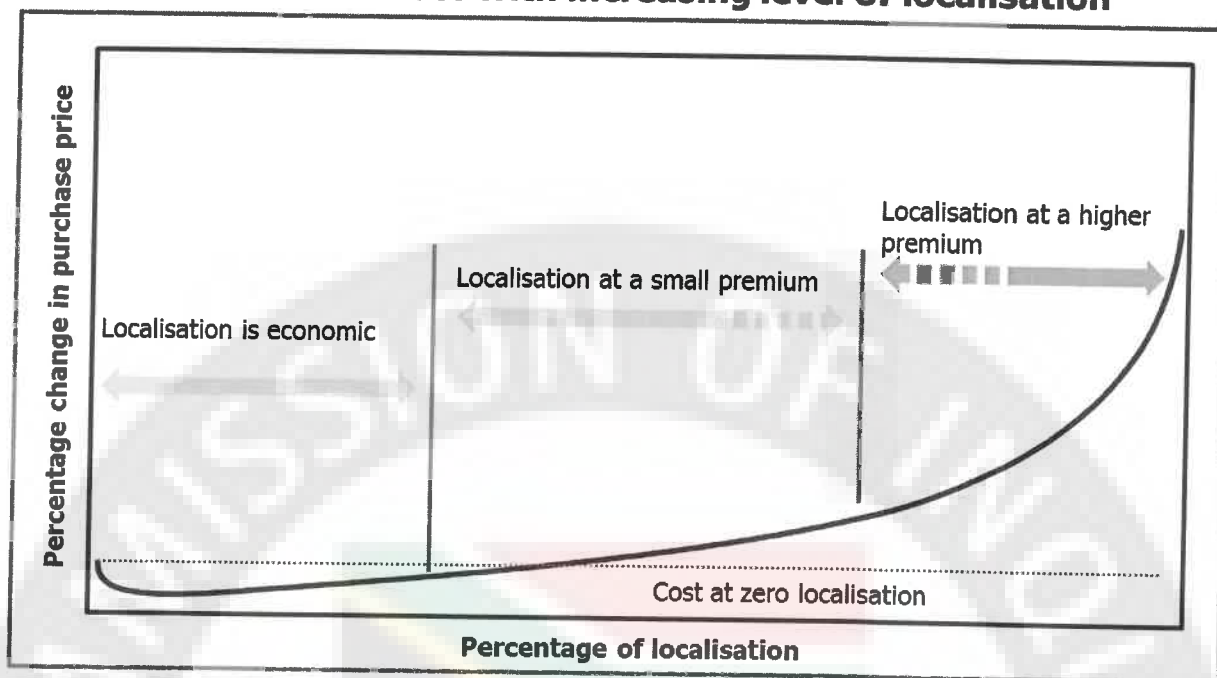
A detailed component analysis undertaken by Transnet demonstrates that price premium is not static across the percentage rise in local content, but rather is informed by the cost of production of the individual components making up a locomotive.

In certain areas, particularly in assembly and fabrication, South African localisation is economic especially given the order size of 465 diesels and 599 electric locomotives.

For other components, although not yet localised, a relatively small price premium is evident. In these cases similar industrial production capability is already available in South Africa and needs to be re-aligned to the production needs of locomotive components. The capital equipment setup cost is low for components such as under-frames, radiators, transformers, etc.

However, as localisation requirements increase, certain components begin to have substantial price premiums associated with their local production. Examples include engines, control systems, specialised braking equipment, etc.

## EXHIBIT 42

**Cost to localise increases with increasing level of localisation**

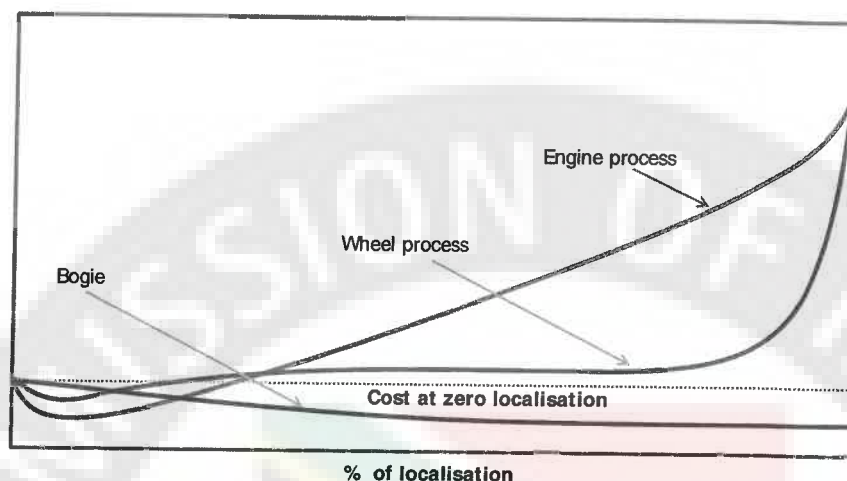
A grey zone exists where the limit of localisation is dependent on OEM investment in manufacturing in South Africa. Part of the way the Transnet RFP is structured is to attempt to capture as much localisation as possible within the grey zone without overly inflating the price premium paid.

As each component within a locomotive has its own price to localisation curve, Transnet could expect to pay different premiums for each sub-set of local component manufacture. By way of an example:

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## EXHIBIT 43

**Each component within a locomotive has its own price verse localisation curve**



1. **Engine process.** Initial benefits are achieved through utilising cheaper skilled labour in assembly. Increased localisation comes at a high cost as specialised parts could only be manufactured locally in small production runs with insufficient economies of scale to bring down the unit costs of such parts.
2. **Wheel process.** Small benefits are achieved through some local assembly and a slight premium is paid as forging is undertaken locally. As the manufacture of a complete bearing moves locally, the costs increase steeply due to small, highly technical bearing production runs; and
3. **Bogie.** Benefits are achieved through utilising a competitive manufacturing process and reduced transport costs of not having to bring bulky items such as bogies to SA.

One of the characteristic of the curves for many component items analysed is that the price-premium grows rapidly at high levels of local content requirements (80 percent to 100 percent). By way of an example, for wheel assembly, much of the wheel could be localised at relatively low cost, including the bearings. However, the rollers within each bearing are parts that cannot be economically localised and are produced at just a few global sites. This is due to technological complexity in the production process, safety criticality of the item, and the need for high production volumes to make the production runs cost-efficient. By implication, forcing high localisation requirements on such components will result in uneconomic price premiums as well as possible compromises in safety critical items such as braking systems, wheel assemblies, etc.

Transnet's detailed component analysis is summarised into 14 component groups for both diesel and electric locomotives. The cost structure is based on 18 separate bills of materials obtained from the current assembly and maintenance of locomotives and thus closely emulates current market pricing.

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Target localisation is based on a component by component assessment of localisation potential for each particular component within a component group. Because of the complexity and high cost to localise certain individual components (often small components), the analysis seldom reaches full 100 percent local content as is evident in the tables below. The cost to localise is based on an assessment of the capital cost to set up a production plant for the various components within each category. The time frame to localise is based on a similar approach. The findings demonstrate the potential to localise overall local content in excess of the Treasury Note requirements of 55 percent and 60 percent for a diesel and electric locomotive.

## EXHIBIT 44

### Electric locomotive pricing per component set, current and target localisation, and estimated cost to localise

Percent

Categories	Total cost %	Current local %	Target local %	Percentage of	
				Cost to local	Accum local
Locomotive assembly	21	19	20	0.29	20
Main transformer	16	0	13	1.33	33
Main power traction system incl. aux systems	15	0	8	0.87	41
Main power traction motors	14	0	11	6.33	53
Propulsion switch gear	9	0	6	1.53	58
Bogie	4	0	4	0.25	62
Cooling, ventilation, and filtration systems	4	0	3	0.80	65
Locomotive control systems	4	0	2	4.90	67
Drivers cab	3	1	3	0.15	70
Auxiliary supply	3	0	3	2.12	73
Wheel system	2	0	2	9.10	74
Pneumatic supply system	1	0	1	5.81	76
Braking system	1	0	0	3.94	76
Coupling system	1	0	1	1.00	77
Other	1	0	0		
<b>Grand total</b>	<b>100%</b>	<b>21%</b>	<b>77%</b>		

## EXHIBIT 45

### Diesel locomotive pricing per component set, current and target localisation, and estimated cost to localise

Percent

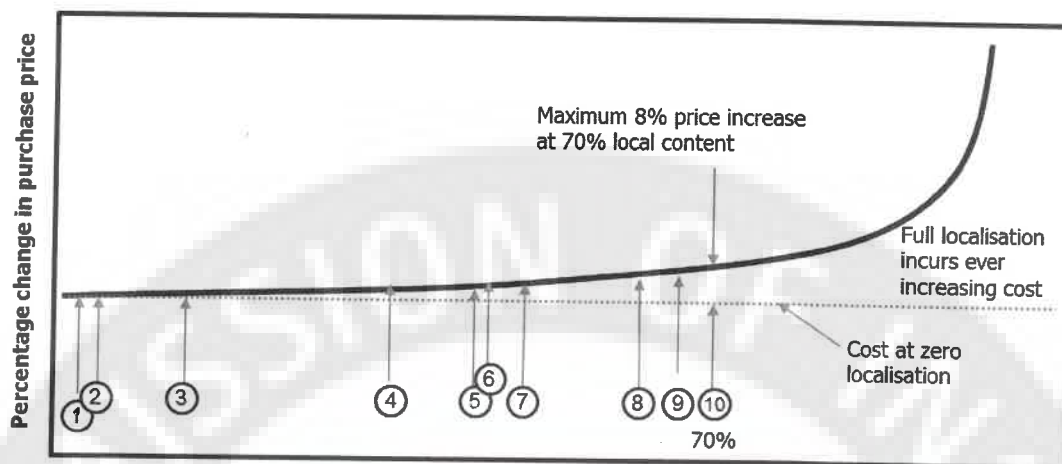
Categories	Total cost %	Current local %	Target local %	Percentage of	
				Cost to local	Accum local
Drivers cab	2	0	2	0.27	2
Bogie	4	3	4	0.27	6
Locomotive assembly	22	20	22	0.32	28
Cooling, ventilation, and filtration systems	5	0	4	0.68	32
Main power traction system incl. aux systems	23	0	10	0.82	42
Coupling system	1	0	1	1.03	43
Underframe (i-beams)	1	0	1	1.25	44
Locomotive control systems	6	0	3	3.44	47
Braking system	2	0	0	5.59	47
Main power traction motors	17	0	14	6.33	61
Wheel system	3	0	3	6.45	64
Pneumatic supply system	2	0	1	7.38	65
Engine system	13	0	5	8.07	70
Other	1	0	0		
<b>Grand total</b>	<b>100%</b>	<b>24%</b>	<b>70%</b>		

As is demonstrated in these tables, the difference between current and expected 3- to 5-year localisation requirements are significant. The relatively easy localisation opportunities have already largely been taken and further localisation will require not only additional capital investment but also the appropriate testing and quality control of both the production facility and the parts produced.



## EXHIBIT 46

## Local content of 70 percent overall incurs up to an 8 percent increase in purchase price



Percentage of localisation					
Item #	Category	% increase	Item #	Category	% increase
1	Drivers cab	0.27	6	Aux supply	2.1
2	Bogie	0.27	7	Control system	3.4
3	Loco assembly	0.33	8	Traction motors	6.3
4	Main transformer	1.3	9	Wheel system	6.5
5	Propswitch gear	1.5	10	Engine system	8.0

A key finding of the analysis is that the nature of the price premium curve as shown above for a generic locomotive is such that Transnet could achieve a high level of localisation at relatively small price premiums. For diesel and electric locomotives, localisation of 70 percent and 77 percent respectively could be achieved at an average price premium of less than 2 percent. This percentage is calculated as the average price premium paid for a locomotive – i.e., including some items with no price premium and others such as engine assembly with an estimated 8 percent price premium.

This is provided that three conditions are met:

1. That components are localised up to a level that is economically viable (i.e., that price premiums for each set of component are economic);
2. That realistic time frame targets are set to reach full localisation potential. Shortening these time periods would in itself result in considerable uneconomic price premiums; and
3. That some minimum annual order size for locomotive production is guaranteed to the market over the life of the IO64 locomotive supply contracts. The analysis indicates that a guaranteed minimum order size of 50 diesel and 70 electric locomotives is required annually for the life of the contract.

### The Benefits of Localisation

The benefits associated with localisation are considerable and, based on the estimates for 70 percent localisation for diesel locomotives and 77 percent for electric locomotives, the following benefits are evident:

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**Enterprise benefits to Transnet** are considerable and include the design and integration capabilities that would be passed to Transnet Engineering through a structured programme of localisation; an enhanced Research and Development base in conjunction with the selected OEMs to develop and refine technologies for both the South African and African locomotive market; and re-engineering capability to design and provide technologies aligned to the needs of the South African rail market.

**Benefits to the manufacturing sector** will include key industrial capability in:

- Traction motors and traction control equipment;
- Locomotive control system capability;
- Locomotive electrical systems; and
- Large diesel engine capability.

In addition, there will be considerable benefits in related industries such as: heavy engineering, component manufacture such as found in the auto sector; electromechanical, electrical machinery, and software systems and design.

**Benefits to the South African economy** include benefits to a number of related sectors that would enhance capability and export potential. There would be R78 billion in economic impact for South Africa at a small localisation premium of 2 percent, implying a cost of localisation of 2 percent given expected levels of local supplier development. The resulting benefit-to-cost ratio of localisation is thus greater than 125 to 1 in favour of localisation. Multiplier benefits would be substantial and for each Rand of localised production there is an expected average multiplier of R2.74 across the economy.

#### **Procurement strategy summary**

- Issue open tenders for both locomotive types.
- Local content thresholds of 55 percent and 60 percent for diesel and electric locomotives respectively as per PPPFA and National Treasury Instruction Note.
- SD/BBBEE (40 percent) threshold.
- Technical threshold.
- Stage 2 will comprise price (60 percent), Supplier Development (20 percent), and B-BBEE (20 percent).
- B-BBEE included for scorecard (10 points) and FRC (10 points).

#### **Reasons for following an open tender programmatic process**

To ensure the bidding process is as fair and transparent as possible. As a long-term procurement event, open tender will identify suppliers with whom TFR can partner, to ensure value for money and compliance with Transnet's support for the NGP and government objectives. The programmatic nature of this purchase requires TFR to find suppliers who can commit to delivering on governments industrialisation objectives, which include:

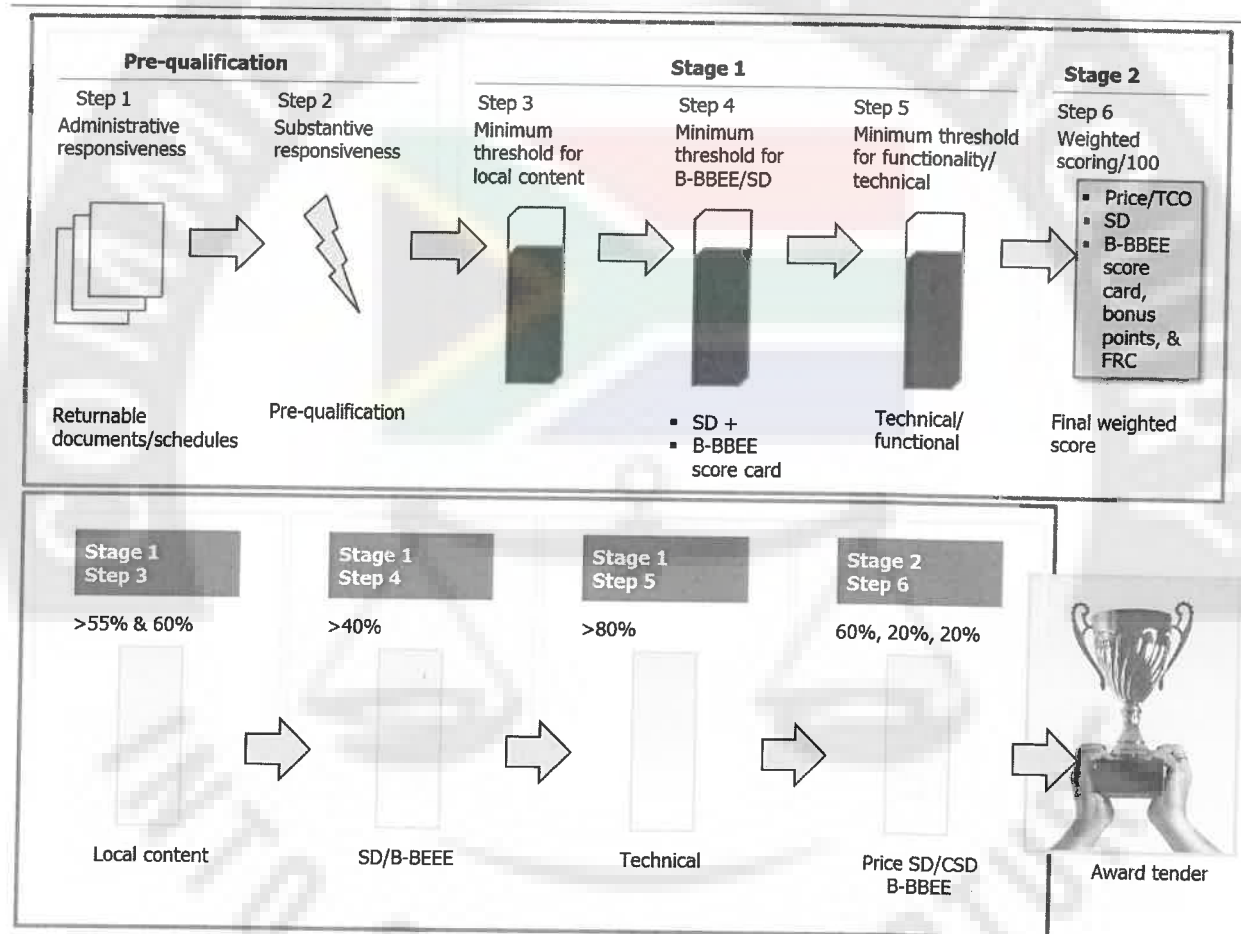
- Localisation and industrialisation
- The creation of jobs
- The transfer of technical skills, IP, and know-how to the South African industry

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- Increasing the capability and capacity of the South African rolling stock industry
- Reducing capital leakage
- Increasing South Africa's exports
- Integrating of South African suppliers into the locomotive OEMs' global supply chains
- Long-term security of demand will allow suppliers to commit to investing in SA operations
- Suppliers must commit to transferring skills to SA suppliers to allow for the long-term maintenance of the locomotives post warranty period.

## Evaluation methodology

### EXHIBIT 47



- Stage 1 with minimum disqualifying thresholds, will follow a three-step process, starting with the Local Content (Step 3), followed by the SD/B-BBEE (Step 4) evaluation, and finally the Technical (Step 5) evaluation. Stage 2 will comprise the commercial (Step 6) evaluation including price (60 percent) and supplier development (20 percent) and B-BBEE (20 percent)
- In line with categories for local content identified by the DTI, 55 percent and 60 percent minimum threshold of local content will be applicable to diesel and electric locomotives, respectively. These thresholds will need to be equalled or exceeded for the submission to qualify for SD/B-BBEE evaluation.

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- A minimum threshold of 40 percent will be set for the SD/B-BBEE criteria evaluation. This threshold needs to be equalled or exceeded for the submission to qualify for Step 5.
- A minimum threshold of 80 percent will be set for the technical criteria evaluation. This threshold needs to be equalled or exceeded for the submission to qualify for Step 6.
- Once the minimum criteria thresholds are both met or exceeded, the supplier's submissions will be evaluated against price, SD, and B-BBEE.

### 3. Localisation

Since 2010, there have been significant changes in the South African policy environment, as well as to Transnet's strategic objectives. The New Growth Path (NGP) was launched in 2010 and at the end of 2011, the National Development Plan (NDP). Transnet realised the need and opportunity to develop a more holistic approach to supplier development, incorporating changes to the policy environment, lessons learned from previous SD initiatives, and Transnet's development of a holistic Supply Chain Policy and Framework, as well as its new corporate strategy, the MDS.

The South African government has highlighted supplier development as one of the ways with which to improve the local economy. SD is achieved by "procuring in such a way as to increase the competitiveness, capacity and capability of the local supply base, where there are comparative advantages and potential competitive advantages of local supply" and is derived from the Competitive Supplier Development Programme (CSDP), which is a government initiative run by the Department of Public Enterprises. At Transnet, SD is driven through procurement with a focus on delivering transformation and empowerment as well as economic growth.

The transformation element ensures that procurement transactions bring historically disadvantaged individuals (HDIs) into the economic mainstream through the advancement of HDI ownership. It addresses economic disparities and entrenched social inequalities through the use of the B-BBEE scorecard and the seven pillars which make up the score card.

Growth of the local supply base is achieved through leveraging high-value procurement to achieve (where applicable) industrialisation, localisation, technology transfer, job creation and preservation, developing industry specific skills, enterprise development (ED), and rural integration.

The above has been factored into the locomotive tenders as has been highlighted in the Procurement Strategy Section and as is evidenced in the evaluation methodology.

Transnet has extracted SD value through some benchmark Competitive Supplier Development Programme (CSDP) locomotive acquisition contracts. These include:

- 100 X General Electric Locomotives – 54 percent SD commitment
- General Electric Long Term Parts Agreement – 12 percent SD commitment
- Electro-motive Diesel Long Term Parts Agreement – 41 percent SD commitment
- 32 X Mitsui/Venus Locomotives – 40 percent SD commitment
- 50 X Electro-motive Diesel Locomotives – 67 percent SD commitment
- 44 X Mitsui/Venus Locomotives – 39 percent SD commitment
- 43 X General Electric Locomotives – 65 percent SD commitment.

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These commitments have been achieved with purchases being made sporadically and on a transactional basis; therefore, we expect greater benefit to be achieved from a programmatic procurement of this nature given the size and stable pattern of demand it creates. The benefit will obviously be limited if PPPFA exemption is not obtained.

Government envisages SOC expenditure as one of the key levers to achieve transformation and growth. The 1064 locomotive procurement provides a great opportunity to fulfil government's SD aspirations.

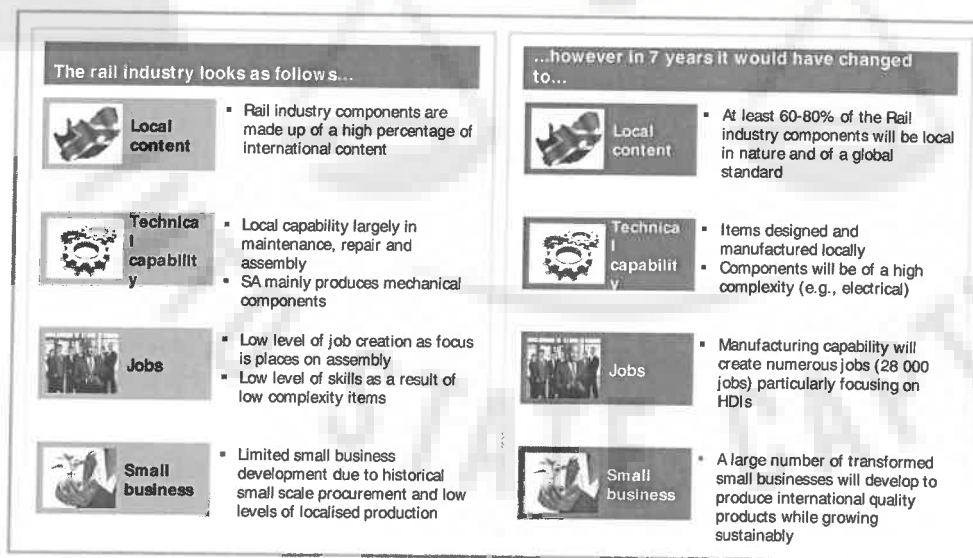
This spend will be leveraged to extract SD value in a manner that increases employment and also facilitates diversification beyond South Africa's current reliance on traditional commodities and non-tradable services. It will address the shortfall in artisan and technical skills by increasing the education level and skills capability. An equitable socio-economic society will be promoted through the integration of HDIs into the mainstream economy within the rail industry. Small businesses will be enabled in a manner that allows them to successfully compete in the South African economy. There will also be rural development throughout the country ensuring the sustainability of these communities.

Transnet's main focus with regards to these two tenders will be around the industrialisation of the rail industry. This spend can be leveraged in order to industrialise this sector and create sustainability. A large number of jobs will be created while ensuring that the local industry produces world-class products that can be exported. There will also be a large portion of spend on maintenance and upgrading of new and existing locomotives and wagons, which will ensure sustainability.

Our intention is to take the rail industry as it stands and fundamentally shift it within 7 years. This shift is illustrated in below.

#### EXHIBIT 48

##### Fundamental shift of the Rail industry over the next 7 years





#### 4. Comparison of benefits between 90/10 and 60/20/20 methodologies

The 60/20/20 approach to localisation targets will create 30 percent greater total economic benefits (40 percent greater net benefits) at a significantly lower localisation cost, as shown in the exhibit below. Calculations are based on a total contract value of R38.6 billion.

The 60/20/20 approach will facilitate a local spend of an estimated R28.4 billion at an additional cost of R621 million. The overall benefit to the South African economy, factoring in the multiplier effect, is R78 billion (a net benefit R77 billion after deducting expected costs); this assumes high localisation levels of 70 percent for Diesels and 77 percent for Electrics. The 90/10 approach will facilitate local spend of an estimated R22.1 billion at an additional cost of R4.5 to 6.0 billion. The benefit to the South African economy based on the multiplier effect is R 61 billion (a net benefit ~R56 billion). This is based on 55 percent localisation for Diesels and 60 percent for Electrics.

EXHIBIT 49

**The 60/20/20 approach to localisation will provide more benefits compared to the 90/10 approach**

	60/20/20			90/10		
	Propose local spend (Rm)	Additional cost to localise (Rm)	Benefits through multiplier effect (Rm)	Proposed local spend (Rm)	Additional cost to localise (Rm) range	Benefits through multiplier effect (Rm)
Diesel locomotive	9,803	250	26,860	7,653	1,222 to 1,697	20,970
Electrical locomotive	18,626	371	51,036	14,467	3,235 to 4,313	39,639
Total	28,429	621	77,896	22,120	4,457 to 6,010	60,609

## E. SUPPORTING DOCUMENTATION

### 1. 7-year commodity growth

	GENERAL FREIGHT GROUP FLOW	YEAR							Tons Increase	MAJOR ASSUMPTIONS/ INITIATIVES
		2013/14 Budget	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20		
AGRICULTURE & BULK LIQUID	GRAIN, MAIZE, WHEAT & FOODSTUFFS	4,184	4,477	4,950	5,844	6,055	6,304	6,635	2,451	Domestic harvests average between 10mt pa - 14mt pa, weather permitting. Demand projection represents TFRs increased share of total market demand as more traffic is shifted from road to rail. Agri-logistics and rural infrastructure - Transnet's rail and port capacity to support agri-logistics including branch lines development
	COMMODITIES NOT CLASSIFIED IN GROUPS	2,762	2,822	3,101	3,796	4,018	4,147	4,335	1,573	OTHER AGRICULTURE PRODUCE for instance BEANS, FMOG (SUGAR etc) as well as GASSES. Demand projections indicates increased volumes by rail in support of the NMPP. Also, there has been increased overborder demand from Botswana and Mozambique
	TIMBER	2,490	2,576	2,894	3,363	3,485	3,646	5,118	2,628	- Sappi Ngodwana - Production expansion will increase demand in 2013 by 115,000 tons from Piet Retief and Lothair areas. The plant will be completed in 2013. - The expansion of the Sappi SAICOR Wood yard rail to increase timber intake by 75,000 pa by 2013. Mondi Iswepe building new private siding
	PETROLEUM LIQUIDS (DOMESTIC)	1,381	1,381	1,472	1,643	1,691	1,731	1,750	0,369	
	IRON ORE (SWAZILAND HEMATITE)	0,000	1,210	1,210	1,210	1,210	1,210	1,210	1,210	
	CHEMICALS	0,801	0,871	0,895	0,975	0,983	0,976	1,009	0,208	
	PETROLEUM LIQUIDS (OVERBOARDER)	0,790	0,790	0,830	0,897	0,921	0,944	0,956	0,166	
	COAL (DOMESTIC - OTHERS)	0,104	0,108	0,109	0,115	0,118	0,118	0,124	0,020	
	LIME	0,061	0,062	0,069	0,073	0,076	0,077	0,080	0,019	
	ROCK PHOSPHATE (DOMESTIC OTHER)	0,054	0,056	0,062	0,067	0,069	0,071	0,073	0,019	
COAL	COAL (EXPORT RICHARDS BAY - DBT)	0,030	0,033	0,034	0,034	0,034	0,034	0,033	0,002	
	CONTAINERS (3M, 6M, 12M & NON-ISOSTANDARD)	0,001	0,001	0,001	0,001	0,001	0,001	0,001	0,000	
	TOTAL AGRICULTURE & BULK LIQUID	12,659	14,388	15,628	18,018	18,661	19,259	21,324	8,665	
	COAL (ESKOM - MAJUBA)	8,794	9,392	12,054	13,836	13,816	14,000	14,000	5,206	Eskom road to rail migration plan. Eskom Majuba heavy haul line coming on stream in 2014 - increase tons to 14mt
	COAL (EXPORT TON/MAPLITO)	3,680	4,376	5,925	6,421	9,049	11,735	10,964	7,284	TOM expansion plan is to grow to 16mt in the next five years due to Limpopo projects (Vele and Makhado).
	COAL (ESKOM - TUTUKA)	0,000	0,000	0,000	5,500	6,000	6,500	7,500	7,500	Thuthuka will use container rail solutions for the next two years and tippler solutions thereafter. TFR Business case for these have been approved.
	COAL (DOMESTIC - OTHERS)	1,881	2,696	2,825	2,889	3,047	3,047	3,388	1,507	Coal deliveries to the Mondi and SAPPi papermills, will increase based on the growth in electricity usage over the next year.
	COAL (EXPORT DURBAN WESTS)	1,434	1,771	2,237	2,940	2,940	2,960	2,705	1,272	Transnet: SA Coal transportation system development, Export coal line, Waterberg developments, Swazi Rail link, Coal backbone capacity, Eskom Road to Rail, Cross-border connections
	COAL (ESKOM - GROOTVLEI)	0,000	0,000	0,000	0,000	5,000	5,000	5,000	5,000	Grootvlei will use container rail solutions for the next two years and tippler solutions thereafter. TFR Business case for these have been approved.
	COAL (EXPORT RICHARDS BAY NAMTRATE)	0,638	1,046	1,183	1,854	1,854	1,854	1,998	1,360	Transnet: SA Coal transportation system development, Export coal line, Waterberg developments, Swazi Rail link, Coal backbone capacity, Eskom Road to Rail, Cross-border connections
EXPORT IRON ORE LINE & MANGANESE	COAL (ESKOM - ARNOT)	0,000	0,000	0,000	2,000	2,000	2,000	2,000	2,000	Commissioning and conclusion of the Arnot Powerstation
	COAL (EXPORT RICHARDS BAY - DBT)	0,430	0,637	0,702	0,901	0,901	0,901	0,969	0,540	
	TOTAL COAL	16,856	19,918	24,927	36,341	44,606	47,997	48,525	31,669	
	MANGANESE (EXPORT - ALCOABAY PE)	5,100	5,100	8,000	9,897	13,138	14,357	16,000	10,900	SA's share of world output set to grow with junior miners and organic growth of traditional clients. New entrants are expected to commence with their respective productions in 2013/14. Global economy recovers from the current slump and demand from China does not subside. 16mt pa Manganese expansion in Ngqura materialises. South Eastern node & corridor development - Transnet: Ngqura Transshipment Hub, integrated CDC development and Manganese Export Corridor.
	MANGANESE (DOMESTIC)	1,950	1,950	1,900	1,567	1,560	1,705	1,900	-0,050	
	MANGANESE (EXPORT DURBAN)	1,300	1,300	1,200	0,989	0,164	0,179	0,200	-1,100	
	FERRO-MANGANESE	0,255	0,266	0,375	0,495	0,598	0,691	0,700	0,445	
	COAL (DOMESTIC - OTHERS)	0,095	0,100	0,100	0,100	0,100	0,100	0,100	0,005	
EXPORT IRON ORE LINE & MANGANESE	TOTAL EXPORT IRON ORE LINE & MANGANESE	8,700	8,716	11,575	13,047	15,560	17,032	18,900	10,200	

INTERMODAL	CONTAINERS (3M, 6M, 12M & NON-ISOSTANDARD)	8.852	8.096	9.273	10.293	10.358	10.883	11.647	2.796	Linked to GDP growth. Refurbishment and establishment of terminals. Containerising mineral products at key loading sites. Development of Freight Hubs in areas such as Polokwane and Bloemfontein; New Castle Terminal. Delink Strategy: Kingsrest Yard Rail Stack; Reconfigure Bayhead Yard to push back trains. Durban – Free State – Gauteng Logistics and Industrial Corridor - Transnet: Port of Durban expansions, new dig-out port, Natcor rail capacity expansion, Gauteng hubs and terminals development Transnet Integrated Container Strategy in consultation with current and potential customers.
	COAL (ESKOM - CAMDEN COAL IN CONTAINERS)	2.647	2.200	2.966	4.272	4.376	5.272	5.798	3.151	Coal deliveries to the Powerstations will increase based on the growth in electricity usage over the next years. Camden will use container rail solutions for the next two years and tippler solutions thereafter. TFR Business case for these have been approved.
	COAL (ESKOM - GROOTVLEI COAL IN CONTAINERS)	0.600	1.827	2.736	4.881	0.000	0.000	0.000	-0.600	
	COAL (ESKOM - TUTUKA COAL IN CONTAINERS)	0.000	1.800	2.888	0.000	0.000	0.000	0.000	0.000	
	AUTOMOTIVE (MOTORVEHICLES)	0.490	0.310	0.414	0.438	0.465	0.493	1.274	0.784	
	COMMODITIES NOT CLASSIFIED IN GROUPS	0.026	0.026	0.029	0.034	0.036	0.037	0.040	0.014	
	STEEL (DOMESTIC)	0.014	0.010	0.015	0.017	0.019	0.019	0.022	0.008	
	CEMENT	0.000	0.000	0.000	0.000	0.000	0.000	0.001	0.000	
	TOTAL INTERMODAL	12.628	14.269	18.321	19.935	15.253	16.705	18.781	61.53	
	COMMODITIES NOT CLASSIFIED IN GROUPS	4.261	3.553	4.825	6.756	6.918	7.007	7.477	3.216	Included in this group is Gold Ore & Other lesser Minerals and Ore Mining. These commodities currently enjoy a healthy demand.
MINERAL MINING & CHROME	MAGNETITE (EXPORT RICHARDSBAY)	4.170	4.293	4.782	5.300	5.300	5.300	5.300	1.130	Demand mainly from China – driven by increased steel production. Export growth indicates modest increase and domestic consumption is set to grow once local beneficiation projects are started.
	CHROME (EXPORT RICHARDSBAY)	2.755	3.466	4.359	5.160	5.395	5.555	5.715	2.960	
	MAGNETITE (EXPORT MAPUTO)	2.405	3.567	4.250	4.615	4.839	4.839	6.000	3.595	Demand mainly from China – driven by increased steel production. Export growth indicates modest increase and domestic consumption is set to grow once local beneficiation projects are started.
	ROCK PHOSPHATE (DOMESTIC RICHARDS BAY NITRATE ROCK)	1.717	1.929	2.232	2.618	2.822	2.822	3.000	1.283	Building Drier 9 to support current 7 year demand
	FERRO-CHROME	1.809	1.954	2.174	2.429	2.572	2.665	2.790	0.981	
	CHROME (DOMESTIC)	0.423	0.467	0.542	0.595	0.600	0.605	0.610	0.187	
	ROCK PHOSPHATE (EXPORT RICHARDS BAY)	0.297	0.334	0.386	0.435	0.560	0.554	0.600	0.303	
	MAGNETITE (DOMESTIC BROODSNIERSPLAAS)	0.164	0.164	0.241	0.281	0.374	0.476	0.800	0.636	
	COAL (DOMESTIC - OTHERS)	0.262	0.295	0.310	0.310	0.310	0.310	0.310	0.048	
	CHROME (EXPORT DURBAN)	0.195	0.202	0.238	0.250	0.260	0.260	0.270	0.075	
STEEL & CEMENT	CHROME (EXPORT MAPUTO)	0.026	0.040	0.057	0.072	0.084	0.094	0.104	0.078	
	CHEMICALS	0.037	0.040	0.042	0.049	0.052	0.054	0.058	0.021	
	LIME	0.010	0.010	0.016	0.020	0.022	0.024	0.027	0.017	
	FERRO-MANGANESE	0.001	0.001	0.001	0.002	0.002	0.002	0.002	0.001	
	TOTAL MINERAL MINING & CHROME	18.532	20.317	24.454	28.892	30.110	30.567	33.063	14.531	
	COAL (DOMESTIC - OTHERS)	5.240	6.631	7.660	8.485	9.024	9.024	9.511	4.271	Driven by growth in other industries, e.g. steel, cement, timber etc
	CEMENT	4.585	5.204	5.661	6.111	6.265	6.271	6.343	1.758	Volumes to increase in line with SA's GDP growth (4% on average). TFR also targeting rail-friendly volumes in this sector. There is roughly 4mt of bagged cement currently on road. The Road to Rail strategy aim is to target 300,000 tons in the 1st year and gradually capture more over the 7 year period.
	IRON ORE (DOMESTIC - SISHEN IRON ORE YARD)	3.702	4.020	4.156	4.286	4.419	4.464	4.465	0.762	
	IRON ORE (DOMESTIC SISHEN)	1.082	2.673	3.639	3.731	3.839	3.839	3.840	2.758	Increases in domestic steel production supported by government infrastructure development plan Domestic and regional consumption of steel fuelling demand for iron-ore & new export project by Aquila from Thabazimbi to Maputo.
	COMMODITIES NOT CLASSIFIED IN GROUPS	1.774	1.848	1.937	2.338	2.407	2.784	2.879	1.105	These include dolomite, iron slag etc used in the production processes of the Steel Manufacturers and is linked to increased output in the production processes.
STEEL & CEMENT	LIME	1.451	1.536	2.186	2.417	2.501	2.497	2.595	1.144	Lime used in the production processes of the Steel Manufacturers and is linked to increased output in the production processes.
	IRON ORE (DOMESTIC CROSSENEKAL)	1.639	2.160	2.159	2.152	2.159	2.159	2.160	0.521	
	IRON ORE (EXPORT MAPUTO)	0.000	0.000	1.832	1.945	1.999	3.999	4.000	4.000	
	IRON ORE (DOMESTIC - THABAZIMBI)	1.265	1.337	1.718	1.841	1.899	1.899	1.900	0.635	
	STEEL (EXPORT - DURBAN)	0.460	0.560	0.634	0.907	0.932	0.932	0.937	0.477	
	STEEL (DOMESTIC)	0.339	0.365	0.427	0.627	0.629	0.628	0.632	0.293	
	IRON ORE (DOMESTIC BEESHOEK)	0.203	0.215	0.247	0.263	0.270	0.270	0.270	0.067	
	STEEL (EXPORT - RICHARDSBAY)	0.078	0.088	0.088	0.104	0.104	0.104	0.105	0.027	
	IRON ORE (DOMESTIC POSTMASBURG)	0.005	0.010	0.012	0.012	0.012	0.012	0.012	0.007	
	STEEL (EXPORT MAPUTO)	0.010	0.010	0.010	0.010	0.010	0.010	0.010	0.000	
STEEL & CEMENT	TOTAL STEEL & CEMENT	21.836	26.657	32.367	35.229	36.469	38.894	39.659	17.824	
	TOTAL MDS	91.212	104.265	127.272	151.461	160.659	170.454	180.252	89.041	

## 2. General Freight fleet runout

Locos		GFB FLEET				Runouts and upgrades out same year				Wreck repairs from previous year, Cascades same year															
Type	Class	10/11	11/12	12/13	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	24/25	25/26	26/27	27/28	28/29	29/30	30/31	31/32		
6E	6E		12																						
	6E1		183	163		75	25																		
7E	7E		57	57		58	58	29																	
	7E1					48	48	48	48																
	7E2		43	43		45	45	23		48	48	24													
	7E3		65	65		65	65	65	65																
	7E4								17	17	17	7							43	32	21	10			
8E	8E		58	37		37	37	37	25	13															
9E	9E																								
10E	10E		45	45		45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45	45		
	10E1		30	30		37	39	41	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58		
	10E2		17	17		22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22	22		
11E	11E					1	1	1	11	23	19	19	19	19	19	19	19	19	19	19	19	19	19		
12E	12E																								
14E	14E		1	1		1	1	1	1	1	1														
	14E1		7	7		7	7	7	7	4	1														
15E	15E																								
18E	18E		506	525		597	647	697	727	727	727	682	632	582	532	482	432	382	332	282	232	182	132	82	
19E	19E																								
20E	20E																								
20E	NewE																								
31	31 GE																								
32	32 GE																								
33	33 GE		17			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		
34	34 GE		107	173		199	199	204	190	176	150	125	75	26											
	34 GM		85	85		119	119	124	111	95	79	79	79	79	69	44	19								
35	35 GE		43	43		39	39	39	36	32	29	25	18	10	2										
	35 GM		110	110		107	107	107	107	107	94	80	57	33	10										
36	36 GE		94	94		86	86	86	86	86	86	86	72	58	44	30	16								
	36 GM		83	83		81	81	81	81	81	81	81	81	81	81	81	67	53	39	25	11				
37	37 GM		50	50		70	70	58	46	34	22	10													
38	X38		35	38		38	38	38	38	38	38	38	38	19											
39	39 GM		55	55		53	53	53	53	53	53	53	53	53	53	48	48	48	48	48	48	48	48		
43	43 GE		27	27		53	53	53	53	46	46	46	46	46	46	46	46	46	46	46	46	46	46		
NewD	NewD																								
91	91 GE																								
Grand Total			1730	1748		1888	1890	1864	1832	1776	1686	1550	1385	1201	1051	945	842	732	657	582	507	425	356	306	
Diesel Fleet (before wrecks)			706	758		850	850	848	806	753	683	628	524	410	310	254	201	152	138	124	110	99	99	99	
Electric Fleet (Before Wrecks)			1024	990		1038	1040	1016	1026	1023	1003	922	841	791	741	691	641	580	519	458	397	326	257	207	

## 3. Locomotive run-out mitigation

### Total Maintenance cost for Wagons and Locomotives

By inspection the cost per annum increase of locomotive maintenance is significantly greater than that of wagon maintenance. Locomotive maintenance increase from R2 377m to R3 335 over the five year period 2007/08 – 2011/12; an increase of 40 percent. By contrast wagon maintenance, which does not have the same level of technology, increased from R2 044 to R2 234 over the same period: an increase of 9.3 percent. All maintenance is performed by Transnet Engineering.<sup>8</sup>

### Locomotive class comparison Maintenance cost vs. NTK for the last 5 years

This figure shows the average cost of maintenance per class of locomotive over the past five years against its performance measured in Net Ton Kilometres.

<sup>8</sup> The increasing proportion of copex to opex in locomotive maintenance is a function of changes in accounting procedures as a greater proportion of maintenance is capitalised according international accounting standards.



The new locomotives such as the 15E, 19E and 43D cannot be directly compared to the older locomotives as the new locomotives have not seen five full years of service but even making allowance for the shorter service, the savings in maintenance costs is evident.

The three locomotives (excluding the new locomotives) with the best ratio of NTK/ Cost of Maintenance are the heavy haul locomotives 9E, 11E and 7E1.

The workhorse locomotives that have a poor NTK/ Cost of Maintenance ratio include the 18E, 6E 34-000, 34-400 series.

The locomotives that have the worst NTK/ Cost of Maintenance ratio include the 37-000, 7E2, 34-800, and the 33, 35 and 36 classes. These are amongst the oldest locomotives.

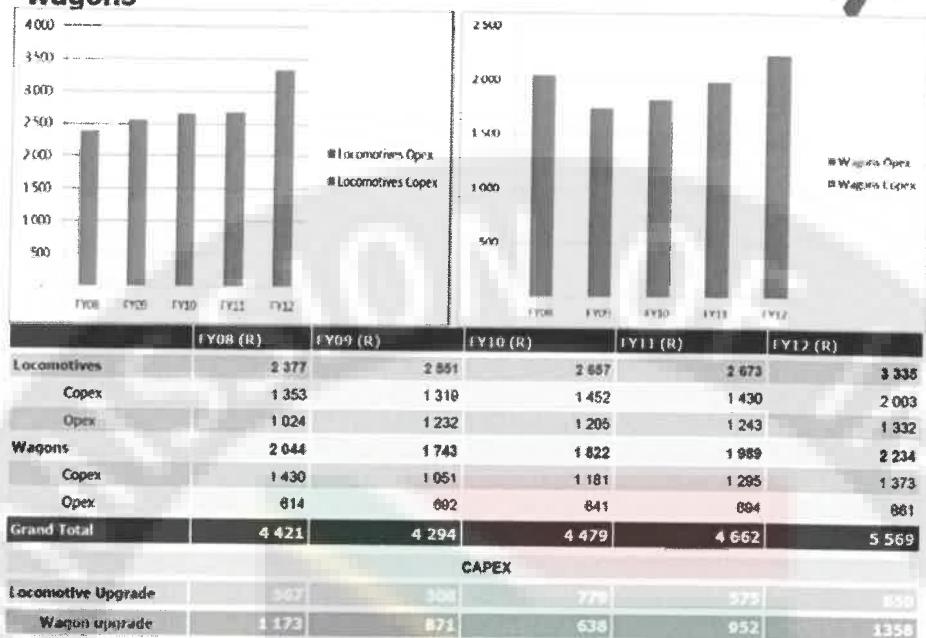


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## 2. EXHIBIT 50

### Total maintenance cost for locomotives and wagons



TFR has exhausted the life extension possibilities of its current “workhorse” fleet which are the primary contributors to GTK / NTK. Extending the life of “shunters” and “haulers” does not contribute to increasing GTK / NTK as the locomotives are not used and cannot be used for the heavy loads of main line operations.

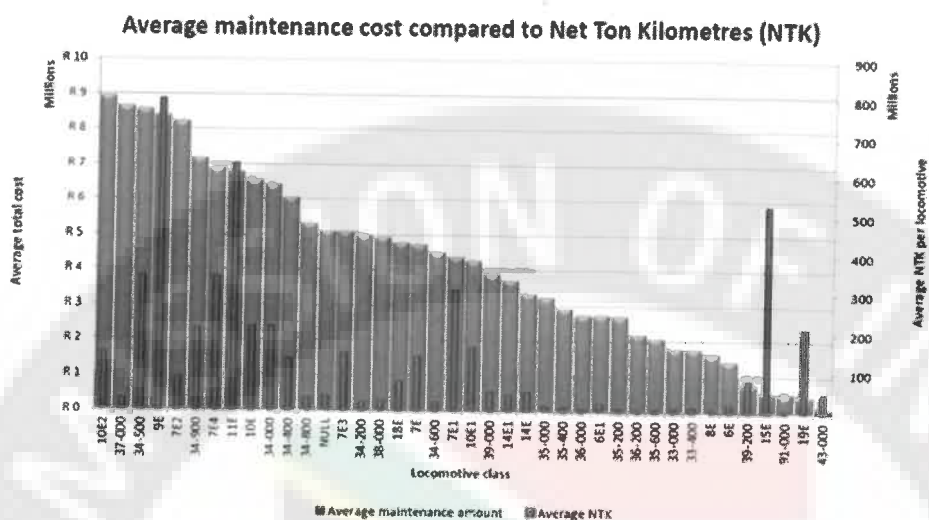
The SMILIP programme for new traction power was developed circa 2002. When this programme was not accepted TFR responded by extending the life of the current workhorse fleet.

The life extension / upgrade programme included:

- 650 6E1 series upgrade to new class 18E providing a 12-15 year life extension. 120 upgrades are still to be completed by March 2016. By 2018 the first of the upgrades will start to run out.
- 150 class 34 GE locomotives programmed for fitting with new Britestar Control systems with 55 still to be completed. As the locomotives are already over 35 years old this is a palliative.
- 75 class 34 GM locomotives fitted with new Nexsys Control Systems. A further 20 are programmed for 2013. As these locomotives are already 38 years old, this decision will be reconsidered in anticipation of the new locomotives.
- Other interventions were more essential maintenance than life extension strategies. The above programs result in extend the run out age from a designed 30 years to 45 years.
- The locomotives suitable for upgrade / life extension have already all being targeted. The balance of the fleet does not lend itself to similar interventions.

## EXHIBIT 51

### E & Y Locomotive class comparison Maintenance cost vs. NTK for the last 5 years



## 4. Locomotive 7-year locomotive requirement

		GFB 7 YEAR LOCOMOTIVE REQUIREMENT											
GFB	GROUP	2011/2012	2012/2013	2013/2014	2014/2015	2015/2016	2016/2017	2017/2018	2018/2019	2019/2020	2020/2021	2021/2022	2022/2023
6E/6E1	6E	183	172	134	43								
18E	18E	506	521	662	744	760	715	715	665	615	565	515	465
7E	7E	64	66	42	42	42							
7E1	7E1	0	-	21	21	21	46	46	46	46	46	46	46
7E2	7E	32	34	34	34	34	34						
7E3	7E	11	65	65	65	65	65	65	65	65	65	65	65
8E	8E	58	54	37	33	24	12	12					
9E	9E		30	4	4								
10E1	10E	23	26	36	36	36	53	62	45	45	45	45	45
10E2	10E	59	58	62	62	62	62	62	62	62	62	62	62
14E1	14E	8	8	8									
33	GE	17											
34	GE	115	188	188	188	188	142	142	142	120	120	120	120
34	GM	82	90	94	94	94	94	94	94	94	94	94	94
35	GE	65	69	74	77	79	79	79	79	79	79	79	79
35	GM	79	86	93	93	96	96	96	96	96	96	96	96
36	GE	87	90	90	98	98	98	98	98	98	98	98	98
36	GM	81	84	84	92	92	92	92	92	92	92	92	92
37	GM	48	50	50	50	25	25						
38	X38	34	38	38	38	38	38	38	38	38	38	38	38
39	GM	55	50	50	50	50	50	50	50	50	50	50	50
43	GE	34	62	113	113	113	126	113	113	113	113	113	113
44D NEW		0	-	-	82	179	279	362	393	465	515	535	545
20E		0	-	-	81	202	332	462	599	671	721	771	821
Total		1641	1841	1979	2140	2302	2442	2592	2681	2753	2803	2823	2833

## 5. Deployment plan

EXHIBIT 52

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## EXHIBIT 53

## GLOSSARY

MUS – MUSSINA  
 PRZ – PYRAMID SOUTH  
 PHW – PHALABORWA  
 NLP – NELSPRUIT  
 KMD – KAAPMUIDEN  
 KTR – KOMATIPOORT  
 HLF – HALFWEG  
 SLD – SALDANHA  
 BLE – BELLVILLE  
 KGR – KRUGERSDORP  
 ELN – EAST LONDON  
 NAS – NATALSPRUIT  
 WED – WELGEDACHT  
 KAZ – KASERNE  
 SBG – SASOLBURG  
 MEI – MAFIKENG  
 SPR – SPRINGS  
 TIT – TRICHARDT  
 BPR – BRAKPAN  
 ISO – ISANDO  
 BFX – BLOEMFONTEIN  
 NWT – NOUPOORT  
 HZL – HOTAZEL  
 PMG – POSTMASBURG  
 BEC – BEACONSFIELD  
 PCM – POTCHEFSTROOM  
 BIJ – BIJLKOR  
 MTN – MEYERTON  
 NCS – NEWCASTLE  
 DSL – DANSKRAAL  
 DNR – DURBAN  
 DER – DE AAR  
 PE – PORT ELIZABET

SEE – STEELPOORT  
 LDR – LYDENBURG  
 BFZ – BELFAST  
 WWH – WENTWORTH  
 PLK – POLOKWANE  
 EMG – EMPANGENI  
 CPK – CAPITAL PARK  
 KDS – KOEDOESPPOORT  
 BFU – BEAUFORT WEST  
 SFR – SPRINGFONTEIN  
 PHR – PORT SHEPSTONE  
 UPN – UPINGTON  
 CBE – CAMBRIDGE  
 JHB – JOHANNESBURG  
 GSK – GROOTEGLUK  
 TZB – THABAZIMBI  
 PTO – PIETRSBURG  
 COL – COUGNY  
 NAM – NAMIBIA  
 SWS – SWARTKOPS

TRANSNET

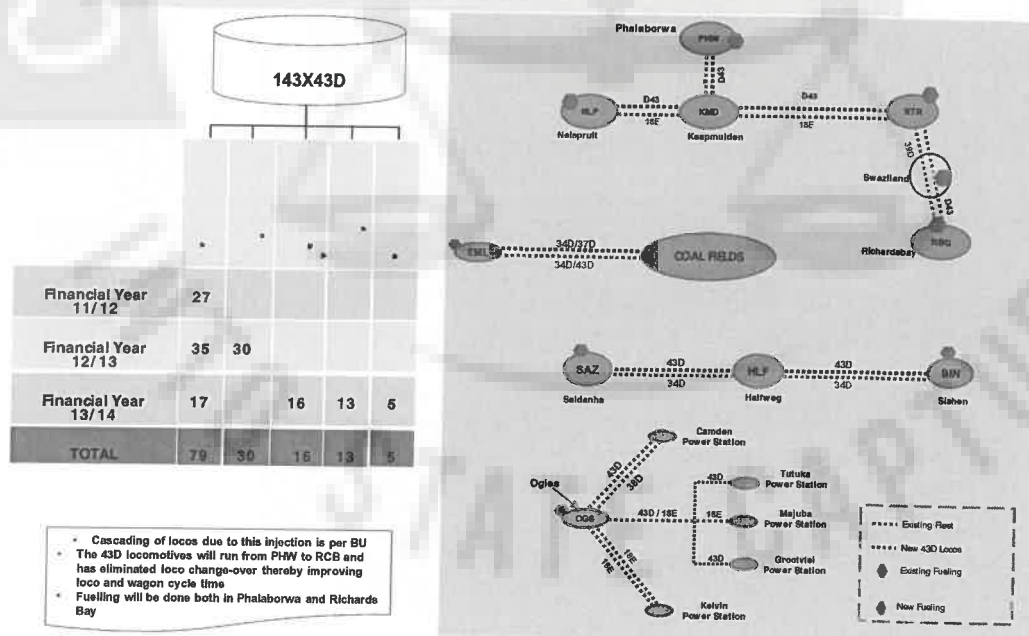


## EXHIBIT 54

43D Deployment Plan  
Efficiency and Volume Growth

Financial year 11/12 – 13/14

TRANSNET

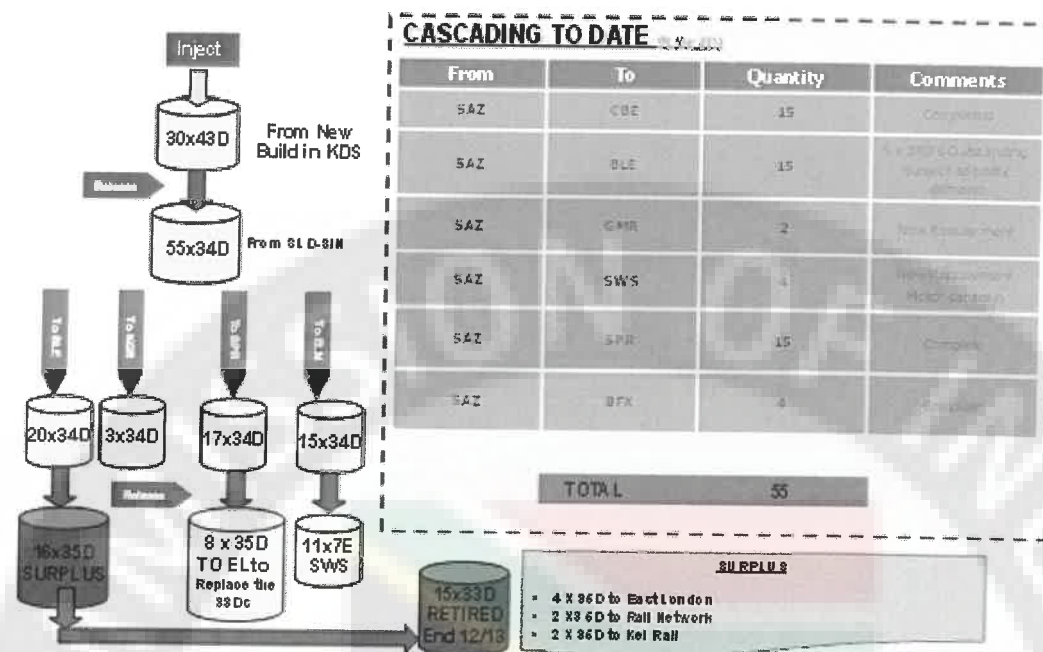


## EXHIBIT 55

## Cascading of 55x34D's from the Ore Line to GFB

period: Aug 2012 - Jan 2013

TRANSNET



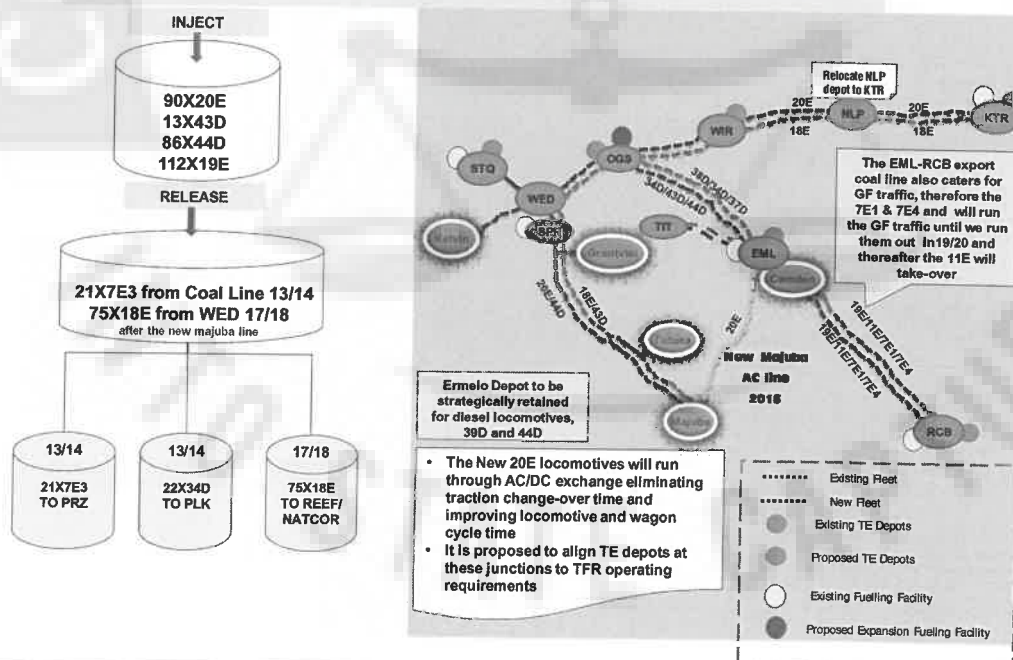
## EXHIBIT 56

## Schematic view of the deployment of new locomotives into the Coal Business Unit

Efficiency and Volume Growth

Financial year 12/13 - 20/21

TRANSNET





## EXHIBIT 57

## New Locomotives Deployment Plan

Efficiency and Volume Growth

TRANSNET



Financial year 12/13 – 20/21

High Level Delivery, Cascading and Run out Plan for the Domestic and Export Coal Business Unit

	Current Fin Yr 12/13	Fin Yr 13/14	Fin Yr 14/15	Fin Yr 15/16	Fin Yr 16/17	Fin Yr 17/18	Fin Yr 18/19	Fin Yr 19/20	Fin Yr 20/21
EBL 10E1	53	53	53	53	36	---	---	---	---
RCB Diesel Loco (10E1)	---	---	---	---	---	27	44	44	44
RCB 7E1	48	---	---	---	---	---	---	---	---
RCB 7E4	17	17	17	17	---	---	---	---	---
RCB 11E	45	45	45	45	36	22	27	27	27
RCB 19E	110	110	110	(56) 166	(56) 222	222	222	222	222
EBL 34D	37	---	18	18	---	---	---	---	---
EBL 37D	30	---	30	30	15	---	---	---	---
EBL 43D	---	---	13	13	13	13	13	13	13
EBL 44D	---	---	---	---	20	(10) 30	30	30	30
RCB 7E1	---	48	48	48	48	48	48	---	---
RCB 7E2	53	32	32	11	---	---	---	---	---
RCB 7E4	---	---	---	---	17	17	17	---	---
EBL 10E1	9	9	9	9	8	17	---	---	---
RCB 11E	---	---	---	---	9	23	18	18	18
RCB New Batch Elec	---	---	---	---	---	---	---	30	(50) 100
WED 19E	75	75	75	75	75	75	35	---	---
WED 43D	---	16	---	---	---	---	---	---	---
WED 20E	---	---	---	---	---	30	(50) 80	(10) 30	30
WED 44D	---	---	22	(20) 42	55	55	55	55	55
Grand Total	477	463	469	524	555	560	560	550	600

## EXHIBIT 58

## Deployment Strategy &amp; Benefits : Coal

TRANSNET



## Coal : RBCT

- The 19E's will be increased from 110 to 222 from 2015/2016 to 2016/2017. The following strategic changes are envisaged:
  - It is to be noted that the 222 x 19E/equivalent's will run from RCB to various mines directly with only driver hot-seat changes.
  - The process will start 2013/2014.
  - This will reduce the cycle time of locomotives from 58 to 41 hours and wagons from 62 to 48 hours
  - This increases the volumes capacity of the current wagon fleet from 81 to 94.7 mtons.
  - By operating design all 19E/equivalent will be maintained in RCB.
  - This requires that all investment for maintenance at Ermelo to be reviewed as this depot will be retained for diesel locomotives maintenance (39200's and 43D/44D's). Capacity has to be reviewed as the maintenance work content on these locomotives is considerably less than the current fleet.
  - Richards bay will become a super maintenance depot. (Based on GF practices)
- Cascade 11E's to GF traffic by 2016/2017. This could reduce to zero based on dual power processing and the clear the deck position of the 10E1s.
- The whole diesel fleet to be replace by new diesels by 2016/2017.
- Provide for the Under Floor Wheel Lathe at Richards Bay as it will be a singular super locomotive depot for TFR.
- 67XOld Diesels (34D/37D) swapped with 43XNew Diesels (43D/44D), however the figure will be reviewed.

## EXHIBIT 59

## Deployment Strategy &amp; Benefits : Coal

**General Freight**

- General Freight traffic on the Coal line will be injected with 21 x 7E1 from the 1 May 2013. The figure will be increased to 48 by 2015/2016.
- The 7E1 and 7E4 that are ring-fenced for the Coal line general freight traffic will run-out in 2019/2020, however if the efficiencies from PRZ are realized this run-out will be earlier.
- The 7E3 will be cascaded to Pyramid South to capture the growth in Coal, Chrome and Ferrochrome from the Rustenburg area.
- All 7E3's will be cascaded to Pyramid South by 2015/2016.
- Note that with dual power processing, the 7E type locomotives will also be eliminated from the Coal line.
- All traffic from Waterburg area will be dual powered thereby removing the need for Pyramid South.

## EXHIBIT 60

## Deployment Strategy &amp; Benefits : Coal



- The following are the benefits:
  - Reduced fuel consumption with new diesel locomotives being introduced
  - Improved cycle times for rolling stock
  - Improved reliability
  - Better utilisation of crews
  - Reduced handling and shunting
- Impact on Crew and Maintenance depot
  - Richards Bay to be the Super Locomotive Maintenance depot
  - Standardise the Ermelo depot to few locomotive types, specifically diesels ( 39200's, 43D's and 44D's )
  - Training crew on the new locomotives
  - Ermelo yard strength and crew strength will be reviewed to the new operating standards
  - Book off at Ermelo will be reviewed as some loading station can take 200 wagon trains straight in
- Necessitated required changes
  - System cannot afford to run a 41 hour and a 56 hour cycle as it will not be seamless and will be somewhat counter-productive.
  - This will then require the 10E1's to be converted to dual power for a one type 41 hour operation.
- Financial Impact Analysis
  - Savings due the introduction of the new operating model from 1 September:

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## EXHIBIT 63

## Deployment Strategy &amp; Benefits : SAC

TRANSNET



## General Freight

- The introduction of the dual locomotives at Pyramid South will see all flows from origin to destination on the AC/DC route running with single type of locomotive. Flows such as Chrome to Richards bay; Coal & Iron Ore to Newcastle and Vereeniging, Cement to Polokwane and including over border traffic. This will eliminate traction change over at Pyramid South and Ermelo there by improving cycle time and enhancing asset utilisation.
- The efficiency of 20E's will play an important role in the release of 7E locomotives to areas where they are needed or for early run-out to reduce the cost of maintenance.
- Electrification of the section between Thabazimbi and Grootegeluk become vital for dual loco system, hence the need to fast tracked to 2015/2016
- The expectation is that once the dual 20E's are deployed it will negate the need for 10E1's in its current form, this calls for the 10E1's to be upgraded to dual powered.

## Impact on Crew and maintenance depot

- Koedoespoort diesel depot required to be down scaled as the number of diesels will be reduced.
- Thabazimbi no longer required as a maintenance depot
- Retraining of crew on new routes.
- Introduce new book-off practices.
- Pyramid South to be a run through yard with minimum processing for maize trains, cement trains etc.
- The new electric locomotive will be running to Richards Bay, Newcastle, Bijkor and Durban, therefore these areas need to prepare for the maintenance of these locomotives.
- Upgrade the coligny depot to increase its scope of work and down-scale activities in Sentrarrand depot.
- Polokwane to be a 20E and 44D depot
- Newcastle to be a 20E depot
- The yard capacity at Pyramid will require to be reviewed

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## EXHIBIT 64

## Deployment Strategy &amp; Benefits : SAC



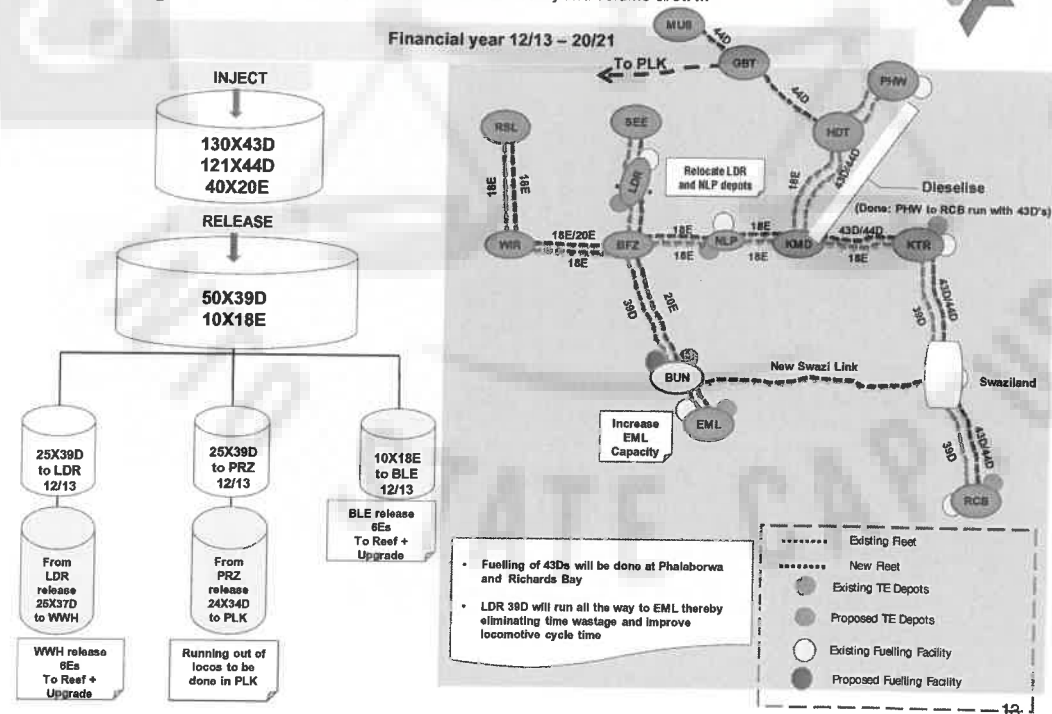
## Financial Impact Analysis

- Pyramid yard strength to be addressed
- Cycle time from Lephalale to Richardsbay will be reduced conservatively by 30 hours
- This impacts on wagon requirements for the these tons to be calculated
- Fuel savings from replacing old diesels with new
- Pyramid South and Rustenburg yard no longer needed as holding yards, parking of Pyramid South 7E2's and 7E3's, Krugersdorp 34D and the Polokwane 34D's: SAVINGS

## EXHIBIT 65

## Schematic view of the deployment of new locomotives into the Mineral Mining and Chrome Business Unit

Efficiency and Volume Growth





## EXHIBIT 66

### New Locomotives Deployment Plan

Efficiency and Volume Growth

TRANSNET



Financial year 12/13 – 20/21

High Level Delivery, Cascading and Run out Plan for the Mineral Mining and Chrome Business Unit

	Curren t Fin Yr 12/13	Fin Yr 13/14	Fin Yr 14/15	Fin Yr 15/16	Fin Yr 16/17	Fin Yr 17/18	Fin Yr 18/19	Fin Yr 19/20	Fin Yr 20/21
WIR 20E	---	---	---	---	---	20	(10) 30	(10) 40	40
EMG 39D	8	---	---	---	---	---	---	---	---
WIR 18E	53	83	83	83	83	53	43	43	43
EML 39D	27	30	30	30	30	30	50	50	50
PHW 43D	62	(17) 79	(16) 95	(5) 100	100	(30) 130	130	130	130
PHW 44D	---	---	---	---	---	12	(10) 22	22	22
RCB 44D	---	---	---	---	---	18	(8) 26	26	26
EML 44D	---	---	---	---	14	14	14	14	14
Swazi Link 44D	---	---	---	---	---	---	30	(24) 54	(5) 59

## EXHIBIT 67

### Deployment Strategy & Benefits : MMC

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#### General Freight

- Note the original deployment was 89 locomotives for required MDS tons, based on the efficiencies achieved this was dropped to 79 locomotives for the same tons. The GTKs was achieved in advance of what the business case stated.
- Increase the 62 x 43D's at Phalaborwa to 79 to capture the growth in Magnetite and coal from Musina by 2013/2014.
- The locomotive cycle time has improved from 72 hours to 55 hours with the injection of the 43D's
- Wagon cycle time has improved from 7 days to 5 days on the corridor.
- Deployed 39D's at Lydenburg
- Eliminated locomotive change over at Belfast. Running the 39D's all the way to Ermelo.
- A 100 wagon train was tested successfully between Lydenburg and Ermelo.
- Steelpoort to be 104 wagon RDP train
- Investigate the future growth plans for the Roossenekal area and keep Witbank depot in the meantime

#### Impact on Crew and Maintenance depot

- Nelspruit
  - Relocate the crew and maintenance depot at Nelspruit to Komatipoort
- Komatipoort
  - Komatipoort to have a 12 ton crane and a drop-pit.
- Waterval Boven
  - Relocate the crew depot Witbank and Komatipoort
- Lydenburg
  - The corridor has been standardised to 39D's only
  - Future maintenance to be done at Ermelo
  - Relocate Lydenburg as a Loco and Crew depot to Steelpoort

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## EXHIBIT 70

## Deployment Strategy &amp; Benefits : IOM

TRANSNET

**Ore Line**

- The Ore line 15E will increase from the current 44 x 15E to 76 x 15E by 2013/2014 financial. This will further be increase by 24 x 15E to meet the MDS volume budgets.
- The 30 x 9E will be reduce to a rough figure of 4 to cater for GF traffic on the Ore Line and mine shunting requirement. This will address the Saldanha Coal service and the containerised manganese to Saldanha.
- An injection of 30 x 43D's will be used to on the long trains due to power supply constraint. This will also improve reliability and fuel consumption.
- The 34 class diesels will reduce to 30 x 34D's to cater for other GF traffic, Infra and shunting purposes.
- By 2017/2018 all diesels on the Ore Line to be replaced by the new 44D diesels

**General Freight Lines**

- The deployment of the new electric dual powered locomotives will bring benefit in the manner in which trains are operated. The new AC/DC locomotives will have the capability to run through the interchange at Beaconsfield and Beaufort West thereby eliminating traction change over time.
- The dual powered locomotives for Postmasburg depot will service both the PMG-PE route and the Gauteng-Cape Town/PE route with Swartkops being the super depot.
- Swartkops 7E's retired in 2015/2016, 33XPRZ 7E2 cascaded to Swartkops to be retired in Swartkops the 2016/2017.
- 10E/2 to be converted to dual power locomotives and this will impact positively on the cycle times.

**Impact on Crew and Maintenance depot**

- Beaconsfield maintenance depot no longer required
- Investigate the possibility of De Aar as a book-off place
- Postmasburg to be the a critical turn around locomotive maintenance depot.

## EXHIBIT 71

## Deployment Strategy &amp; Benefits : IOM

TRANSNET

**Financial Impact Analysis**

- Car and container trains to Kaalfontein and Kazerne from PE will have an improvement in cycle time of 10 hours.
- Further fuel saving will be achieved with moving the combination of 15E and 34s to 15E and 43000. this is approximated to be around 1M litres
- Yard capacity to be reviewed at Kimberly due to run through and only hot seat changes.
- Parking of SWS 7E by 2015/2016:

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## EXHIBIT 72

## Deployment Strategy &amp; Benefits : IOM

TRANSNET



## Financial Impact Analysis

- Car and container trains to Kaalfontein and Kazerne from PE will have an improvement in cycle time of 10 hours.
- Further fuel saving will be achieved with moving the combination of 15E and 34s to 15E and 43000. this is approximated to be around 1M litres
- Yard capacity to be reviewed at Kimberly due to run through and only hot seat changes.
- Parking of SWS 7E by 2015/2016:

## EXHIBIT 73

## New Locomotives Deployment Plan

Efficiency and Volume Growth

TRANSNET



Financial year 12/13 – 20/21

High Level Delivery, Cascading and Run out Plan for the Container and Automotive Business Unit

	Curren t Fin Yr 12/ 13	Fin Yr 13/ 14	Fin Yr 14/ 15	Fin Yr 15/ 16	Fin Yr 16/ 17	Fin Yr 17/ 18	Fin Yr 18/ 19	Fin Yr 19/ 20	Fin Yr 20/ 21
UBO 18E	222	222	222	222	222	(30) 252	(10) 252	252	252
BFX 34D	44	44	44	44	24	---	---	---	---
BFX 44D	---	---	---	30	(10) 40	40	40	(10) 50	50
WWH 37D	39	39	39	27	15	---	---	---	---
WWH 44D	---	---	13	(20) 33	33	33	(10) 43	(6) 49	49

## EXHIBIT 74

## Deployment Strategy &amp; Benefits : CAB

TRANSNET



## General Freight

## ➤ Kazerne/City Deep

- Postmasburg/Swartkops 20E locomotive fleet will cater also for the corridor to Cape Town. This will improve the container services between Gauteng and Cape Town
- Reviewing the containers to Port Elizabeth to run via Beaconsfield. Including the motorcars.
- This will improve on the assets cycle time thereby eliminating traction change overs at Beaconsfield and Beaufort West.

## ➤ Impact on Crew and maintenance depot

- Retraining of crew on the new locomotives.
- Introduce book-off where feasible.
- Bellville to be major depot while Kaseme becomes a supporting depot for the new electric locomotives.
- Review viability of Wentworth maintenance depot considering maintenance cycle times of 44D's versus 37D's and the 37D failures rates.

## ➤ Financial Impact Analysis

- Fuel savings when replacing 34/37 with 44Ds
- Parking of Wentworth 37D by 2017/2018 and Bloemfontein 34D by 2017/2018: SAVING

## EXHIBIT 75

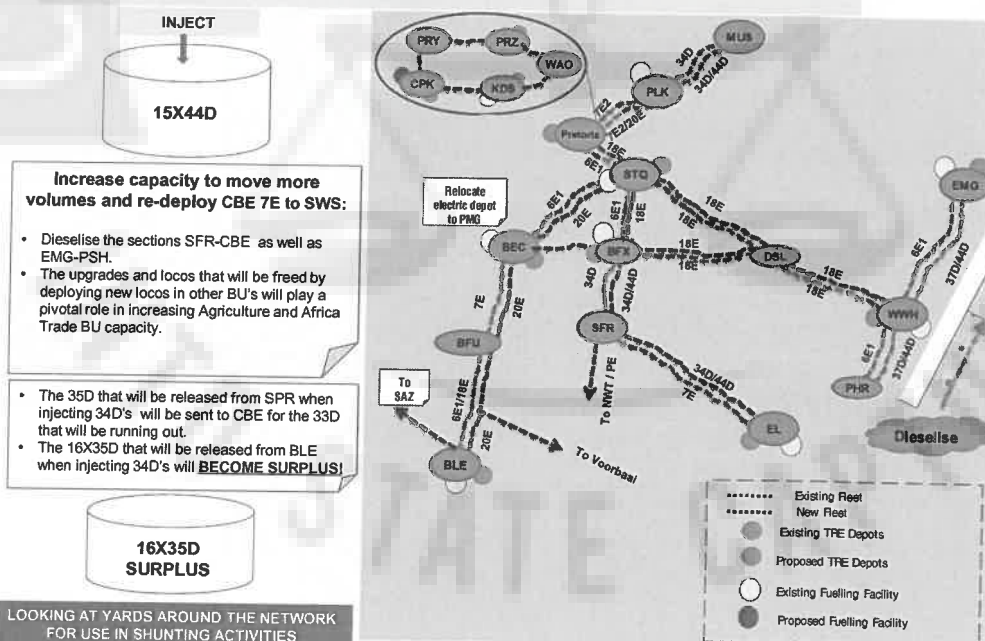
## Schematic view of the deployment of new locomotives into the Agriculture, Timber, Bulk Liquids and Africa Trade Business Unit

Efficiency and Volume Growth

TRANSNET



Financial year 12/13 – 20/21





## EXHIBIT 76

### New Locomotives Deployment Plan

Efficiency and Volume Growth

TRANSNET



Financial year 12/13 – 20/21

#### High Level Delivery, Cascading and Run out Plan for the Agriculture and Africa Trade Business Unit

	Current Fin Yr 12/13	Fin Yr 13/14	Fin Yr 14/15	Fin Yr 15/16	Fin Yr 16/17	Fin Yr 17/18	Fin Yr 18/19	Fin Yr 19/20	Fin Yr 20/21
BLE 35D	28	13	13	13	13	13	13	13	13
BLE 34D	14	14	14	14	14	14	14	14	14
BLE 18E	27	27	27	27	27	15	15	15	15
CPK 18E	5	5	(10) 18	15	15	15	15	15	15
STQ 6E (CPK+ RWH+ COL+ KID)	133	83	33	---	---	---	---	---	---
JHB18E	---	50	(50) 100	100	100	(12) 112	(40) 152	(55) 207	(28) 235
SPR 35D	12	---	---	---	---	---	---	---	---
SPR 34D	17	(11) 28	28	28	28	28	28	28	28
CBE 34D	16	20	20	20	20	20	20	20	20
CBE 44D	---	---	---	---	---	---	15	15	15

## EXHIBIT 77

### Deployment Strategy & Benefits : ABL

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#### General Freight

- The Sentrarend depot will start to receive 18E's from 2013/2014.
- The 6E locomotives will be phased out by 2016/2017, with the rest upgraded to 18Es.
- Dieselise the Springfontein to East London and make Springfontein a run through yard.
- The depots under ABL will be standardised to 18E's on DC areas.
- The Polokwane 34D retired in 2020/2021 as we receive new diesels.
- Beaufort West no longer required as a change-over yard

#### Impact on Crew and maintenance depot

- Retraining of crew on the new locomotives.
- Introduce book-off were feasible.

## 6. Business unit power sheets

See attached power sheer excel file “20130418 Supporting Document F6 Business Unit Power Sheets”



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## 7. NPV analysis

		2014	2015	2016	2017	2018	2019	2020	2025	2030	2035	2040	2045	2050	2055	2060	2065	2070	2075	2080	2085	2090
WACC	Discount factor	0.84%	7.1%	6.0%	5.1%	4.3%	3.6%	3.0%	2.5%	2.1%	1.8%	1.5%	1.3%	1.1%	0.9%	0.8%	0.7%	0.6%	0.5%	0.4%	0.3%	0.2%
	PPI	4.8%	5.3%	5.5%	5.7%	5.8%	5.9%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
	Volume Increases	0.03%	5.7%	5.5%	5.6%	5.8%	5.9%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%	6.0%
	Escalation factor CPI	-	13	36	60	69	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79	79
	CPI discount factor	1.05	1.11	1.17	1.24	1.3	1.38	1.46	1.54	1.63	1.71	1.79	1.87	1.95	2.03	2.11	2.19	2.27	2.35	2.43	2.51	2.59
Present Value to Start of Fin Year 2014		91	104	127	151	184	221	264	314	372	439	514	598	691	794	907	1030	1163	1306	1459	1622	1795
Total volumes (Net tons)		91	104	127	151	184	221	264	314	372	439	514	598	691	794	907	1030	1163	1306	1459	1622	1795
Incremental Volumes (Net tons)		7	7	2	4	60	77	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89
Tariffs Average (R/ton/km)		0.42	0.45	0.48	0.50	0.54	0.58	0.64	0.71	0.79	0.88	0.98	1.12	1.30	1.50	1.74	2.03	2.37	2.76	3.20	3.69	4.23
Average distance (Kms)		552	551	553	553	557	562	572	584	598	614	632	652	674	698	724	751	779	808	838	869	901
Revenue		109,104	109,104	109,104	109,104	109,104	109,104	109,104	109,104	109,104	109,104	109,104	109,104	109,104	109,104	109,104	109,104	109,104	109,104	109,104	109,104	109,104
Total Diesel TCO		22,080	26,744	33,023	40,640	49,466	59,729	71,747	85,747	101,847	119,247	138,247	158,947	181,447	205,847	232,247	260,647	291,047	324,447	360,847	400,247	442,647
Diesel TCO		8,314	2,583	2,709	2,876	3,068	3,280	3,512	3,764	4,036	4,328	4,640	4,972	5,324	5,696	6,088	6,500	6,932	7,384	7,856	8,348	8,860
Initial capital outlay		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fuel		8,657	90	459	824	1,233	1,713	2,204	2,814	3,456	4,136	4,856	5,616	6,416	7,256	8,136	9,056	10,016	11,016	12,056	13,136	14,256
Maintenance		1,849	14	14	63	124	220	377	596	889	1,364	1,984	2,809	3,869	5,169	6,719	8,569	10,719	13,169	15,919	18,969	22,319
Personnel costs		3,029	0	130	256	398	559	742	956	1,204	1,484	1,796	2,136	2,504	2,896	3,316	3,764	4,244	4,756	5,296	5,864	6,464
Insurance		49	0	2	5	7	10	11	16	21	28	38	50	64	80	98	118	140	164	190	218	248
Emissions		182	0	9	17	26	36	42	60	80	107	144	183	233	294	366	448	540	642	754	876	1,008
0% Hedging costs (Included in purchase price)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Electric TCO		21,765	31,8	20,6	52,6	60,3	68,2	84,8	103,6	124,4	147,2	172,0	198,8	227,6	258,4	291,2	326,0	362,8	401,6	442,4	485,2	530,0
Electric TCO		12,252	31,8	1,974	4,951	5,352	5,689	6,670	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Initial capital outlay		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Disposal value		3,801	0	21	133	337	577	840	1,455	1,956	2,611	3,466	4,518	5,863	7,508	9,453	11,698	14,243	17,088	20,233	23,678	27,423
Fuel		3,801	0	21	133	337	577	840	1,455	1,956	2,611	3,466	4,518	5,863	7,508	9,453	11,698	14,243	17,088	20,233	23,678	27,423
Maintenance		1,724	0	0	1	17	70	152	335	616	1,004	1,492	2,079	2,764	3,549	4,434	5,419	6,504	7,689	8,974	10,359	11,844
Personnel costs		3,401	0	17	110	275	468	692	1,312	1,863	2,665	3,567	4,669	5,971	7,473	9,175	11,077	13,179	15,481	17,983	20,685	23,587
Insurance		53	0	0	2	5	8	12	21	27	37	49	64	80	98	118	140	164	190	218	248	278
Emissions		521	0	3	19	48	80	117	204	275	366	489	638	813	1,014	1,241	1,494	1,773	2,078	2,409	2,766	3,149
0% Hedging costs (Included in purchase price)		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Contingency adjustment to corporate plan		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Wagon costs		12,463	3,009	3,465	35,79	3,474	29,43	1,178	908	1,228	1,698	2,331	2,741	2,775	1,637	910	246	0	0	0	0	0
Purchase cost		1,047	3,002	3,417	3,462	3,474	2,559	649	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Copex		1,583	3	23	70	131	242	339	591	817	1,135	1,577	1,877	1,54	1,126	627	172	0	0	0	0	0
Opex		863	3	17	48	95	142	190	318	421	563	754	844	714	511	282	77	0	0	0	0	0
Total infrastructure costs		18,491	1,085	31,71	41,73	42,72	47,19	68,63	30,88	40,65	54,40	72,80	83,45	88,90	49,33	27,27	741	0	0	0	0	0
Expansion		9,513	1,085	31,71	41,73	42,72	47,19	68,63	30,88	40,65	54,40	72,80	83,45	88,90	49,33	27,27	741	0	0	0	0	0
Copex and replacement capex		8,978	60	384	795	1,249	1,627	1,837	3,038	4,065	5,440	7,800	8,245	6,990	4,933	2,727	74	0	0	0	0	0
Overhead costs		23,910	112	660	1,585	2,781	4,055	51,63	8,539	11,427	15,291	20,463	22,456	19,967	13,866	7,665	2,082	0	0	0	0	0
Net cashflow before tax		10,397	-8,946	-1,072	-1,307	-1,039	-594	-476	19,325	25,871	34,344	45,678	55,981	47,138	34,662	20,974	55,47	0	0	0	0	0
28% Effective Tax costs (negative = credit)		7,659	0	-341	-789	-1,039	-1,016	-238	5,240	7,073	9,446	12,619	15,540	13,014	9,630	5,686	1,553	0	0	0	0	0
Cashflow after tax		2,739	-8,946	-1,043	-1,228	-952	-485	-239	14,084	18,797	24,898	33,039	40,442	34,124	25,032	15,288	56,023	0	0	0	0	0

## 8. Risk register

No	Key Elements	Risk Something will occur	Impacts leading to...	Causes caused by...	Controls controlled by...
1	Change Management Risk	ineffective change management in implementing the strategies as encompassed in the	<ul style="list-style-type: none"> <li>&gt; Lack of buy in from labour</li> <li>&gt; Lower employee morale</li> <li>&gt; Employee resistance</li> <li>&gt; Relocation of people</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Lack of understanding as to the business need for the changes</li> <li>&gt; Ineffective communication resulting from the communication</li> </ul>	None. Pending deployment plan approval
2	Volumes Risk	Volumes Risk associated with the late delivery (1064	<ul style="list-style-type: none"> <li>&gt; Loss of Revenue (R70,9bn)</li> <li>&gt; Loss of Tonnages</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Current planned timelines may be at risk for local production and suggest annual locomotive shortages peaking at 150 electrics and 70 diesels in 2015</li> <li>&gt; Severely underestimating the contractual complexities</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Close monitoring of the delivery schedule</li> <li>&gt; 1064 steerco</li> <li>&gt; Standard agreement &amp; standardised technical specifications</li> </ul>
3	Planning Risk	Incorrect fleet life cycle planning	<ul style="list-style-type: none"> <li>&gt; tonnages not materialising as a result of the unavailability and unreliability of the fleet</li> <li>&gt; projects falling behind schedule,</li> <li>&gt; underutilised assets</li> <li>&gt; inability to deliver the fleet as per the plan</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Adding additional requirements and complexities to the contract</li> <li>&gt; Lengthy approval processes causing delays and mismatch between scheduled deployment and operational requirements</li> <li>&gt; Non alignment between rolling stock planning, network planning and technology planning</li> <li>&gt; There is an inherent risk with the increase in number of OEMs. The number of OEMs used for locomotives increases the acquisition time for design and testing, and increases the contractual complexities</li> <li>&gt; Unrealistic timelines creating undue pressure on fast tracking the time taken for design and testing</li> <li>&gt; Lack of co-ordination and integration between the various Capital projects</li> <li>&gt; Protracted negotiations</li> <li>&gt; TFR lack of capacity to manage contracts</li> <li>&gt; Lack of capacity / capability from the supplier to execute contracts within the required time frame</li> <li>&gt; Ineffective lifecycle planning</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Improved approval process of prototypes prior to planned builds ahead of demand (Wagons &amp; loco's upgrade)</li> <li>&gt; Signed off user requirement specifications (Wagons)</li> <li>&gt; Alignment of fleet deployment plan according to traffic the</li> <li>&gt; Procurement controlled by current procurement strategy.</li> <li>&gt; Aggressive delivery forced by conservative payment regimes</li> <li>&gt; None</li> <li>&gt; None</li> <li>&gt; Contract management process</li> <li>&gt; Project Management, contractual terms for terminating and contract penalty clauses</li> <li>&gt; Resuscitate of the fleet plan</li> <li>&gt; Deployment plan</li> </ul>

No	Key Elements	Risk Something will Occur	Impacts leading to...	Causes caused by...	Controls controlled by...
4	Market Risk	Inherent risk that the commercial sectors that the wagons and locomotives are built for do not achieve the anticipated market growth	<ul style="list-style-type: none"> <li>&gt; tonnages not materialising as a result of the unavailability and unreliability of the fleet</li> <li>&gt; projects falling behind schedule,</li> <li>&gt; underutilised assets</li> </ul>	<ul style="list-style-type: none"> <li>&gt; lower than anticipated customer demand</li> <li>&gt; The anticipated customer demand does not materialise</li> <li>&gt; The customer demand exceeds planned demand</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Annual budget review of the demand (Demand file)</li> <li>&gt; Logistic integration function (monitors asset performance &amp; allocate resources))</li> <li>&gt; Annual budget review of the demand (Demand file)</li> <li>&gt; Financial KPI focusing on asset utilisation (Return on total assets)</li> <li>&gt; Annual/ Quarterly review of the build programme to align TE factories (wagon fleet)</li> </ul>
5	Skills Risk	Lack of required skills to build, maintain, project manage and utilise the new fleet	<ul style="list-style-type: none"> <li>&gt; Delay in the execution of the fleet plan</li> <li>&gt; Delay in project schedule/ deployment</li> <li>&gt; Underutilised assets</li> <li>&gt; Poor assets handling assets</li> </ul>	<ul style="list-style-type: none"> <li>&gt; not obtaining the right wagon mix for the right volumes of commodities at the right time</li> <li>&gt; insufficient maintenance skills (artisans, technicians)</li> <li>&gt; insufficient new generation technology maintenance skills</li> <li>&gt; Train drivers not adequately equipped to utilise the new fleet</li> <li>&gt; inadequate transfer of knowledge of skills from the OEM to Transnet</li> <li>&gt; Lack of project management skills</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Maintenance staffing plan</li> <li>&gt; Succession plan &amp; training with SOR</li> <li>&gt; Train Drivers are trained in accordance with training plan</li> <li>&gt; Training is built in the contract with the suppliers to train the maintainer (TRE) on the new technology</li> <li>&gt; Project management staffing plan</li> <li>&gt; Efficiency improvement initiatives</li> </ul>
6	Exogenous Risks	Impact of Eskom generation capacity shortage on the fleet plan Impact of strike action at major supplier plants	<ul style="list-style-type: none"> <li>&gt; Projects delay commissioning</li> <li>&gt; Power shortages</li> <li>&gt; Cost overruns</li> <li>&gt; Scope creep</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Eskom's inability to secure long term sourcing contracts</li> <li>&gt; Industrial action from major suppliers</li> <li>&gt; Earthquakes</li> <li>&gt; Floods</li> <li>&gt; War</li> <li>&gt; Sanctions or trade restrictions the world countries</li> <li>&gt; Component prices going up</li> </ul>	<ul style="list-style-type: none"> <li>&gt; Energy Saving Initiatives</li> <li>&gt; Establish Energy Efficiency Forum</li> <li>&gt; High level engagement with Eskom as to plans to address shortage of capacity (including contractual agreements with Eskom)</li> <li>&gt; Complete list of TFR projects submitted to Eskom.</li> <li>&gt; Contracts clauses</li> <li>&gt; Contract - under the force majeure clauses</li> <li>&gt; The force majeure is valid for six months of which afterwards Transnet can terminate contract or apply breach of contract terms.</li> <li>&gt; SLA with suppliers of TRE</li> <li>&gt; TFR and TRE annual price review and escalation to TFR</li> </ul>



No	Key Elements	Risk Something will Occur	Impacts leading to..	Causes caused by..	Controls controlled by..
7	Governance Risk	Lengthy Approval processes Treasury note on supplier development has introduced uncertainty	> Delay in the execution of the fleet	> Long lead time in obtaining approval as per PFMA requirements by DPE	> Project approval governance process
8	Operational Readiness	Ability to integrate new fleet into operations (readiness of the entire supply chain)	> Loss of revenue > Poor return on investment > Delay in deployment > Underutilised capacity	> Lack of capacity by School Of Rail, School Of Engineering & Curriculum readiness (Skills) > Lack of maintenance capacity (Facilities and Personnel) at TE > Lack of capacity & facility alignment with IPT & Customers > Lack of fully integrated technology plan > Lack of Rail network maintenance capacity, poor condition of the track > Inadequate systems to support the operability of the fleet post deployment (Existing IT related systems) > Lack of proper handover of the asset to operations and maintenance > Impact of the deployment plan on the organisation i.e. fleet & IPT once the deployment plan has approved.	> OR implementation guideline and Training approach & guide line > Maintenance Philosophy and Deployment Plan > Customer relations management > Technology plan > Rail Network Maintenance Plan > IT Plan and contracts > Draft Handover policy > Change Impact Assessment > 7 year maintenance plan (TRE)
9	Maintenance Risk	Inability to align maintenance and build plan to the fleet plan	> Not meeting the delivery schedule > Exceeding planned unit price > Work not performed according to works instructions	> Supplier to deliver on the ITR mandate (normal scheduled maintenance, new build programme, major fleet overhaul)	> Delivery of materials planned ahead of demand > Annual/ Quarterly review of build programme that align TRE factors > Production lines at TRE doubled > Additional material suppliers sourced > Some factories operating 24 hour shifts to mitigate risk of delay to schedule > Fix unit prices for major components > Project management process > Signed off URS
10	Technology implementation Risk	No clear identification of the technology functional needs and user requirements specifications	> Inadequate functionality of the fleet	> Inadequate process to define the URS > Lack of fleet ownership to identify the technology functional needs (no clear URS)	
11	Technology risk	Inappropriate technology	> Wrong technology deployed Non optimal functional of the fleet	Lack of knowledge and expertise to provide correct specified technologies	Technology management section with experts

## 9. Fraud risk management plan

1064 - Transnet Locomotive Acquisition Process: Fraud - Corruption Risk Management Plan							
Activities	Status	Responsibility	Process Owner	Start Date	End Date	Objective	Measurement
Fraud / Ethics							
Rollout Awareness Education Training sessions to internal stakeholders involved in the 1064 Locomotive Acquisition process, which includes Fraud, Ethics & Information Security		Forensic Champion / TIA Forensic OD Leader				- Employees involved in the Locomotive acquisition process become aware of fraud and are able to identify incidents of possible fraud and report their allegations effectively	- Training to be aligned to 1064 Locomotive Acquisition plan / strategy.
Monitor the roll-out of Supplier Integrity Pacts for suppliers bidding for the supply of the Locomotives.		Forensic Champion / TIA Forensic OD Leader				- Ensure that suppliers bidding for the supply of locomotives are being made aware of the Supplier Integrity Pact and its content - Ensure that suppliers bidding for the supply of locomotives sign the Supplier Integrity Pact as part of their contractual obligations with Transnet	- Feedback provided at monthly Locomotives Acquisition Steering Committee
Perform a Fraud Risk Assessment on the 1064 Locomotive Acquisition process		Forensic Champion / TIA Forensic OD Leader				- Identify fraud risks associated with the Locomotive acquisition process. - Ensure controls and action plans are in place to mitigate fraud and corruption risks relevant to acquisition process	- Workshops to be scheduled with stakeholders timeously and - Fraud Risk Document distributed to all key Stakeholders involved in the acquisition process.
Governance							
- Establishment of a Locomotive Acquisition Steering Committee (LSC) - Finalize the Mandate and terms of reference for the LSC.		Forensic Champion				- Ensure that there is oversight and that key stakeholders are held accountable in terms of their obligations in the locomotive acquisition process.	- Finalise terms of reference and mandate for the Locomotive Acquisition Steering committee.
High Value Gateway Review Process		Forensic Champion				- Provide assurance that due process is complied with in the acquisition of the Locomotives.	- Timely delivery of assurance reports to Locomotives Acquisition Steering committee.
Conduct a Conflict of Interest compliance check for employees involved in the 1064 Locomotive Acquisition process		Forensic Champion / TIA Forensic OD Leader				- Determine compliance with the Declaration of Interest and Related Party Disclosures Policy - Identify possible conflicts of interest	- Timeous delivery of the final report to Steering Committee.
Conduct a Gifts compliance check for stakeholders involved in the 1064 Locomotive Acquisition process		Forensic Champion / TIA Forensic OD Leader				- Determine compliance with the Gifts Policy - Identify possible incidents of non compliance	- Timeous delivery of the final report to Steering Committee.
Conduct a Delegation of Authority compliance check for stakeholders involved in the 1064 Locomotive Acquisition process		Forensic Champion / TIA Forensic OD Leader				- Determine compliance with the Delegation of Authority framework - Identify possible incidents of non compliance	- Timeous delivery of the final report to Steering Committee.
Perform Vendor Due Diligence on all entities that proposed for 1064 locomotives, including site visits, 3rd tier business interests against Transnet restricted vendors and their directors		Forensic Champion / TIA Forensic OD Leader				- Determine compliance with all Transnet related Policies	- Timeous delivery of the final report to Steering Committee.
Conduct Mimecast and Harddrive Analysis on all internal stakeholders involved in the 1064 Locomotive Acquisition process.		Forensic Champion / TIA Forensic OD Leader				- Identify possible fraud / corruption being committed by stakeholders in the 1064 Locomotive Acquisition process	- Timely delivery of reports to Management and the Locomotives Acquisition Steering Committee.
Review and enhance OEM site visit guidelines		Forensic Champion / TIA Forensic OD Leader				- To ensure that dealings with OEMs are kept at arms length during site visits by Transnet employees or agents	- Timeous delivery of the enhanced OEM site visit guidelines to the Steering Committee for adoption.

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## 10. 7-year man plan

	Yr12/13	Yr13/14	Yr14/15	Yr15/16	Yr16/17	Yr17/18	Yr18/19
<b>Natcor</b>							
Required	752	805	861	1025	1137	1205	1278
Available	408	408	408	408	408	408	408
Delta	344	397	453	617	729	797	870
<b>Natcor2</b>							
Required	216	231	247	294	327	346	367
Available	146	146	146	146	146	146	146
Delta	70	85	101	148	181	200	221
<b>Coalline</b>							
Required	783	838	896	1067	1184	1255	1330
Available	417	417	417	417	417	417	417
Delta	366	421	479	650	767	838	913
<b>Ore line</b>							
Required	156	167	179	213	236	250	265
Available	107	107	107	107	107	107	107
Delta	49	60	72	106	129	143	158
<b>Capecor1&amp;2</b>							
Required	598	640	685	815	904	959	1016
Available	426	426	426	426	426	426	426
Delta	172	214	259	389	478	533	590
<b>Hockeystick</b>							
Required	278	297	318	379	420	446	472
Available	191	191	191	191	191	191	191
Delta	87	106	127	188	229	255	281
<b>Westcor</b>							
Required	128	137	147	174	194	205	217
Available	109	109	109	109	109	109	109
Delta	19	28	38	65	85	96	108
<b>Northcor</b>							
Required	236	253	270	322	357	378	401
Available	158	158	158	158	158	158	158
Delta	78	95	112	164	199	220	243
<b>Sentracor</b>							
Required	270	289	309	368	408	433	459
Available	208	208	208	208	208	208	208
Delta	62	81	101	160	200	225	251
<b>Eastcor</b>							
Required	212	227	243	289	321	340	360
Available	180	180	180	180	180	180	180
Delta	32	47	63	109	141	160	180
	Yr12/13	Yr13/14	Yr14/15	Yr15/16	Yr16/17	Yr17/18	Yr18/19
<b>Required</b>	<b>3629</b>	<b>3884</b>	<b>4155</b>	<b>4946</b>	<b>5488</b>	<b>5817</b>	<b>6165</b>
<b>Available</b>	<b>3100</b>	<b>3100</b>	<b>3100</b>	<b>3100</b>	<b>3100</b>	<b>3100</b>	<b>3100</b>
<b>Delta</b>	<b>529</b>	<b>784</b>	<b>1055</b>	<b>1846</b>	<b>2388</b>	<b>2717</b>	<b>3065</b>

11. Infrastructure plans

EXHIBIT 78

Track / Perway – Axle loading (Current status)

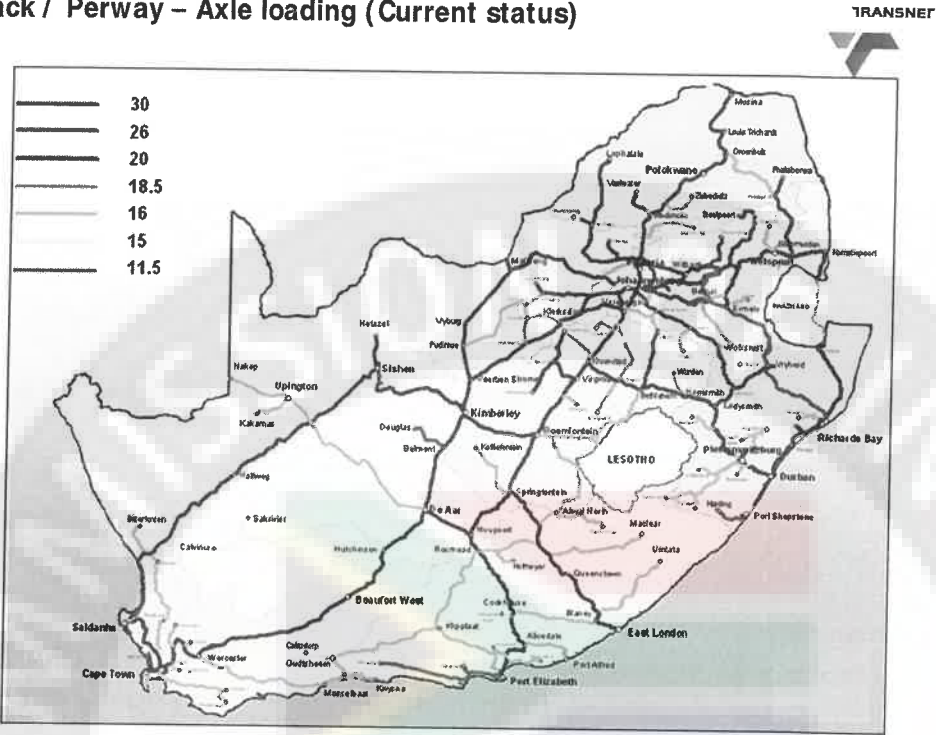
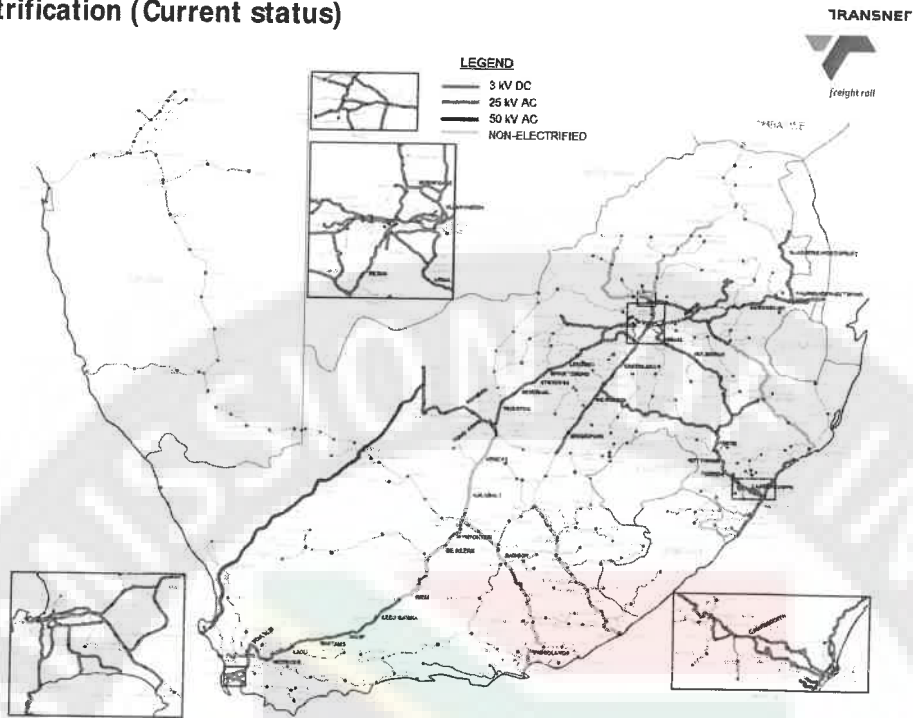


EXHIBIT 79

Electrification (Current status)





## EXHIBIT 80

**Expansionary infrastructure expenditure timeline**

Business focus	Preparation for growth (zero to two years)	Sustained growth (two to five years)	Consolidate (five to seven years)
Infrastructure expansion: Perway/ axle loading	<ul style="list-style-type: none"> <li>Increase axle loading</li> <li>Increase coal line capacity to 81mt</li> <li>Eskom 32mt project</li> <li>Partial doubling of RCB-Nsezi line</li> <li>Waterberg – Phases 2-5 additional passing loops</li> <li>Manganese 16mtpa (Hotazel – Coega)</li> <li>Swazi rail link 15mt.</li> <li>Increase axle loading on Groenbult– Hoedspruit</li> </ul>	<ul style="list-style-type: none"> <li>Increase axle loading</li> <li>Increase coal line capacity to 81mt</li> <li>Coal 91mt project (including Overall tunnel doubling)</li> <li>Eskom 32mt project</li> <li>Geluksploas grade separation</li> <li>Line tripling Broodsmeyersplaas-Ermelo</li> <li>Waterberg – Phases 2-5 additional passing loops</li> <li>Manganese 16mtpa (Hotazel – Coega)</li> <li>Ore line Phase 2A to 82.5mtpa</li> <li>Swazi rail link 15mt</li> </ul>	<ul style="list-style-type: none"> <li>Increase axle loading</li> <li>Overall tunnel doubling</li> <li>Coal 91mt project (including Overvaal tunnel doubling)</li> <li>Eskom 32mt project</li> <li>Line tripling Broodsmeyersplaas-Ermelo</li> <li>Swazi rail link 15mt</li> <li>Doubling of all critical deviations</li> </ul>
Infrastructure expansion: Electrical	<ul style="list-style-type: none"> <li>Increase electrical capacity on the AC section on the coal line</li> <li>Upgrade section Rooikop-Newcastle. Manganese 16mtpa New and Upgraded sub-stations and OHTE</li> </ul>	<ul style="list-style-type: none"> <li>Manganese 16mtpa New and Upgraded sub-stations</li> <li>Ore line Phase 2A to 82.5mtpa power upgrade (including of OHTE)</li> <li>Increase electrical capacity on the AC section on the coal line</li> <li>Coal 91mt project</li> <li>Upgrade sub-stations and electrical equipment</li> <li>Commence with the conversion of 3kV DC to 25kVAC Ermelo-Pyramid South</li> </ul>	<ul style="list-style-type: none"> <li>Completion of the conversion of 3kVDC to 25kVAC Ermelo-Pyramid South</li> <li>Coal 91mt project</li> <li>Eskom 32mt project</li> <li>Upgrade sub-stations and electrical equipment</li> <li>Waterberg – Phase 6 (23mtpa) commence with the electrification of Thabazimbi-Lephalale</li> <li>Conversion of 3kVDC to 25kVAC on Ermelo-Pyramid South</li> </ul>
Infrastructure expansion: Signaling	<ul style="list-style-type: none"> <li>Manganese 16mtpa</li> </ul>	<ul style="list-style-type: none"> <li>Pyramid South – Lephalale: Communication based authorisation (CBA) pilot installation</li> <li>Manganese 16mtpa</li> </ul>	<ul style="list-style-type: none"> <li>Commence with the re-signaling of the coal line (CBA)</li> </ul>

EXHIBIT 81

Track / Perway – Axle loading (Future status)

TRANSNET

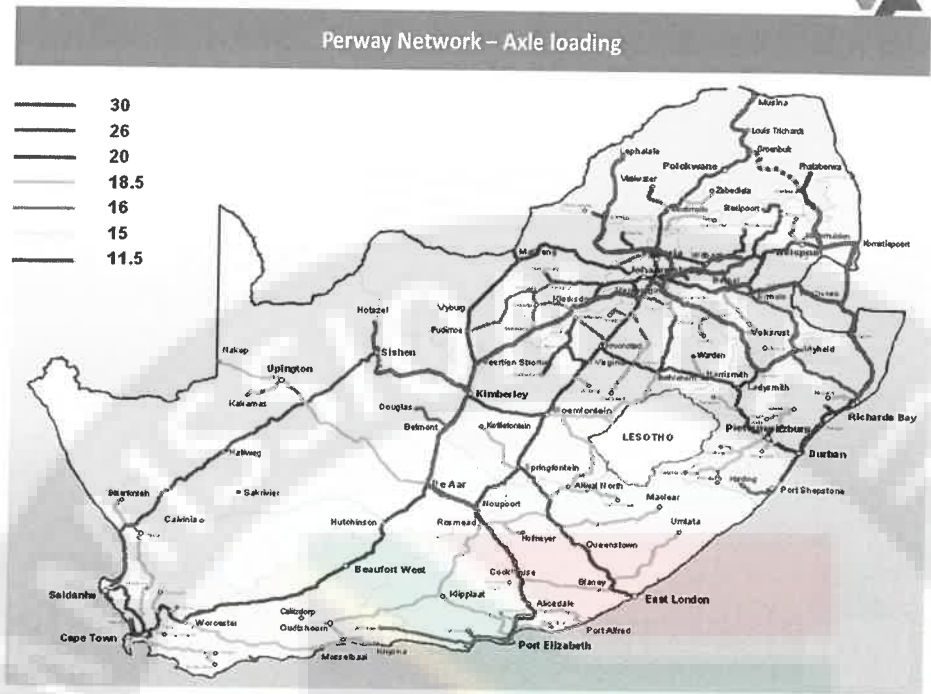
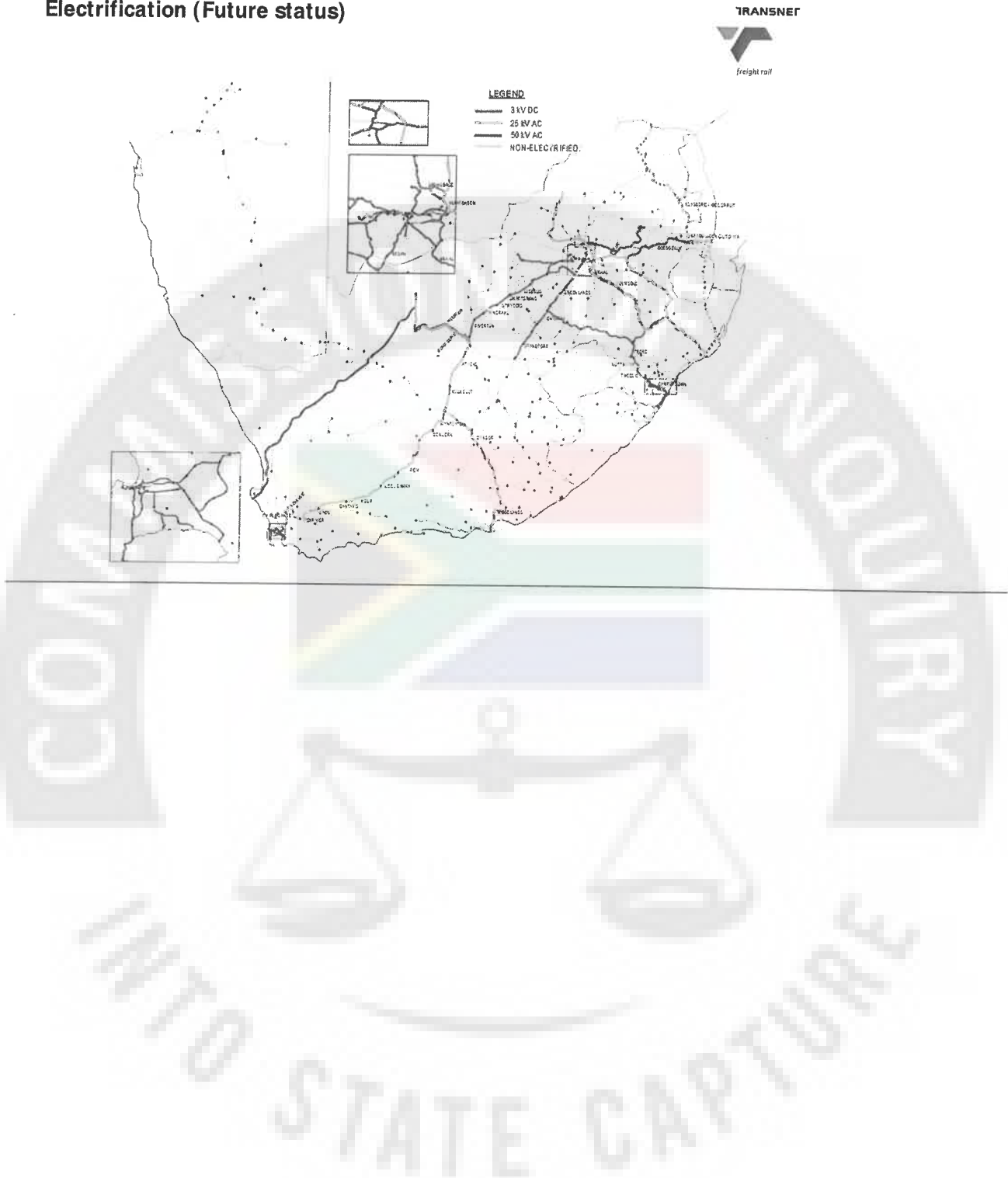


EXHIBIT 82

Electrification (Future status)



## EXHIBIT 83

**Maintenance infrastructure expenditure timeline (1/3)**

<b>Business focus</b>	<b>Preparation for growth</b> (zero to two years)	<b>Sustained growth</b> (two to five years)	<b>Consolidate</b> (five to seven years)
<b>Infrastructure maintenance: sustaining Perway</b>	<ul style="list-style-type: none"> <li>▪ Increase on-track machines capacity and productivity</li> <li>▪ Accelerated rail replacement (765km to 865km)</li> <li>▪ Increase sleeper replacement (480 000 – 550 000/year)</li> <li>▪ Increase ballast screening (690km – 750km)</li> <li>▪ Ore line rail break mitigation plan, Wayside Intelligent Longstress measurement System (WILMA), Ultrasonic Broken Rail Detector System (UBRD)</li> <li>▪ Longstress measurement system (WILMA) – Natcor and coal line</li> <li>▪ Infrastructure sustains (General Freight business) tunnels and bridges</li> <li>▪ Additional three rail trains</li> <li>▪ Level crossing elimination/Level crossing protection (new bridges/protection systems)</li> <li>▪ Drainage rehabilitation</li> <li>▪ Formation rehabilitation</li> <li>▪ Install wheel impact monitoring and weigh-in motion (WIM-WIM) system</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increase on-track machines capacity and productivity</li> <li>▪ Accelerated rail replacement (865km to 1 065km)</li> <li>▪ Increase sleeper replacement (550 000 to 650 000/year)</li> <li>▪ Increase ballast screening (750 – 800km)</li> <li>▪ Longstress measurement systems (WILMA) for core lines</li> <li>▪ Infrastructure sustains (General Freight business) tunnels and bridges</li> <li>▪ UBRD systems on General Freight business core lines</li> <li>▪ Level crossing elimination/Level crossing protection (new bridges/protection systems)</li> <li>▪ Drainage rehabilitation</li> <li>▪ Formation rehabilitation</li> <li>▪ Install wheel impact monitoring and weigh-in motion (WIM-WIM) system</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increase on-track machines capacity and productivity</li> <li>▪ Accelerated rail replacement (1 065km to 1 200km)</li> <li>▪ Maintain sleeper replacement at 650 000/year</li> <li>▪ Increase ballast screening (800km – 850km)</li> <li>▪ Longstress measurement systems (WILMA) for core lines</li> <li>▪ Infrastructure Sustain (General Freight business) tunnels and bridges</li> <li>▪ UBRD systems on General Freight businesses core lines</li> <li>▪ Level crossing elimination/level crossing protection (new bridges/protection systems)</li> <li>▪ Drainage rehabilitation</li> <li>▪ Formation rehabilitation</li> </ul>

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## EXHIBIT 84

**Maintenance infrastructure expenditure timeline (2/ 3)**

Business focus	Preparation for growth (zero to two years)	Sustained growth (two to five years)	Consolidate (five to seven years)
Infrastructure maintenance: Sustaining electrical	<ul style="list-style-type: none"> <li>Primary circuit breaker replacement</li> <li>Track breaker replacement</li> <li>Upgrade and replace switchgear (distribution subs)</li> <li>Traction substations 25-year lifecycle intervention</li> <li>Traction substations 50-year lifecycle intervention</li> <li>Sabotage/vandalism/theft projects</li> </ul>	<ul style="list-style-type: none"> <li>Primary circuit breaker replacement</li> <li>Track breaker replacement</li> <li>Upgrade and replace switchgear (distribution subs)</li> <li>Traction substations 25-year lifecycle intervention</li> <li>Traction substations 50-year lifecycle intervention</li> <li>Sabotage/vandalism/theft projects</li> </ul>	<ul style="list-style-type: none"> <li>Traction substations 25-year lifecycle intervention</li> <li>Traction substations 50-year lifecycle intervention</li> <li>Sabotage/vandalism/theft projects</li> </ul>
Infrastructure maintenance: Sustaining signaling	<ul style="list-style-type: none"> <li>Consolidation of single manned cabins</li> <li>Centralisation of CTCs</li> <li>Subsystem replacement to extend life (e.g., replace track circuits, remote control systems, power equipment)</li> <li>Migrate systems from copper to optic fibre (coal line, Manganese corridor, Natcor, Sentrarend area, Houtheuwel – Klerksdorp)</li> <li>Installation of electronic interlocking systems (three pilot sites)</li> <li>Resignalling of Kamfersdam – Postmasburg</li> <li>Resignalling of Bellville – Wellington</li> <li>Resignalling of Umgeni – Stanger</li> <li>In-motion weighbridges</li> <li>Upgrade/replace measurement systems</li> </ul>	<ul style="list-style-type: none"> <li>Centralisation of CTCs</li> <li>Subsystem replacement to extend life (e.g., replace track circuits, remote control systems, power equipment)</li> <li>Migrate systems from copper to optic fibre (Port Elizabeth – De Aar, De Aar – Wellington, Empangeni, Oglies)</li> <li>Rationalisation of signaling systems in the central region (Gauteng area)</li> <li>Remodeling track layout and resignalling Gauteng area (Elsburg – India – Jupiter – Watties)</li> <li>Resignalling of Bellville – Wellington</li> <li>Resignalling of Umgeni – Stanger</li> <li>Replace PEL interlockings in the Karoo and Port Elizabeth</li> <li>Upgrade/replace measurement systems</li> </ul>	<ul style="list-style-type: none"> <li>Subsystem replacement to extend life (e.g., replace track circuits, remote control systems, power equipment)</li> <li>Migrate systems from copper to optic fibre</li> <li>Replace PEL interlockings in the Karoo and Port Elizabeth</li> <li>Coal line: Upgrade/replace the Vehicle Identification System (VIS)</li> <li>Resignalling projects on General Freight business lines commence</li> </ul>

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## EXHIBIT 85

**Maintenance infrastructure expenditure timeline (3/ 3)**

<b>Business focus</b>	<b>Preparation for growth (zero to two years)</b>	<b>Sustained growth (two to five years)</b>	<b>Consolidate (five to seven years)</b>
Infrastructure maintenance: Sustaining telecoms	<ul style="list-style-type: none"> <li>Upgrade national optical fibre cable network</li> <li>Upgrade and replace access multiplexers</li> <li>Improve train communication in rail tunnels countrywide</li> <li>Provision of new telecommunication backbone infrastructure</li> <li>Train radios Phase 4</li> <li>Replace unstable masts and towers</li> <li>De-copper in Empangeni, Ermelo and Ogies</li> </ul>	<ul style="list-style-type: none"> <li>Upgrade national optical fibre cable network</li> <li>Upgrade and replace access multiplexers</li> <li>Improve train communication in rail tunnels countrywide</li> <li>Provision of new telecommunication backbone infrastructure</li> <li>Train radios Phase 4</li> <li>Replace unstable masts and towers</li> </ul>	<ul style="list-style-type: none"> <li>Upgrade national optical fibre cable network</li> <li>Upgrade and replace access multiplexers</li> </ul>

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## 12. Wagon requirements

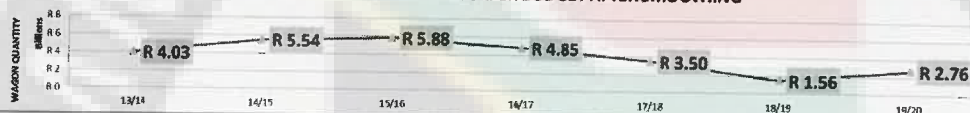
### EXHIBIT 86

#### 5 PROPOSED CAPEX BUDGET OVER SEVEN YEARS AFTER SMOOTHING

TRANSNET

BUDGET DESCRIPTION	13/14 BUDGET	14/15 BUDGET	15/16 BUDGET	16/17 BUDGET	17/18 BUDGET	18/19 BUDGET	19/20 BUDGET	
	QTY	BUDGET (Rm)	QTY	BUDGET (Rm)	QTY	BUDGET (Rm)	QTY	BUDGET (Rm)
SUSTAIN	1 051	R 445 190 331.00	2 071	R 831 438 054.32	1 436	R 736 467 834.12	1 424	R 776 189 874.02
CONVERSION	382	R 198 127 333.00	-	R 101 134 922.38	-	R 0.00	-	R 0.00
MODIFICATION	180	R 2 690 990.00	-	R 2 120 000.00	-	R 0.00	-	R 0.00
FORBIDE	143	R 12 734 000.00	-	R 29 319 440.00	-	R 0.00	-	R 0.00
WHEEL TEST	521	R 33 034 800.00	324	R 21 759 220.00	324	R 12 609 079.20	322	R 21 553 713.10
SAMPLE	-	-	-	-	-	-	-	-
TESTING	83	R 3 569 000.00	-	R 2 783 140.00	-	R 4 610 128.40	-	R 4 250 736.16
WHEEL RETAIN	990	R 44 616 900.00	-	R 47 292 560.00	-	R 0.00	-	R 0.00
RE	-	-	-	-	-	-	-	-
CERTIFICATION	175	R 28 337 230.00	-	R 0.00	-	R 0.00	-	R 0.00
R C MEGA GROUP	1 223	R 1 191 759 787.87	1 251	R 1 134 483 043.30	2 145	R 2 171 519 822.00	1 728	R 1 853 027 485.87
NEW BUILD - CONTAINER	572	R 444 669 446.17	1 494	R 1 222 220 419.20	-	R 0.00	-	R 0.00
NEW BUILD - CR	1 001	R 875 860 466.00	1 078	R 1 000 290 430.00	1 312	R 1 290 403 150.36	1 320	R 1 314 364 208.17
NEW BUILD - SC-Double	240	R 509 785 800.00	-	R 0.00	-	R 0.00	-	R 0.00
NEW BUILD - SC-Single	-	R 0.00	-	R 0.00	-	R 0.00	-	R 0.00
OF NEW BUILDS	2 216	R 1 021 874 500.00	2 814	R 3 416 886 312.30	2 438	R 3 461 393 272.36	2 047	R 3 228 191 635.90
COASTLINE NEW BUILD	-	R 0.00	539	R 667 534 692.00	530	R 767 586 774.40	-	R 0.00
ONELINE NEW BUILD	-	R 0.00	-	R 0.00	629	R 721 372 692.00	629	R 745 231 061.00
RE-ACTIVATION	0	R 0.00	932	R 119 294 987.00	-	R 0.00	-	R 0.00
INFRA SUSTAIN	308	R 221 000 000.00	-	R 128 000 000.00	-	R 120 000 000.00	-	R 48 000 000.00
TOTAL BUDGET	7 289	R 4 029 503 254 1 677	13 336	R 232 494 6 037	15 876	R 769 347 5 882	14 843	R 875 829 4 080

#### SEVEN YEAR CAPEX BUDGET AFTER SMOOTHING



NOTES:

### 13. Locomotive types and capacity

#### EXHIBIT 87

The GFB fleet currently has a total capacity of ~ 92 MGTK per year

Electric			Diesel		
Loco type	Number in fleet	Total capacity (MGTK p.a.)	Loco type	Number in fleet	Total capacity (MGTK p.a.)
6E	75	2,507	33	5	38
7E	216	23,224	34	318	7,689
8E	37	19	35	146	1,006
9E	0	0	36	167	244
10E	104	13,795	37	70	1,372
11E	1	130	38	38	827
14E	8	330	39	53	2,852
18E	597	34,026	43	53	4,235
<b>Total</b>	<b>1038</b>	<b>74,031</b>	<b>Total</b>	<b>850</b>	<b>18,626</b>

The current fleet is made up of 66 percent electric and 34 percent diesel with a total fleet size of 1,888 locomotives and capacity of 92 million gross ton kilometres per year. The active GFB fleet includes both the operational fleet and the fleet undergoing maintenance, but excludes mothballed locomotives. The operational fleet consists of the locomotives available for operations. Typically, 12 percent of the active fleet's locomotives are undergoing maintenance or minor repairs, but this varies depending on the level of reliability of individual locomotives and locomotive classes at any point in time.

The operational fleet is categorised into "shunters" and "workhorses." Workhorses are the prime movers, hauling loads between hubs, and generate the income earning net ton kilometres. They are TFR's inputs in locomotive efficiency measures. Shunters are primarily used to place and clear loaded wagons and compile trains before departure. Although shunters are not prime income earners, they are an essential component of operations and an overhead cost that must be covered.

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## 14. Locomotive specifications

Locomotives have a long lifespan and the technology is constantly evolving. Therefore, to maintain efficiencies and capacity, TFR needs to procure recently designed locomotive types that not only enable it to deliver on the Fleet Plan but also capture the aforementioned operational efficiencies.

EXHIBIT 88

### General locomotive specifications

Doc ID

TRANSNET

delivering freight reliably

PRELIMINARY

## General locomotive specifications

Locomotive feature	Electric	Diesel								
Energy source	▪ 25 kv AC and 3 kv DC	Diesel								
Maximum axle load (tonnes)	22	22								
Continuous tractive effort <sup>1</sup>	<table> <tr> <th>Bo-Bo</th><th>Co-Co</th></tr> <tr> <td>267</td><td>400</td></tr> </table>	Bo-Bo	Co-Co	267	400	<table> <tr> <th>Bo-Bo</th><th>Co-Co</th></tr> <tr> <td>267</td><td>400</td></tr> </table>	Bo-Bo	Co-Co	267	400
Bo-Bo	Co-Co									
267	400									
Bo-Bo	Co-Co									
267	400									
Base speed	34	34								
Maximum operating speed (km/hr)	100	100								

<sup>1</sup> Bo-Bo: 2521 kw at 34 km/hr and Co-Co: 3778 kw at 34 km/hr

SOURCE: 1064 Loco Business Case Annexure K- Locomotive Specifications

4

Exhibit 9, above, shows the high-level specifications of the locomotives to be procured. A major feature of the procurement is that it offers suppliers the choice of providing either Bo-Bo<sup>9</sup> or Co-Co<sup>10</sup> wheel configurations. It also requires the electric locomotives to run on both AC and DC lines given South Africa's gridline structure.

The proposed locomotives have significant improvements in engine design and lower pollutants per tonne kilometre. They are 8 percent more fuel efficient and are also more powerful, with a continuous tractive effort of 349 kN compared to the 218 kN of the class 34 diesels in dry conditions.

A direct comparison of class 6E and 18E to the proposed new locomotive is not possible. However, our knowledge of and experience with the recently delivered 19E and 15E suggest TFR can expect an electrical

<sup>9</sup> Two-wheel configuration

<sup>10</sup> Three-wheel configuration

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efficiency improvement of at least 18 percent, as well as regenerative capability that feeds power back into the Eskom grid. The design calls for a tractive effort between 267 and 400 kN, which is considerably higher than the 170 kN of the 6E series or the 200 kN of the 18E series.

## 15. Technology

The new locomotives will all be equipped with new technology which is currently being retrofitted to the existing fleet. The technologies are summarised below.

- Integrated Asset Tracking to track locomotives and wagons using a combination of tracking technologies including GPS and GPRS.
- Electronic Control Pneumatic Braking (ECPB). This enhances the current pressurised air brake system by sending an electric signal via a control cable simultaneously to all wagons to apply their brakes. This eliminates the propagation delay encountered in the traditional system where the signal is pneumatically transmitted from the locomotive down the length of the train. A result of this system trains brake more responsively and more evenly and safer. It is being implemented on all 200 wagon trains.
- Radio Distributed Power enables driverless locomotives to be placed within the length of the train and remotely control them from the lead locomotive. This enables longer and safer trains as the tractive forces are more evenly distributed along the length of the train. Coupler breakages because are reduced to being eliminated as the tractive forces are no longer concentrated at the leading locomotive consist.

This technology was pioneered on the Iron Ore Export Line and will be used in other heavy haul operations but will not be universally fitted.

- Cab based authorisation, control and communication systems. This cab mounted equipment provides an unobtrusive visual display to the driver with easy and intuitive controls and inputs. There are also interfaces to the locomotive controls providing automatic stop features in the event of over speeding or failure to adhere to a valid command.

All new locomotive designs will incorporate the design ergonomics of these systems and interfaces to the locomotive controls conception through to commissioning.

Retrofitting this equipment to existing locomotives almost always results in suboptimal ergonomic designs and control interfaces.

- Electronic Fuel Injection Engine Technology provides better green fuel efficiencies and higher power output using micro controllers that intelligently switches the engine on and off to eliminate excessive idling. Indications are that these could reduce the energy bill for these locomotives with up to 10 percent.
- Data Loggers report on the condition (health) of the locomotive fleet, thereby optimising maintenance and improving efficiencies in the maintenance of the locomotive fleet. It is planned

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that this information is transmitted back to the central locomotive control for maintenance planning and to analytically develop preventative maintenance measures.

- Trip Optimisers are being tested and evaluated for diesels and are being considered for electric locomotives. The Trip Optimiser results in significant fuel and energy savings as it computes the best match for the throttle / notch position of the locomotive to preloaded profile for the trip and running time to be achieved. Using the trip optimiser ensures that only the optimum power is applied at any one time and integrated over the trip, the minimum energy is consumed. As a stand-alone system with automatic throttle control, energy savings of 3 percent - 17 percent are indicated in the commercial literature depending on the locomotive type, track conditions and driver behaviour. Further savings are possible depending on the degree of integration into other systems such as Dynamic Brake Control, Integration with Train Authorisation Systems and ultimately Movement Planning.

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## 16. Change management plan

Area	Scope	Responsibility and Plan
1 New Train Crew	Train 3065 drivers over life of MDS	<p><b>Responsible:</b> School of Rail and Logistics Integration</p> <p>Current there is a capacity of 500 drivers and 500 train assistants per year. This will be continuously reviewed based on the following lean initiatives:</p> <ol style="list-style-type: none"> <li>1. One man crew project that will allow TFR to fast track trained assistants to become train drivers</li> <li>2. Continuous Professional Learning program being put in place of the current relicensing program. This will reduce the relicensing program from 22 days per 2 years down to 6 days per 2 years as per international alignment best practice.</li> <li>3. Improving train running times with the injection of the new, more reliable and operationally flexible fleet of locomotives will require a review of number of drivers required.</li> <li>4. Create sufficient capacity for additional new recruits.</li> </ol> <p><b> caveat: start training immediately</b></p> <p><b>Plan:</b></p> <ul style="list-style-type: none"> <li>• Training maximum number of drivers possible to close shortfall and create excess supply for years where SoR cannot meet demand</li> <li>• Supplement new drivers by fast tracking trained assistants to become train drivers</li> </ul>
2 Existing Train Crew	<ul style="list-style-type: none"> <li>• Retrain existing crew onto new locomotives.</li> </ul>	<p><b>Responsible:</b> School of Rail and Logistics Integration</p> <p>Conversion takes place according to rollout</p> <p>Diesel – Diesel and Electric – Electric: 8 working days and three supervised “quarantined” trips under local section manager</p> <p>Diesel – Electric and Electric – Diesel: 15 working days and three supervised “quarantined” trips under local section manager:</p> <ul style="list-style-type: none"> <li>• Phalabora – Richards Bay: completed for class 43D</li> <li>• Saldaanha – completed for Class 43D</li> <li>• Welgedag and Ogles – underway for Ma jubla</li> </ul>
3 New train operating	<ul style="list-style-type: none"> <li>• Consult train crew on new operating practice's</li> </ul>	<p><b>Responsible:</b> General Manager, Logistics Integration supported by Change Leadership</p> <p><b>Plan:</b></p> <ul style="list-style-type: none"> <li>• Already implemented Phalabora – Richards Bay (Use lessons learned to prepare consultation material)</li> <li>• Prepare consultation material based on deployment plan – end April 2013</li> <li>• Prepare roll-out countrywide based on loco deployment plan.</li> <li>• Consult with labour on trains running through and by-passing yards. Crew change in-line.</li> <li>• Conduct face to face engagements with Train Crew Staff (Section Managers / Train drivers, Train Assistants and loco prep-crews) based on deployment plan timelines</li> </ul>
4 Current Locomotive	<ul style="list-style-type: none"> <li>• Electronic Control Pneumatic Braking</li> <li>• Radio Controlled Power</li> <li>• On Board Computers with speed profile and limit of authorisation movement control</li> </ul>	<p><b>Responsible:</b> School of Rail and Logistics Integration</p> <p>Current technologies being further rolled out</p> <p><b>Plan:</b></p> <ul style="list-style-type: none"> <li>• Plan developed to bring current drivers and personal to the latest technologies being deployed</li> <li>• Continuously update training material with the latest technologies being deployed to deliver new recruits to the new technologies</li> <li>• Included in conversion course where required.</li> <li>• Points above apply to School of Engineering</li> </ul>

<b>5 New Locomotive Technologies - Driver</b>		
<b>5.1 Cab Based Authorisation</b>	<ul style="list-style-type: none"> <li>Similar to the On Board Computer but with additional features to fully replace lineside signalling systems</li> </ul>	<p><b>Responsible:</b> Development: Technology Management  <b>Implementation:</b> Capital Program  <b>Training Material:</b> Technology Management (Technical Lead)  <b>Rail Directives (Train Working Regulations)</b>  <b>School of Rail (Compile Training Material)</b>  <b>Training:</b> School of Rail  <b>Plan:</b>  As the new technology is rolled out by corridor. Not directly linked to the IO64 but will require retro-fitting as and when.</p>
<b>5.2 Trip Optimisers</b>	<ul style="list-style-type: none"> <li>Computes the best match for throttle / notch position against pre loaded speed and gradient profile</li> </ul>	<p><b>Responsible:</b> Development: Technology Management  <b>Implementation:</b> Capital Program  <b>Training Material:</b> Technology Management (Technical Lead)  <b>Rail Directives (Train Working Regulations)</b>  <b>School of Rail (Compile Training Material)</b>  <b>Training:</b> School of Rail  <b>Plan:</b>  <ul style="list-style-type: none"> <li>Incorporated into driver training. As the new technology is accepted and rolled out.</li> </ul> </p>
<b>6 Locomotive Commissioning</b>	<ul style="list-style-type: none"> <li>Ensure sufficient skilled technical staff to receive and commission locomotives on delivery</li> </ul>	<p><b>Risk:</b> Identified as a Key Risk  <b>Responsible:</b> Capital Program  <b>Plan:</b>  <ul style="list-style-type: none"> <li>Sufficient skilled technical staff exist within Transnet, particularly in Transnet Engineering as Locomotive Fleet managers and similar.</li> <li>Identify the Transnet pool of skilled staff competent to commission / accept locomotives – Capital Program</li> <li>Compile commissioning schedule – Capital Program</li> <li>Initial liaison with TE for secondment of staff for the duration of locomotive commissioning process – TFR CE and TE CE</li> <li>Detail and dynamic liaison with TE according to delivery schedule – Capital Program</li> </ul> </p>
<b>7 Locomotive Planning TFR</b>		
<b>7.1 TFR - "Loco Control"</b>	<ul style="list-style-type: none"> <li>Monitoring and Oversight of locomotive planning and utilisation</li> <li>Accountable for locomotive allocation to Business Units</li> <li>Final accountability for locomotive utilisation</li> <li>Accountable for locomotives meeting maintenance schedules</li> <li>Receive, analyse and utilise info from on board Loco Monitoring System</li> <li>Receive, analyse and utilise info from wayside Acoustic Bearing Monitor System</li> <li>Direct extra-ordinary maintenance</li> </ul>	<p><b>Responsible:</b> General Manager, Logistics Integration  <b>Plan:</b>  <ul style="list-style-type: none"> <li>Develop Staff structure – complete</li> <li>Approve Structure – Chief Opt Off - complete.</li> <li>Approve structure – CE and GM Human Capital – awaiting final signature</li> <li>Appoint staff – Target commence 1 June 2013 – complete Dec 2013</li> </ul> <b>Note:</b> Many staff with requisite skills exist within Transnet and TE.</p>
<b>7.2 TFR - Loco Resource Planning</b>	<ul style="list-style-type: none"> <li>Strategic, tactical and operational planning and deployment of locomotives</li> <li>Deviation monitoring and corrective action</li> </ul>	<p><b>Responsible:</b> General Manager, Capital Program and Information Technology for system capability  General Manager, Logistics Integration for planning (see Loco Control)  Business Units for operational execution  <b>Plan:</b>  <ul style="list-style-type: none"> <li>Integrated Asset and Train Planning capability being revamped and upgraded – Capital Program – 24 months. (Business Case, Tender, Procure, Commission and Train, Implement)</li> </ul> </p>
<b>7.3 Loco Condition and Logging</b>	<ul style="list-style-type: none"> <li>Current condition of locomotive</li> <li>Planned maintenance schedule</li> <li>Loco history</li> </ul>	<p><b>Responsible:</b> General Manager, Capital Program and Information Technology for system capability  General Manager, Logistics Integration for operational use  <b>Plan:</b>  <ul style="list-style-type: none"> <li>Integrate with TE systems</li> <li>Load maintenance programs</li> <li>Integrate with track and wayside monitoring equipment. <ul style="list-style-type: none"> <li>Hot Box detectors</li> <li>In motion weigh bridge</li> <li>Acoustic Bearing Detectors</li> </ul> </li> </ul> </p>

<b>8 Locomotive Maintenance TE</b>		
<b>8.1 Align maintenance paradigm with TE</b>	<ul style="list-style-type: none"> <li>• Workshop new maintenance paradigm with TE</li> </ul>	<p>Responsible: CE TFR with CE TE on high level implications General Manager, Capital Program, COO and General Manager, Logistics Integration on practical implementation with their TE counterparts</p> <p>Paradigm: Time determined condition based maintenance, fit-on: fit-off, OEM / specialised repair of fit-on: fit-off components and not workshop repair, predictive analysis from monitoring systems, spares ready for called-in locomotive, technician to locomotive and not locomotive to workshop/depot, impact on skills, impact on staff numbers, impact on depots.</p> <p>Plan:</p> <ul style="list-style-type: none"> <li>• Workshop maintenance paradigms, skills transfer from OEM, skills training, staff requirements and workshop locations</li> <li>• Plan engagement with Labour</li> <li>• Complete in line with award process (Adjudication informs the process)</li> </ul>
<b>8.2 Skills</b>	<ul style="list-style-type: none"> <li>• To have sufficient and proper skills in place to maintain new technology locomotives</li> </ul>	<p>Responsible: TE COO and GM Locomotives</p> <p>Supported by General Manager, Capital Program and General Manager, Logistics Integration.</p> <p>Plan:</p> <ul style="list-style-type: none"> <li>• In conjunction with OEMs, determine required skill set/s</li> <li>• Informed by maintenance plans, determine number of technicians required and skills</li> <li>• Assess current artisans for skills migration (from mechanic and electrician to diagnostician)</li> <li>• Determine staffing per depot based on locomotive deployment (Two months after adjudication)</li> <li>• Have technical support from the relevant OEMs for a defined period to ensure that maintenance activities remain relevant and to required standard. This ensures that there is a smooth transition of technology understanding as well as reducing the risk of fleet reliability diminishing due to poor quality maintenance.</li> </ul>
<b>8.3 Depots</b>	<ul style="list-style-type: none"> <li>• To optimise maintenance depots based on maintenance workload and new practices</li> </ul>	<p>Responsible: TE COO and GM Locomotives</p> <p>Informed by General Manager, Capital Program and General Manager, Logistics Integration.</p> <p>Plan:</p> <ul style="list-style-type: none"> <li>• TFR informs required maintenance facilities based on deployment and workload – done – see deployment plan</li> <li>• TFR and TE align on final depot location, facilities required – end June 2013</li> <li>• TE consolidates depots to final plan – according to rollout and deployment and consolidation of current fleet.</li> </ul>
<b>8.4 Labour</b>	<ul style="list-style-type: none"> <li>• Consult with labour on impact of maintenance practices and skills on staffing requirements</li> </ul>	<p>Responsible: TE COO and GM Locomotives</p> <p>Supported by General Manager, Logistics Integration and General Manager, Capital Program, Executive Manager Employee Relations</p> <p>Plan:</p> <ul style="list-style-type: none"> <li>• Workshop with labour based new maintenance paradigm and requirements (end July 2013)</li> <li>• Ongoing consultation on affected depot by depot basis</li> </ul>
<b>8.5 Spares</b>	<ul style="list-style-type: none"> <li>• To ensure correct and sufficient spares</li> </ul>	<p>Responsible: TE COO and GM Locomotives</p> <p>Supported by General Manager, Logistics Integration and General Manager, Capital Program</p> <p>Plan:</p> <ul style="list-style-type: none"> <li>• Determine spares holdings based on OEM maintenance schedules</li> <li>• Initial spares supply to be negotiated as part of contract</li> <li>• Adjust requirements based on practical experience</li> <li>• With Procurement, set up mechanisms to minimise delivery delay</li> <li>• On basis of pending maintenance work, ensure spares are on the workshop floor to await arrival of locomotive.</li> <li>• Have full OEM support for the fleets deployed</li> </ul>

## Project Authorisation Signatures

### *Transnet Freight Rail*

Submission recommended:

\_\_\_\_\_  
**Siyabonga Gama**  
 Chief Executive: Freight Rail

\_\_\_\_\_  
 Date

### *Transnet Group*

Submission recommended:

\_\_\_\_\_  
**Anoj Singh**  
 Chief Financial Officer

\_\_\_\_\_  
 Date

Submission recommended:

\_\_\_\_\_  
**Brian Molefe**  
 Group Chief Executive

\_\_\_\_\_  
 Date

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## ANNEXURE FC 55



**fcallard@telkomsa.net**

**From:** Cliffy Ramages Transnet Freight Rail PTA  
**Sent:** 28 February 2014 10:47  
**To:** Pragasen Pillay Transnet Freight Rail JHB; Francis Callard Transnet Freight Rail JHB  
**Cc:** Peet Zeelie Transnet TFR; Peter Martin Transnet Engineering SLR; Vilvalingum Nair Transnet Freight Rail JHB; Tlhabakgoadi Malatse Transnet Freight Rail JHB  
**Subject:** RE: Aggressive Delivery Plan  
**Attachments:** Capital Projects 10 year plan 14\_15\_Loco\_10 Feb 2014 Version 4 JD Meeting(2).xlsx

Good Day JD,

As requested the financial impact should all programs be stopped.

The first submission included the following programs being stopped

- Capex
  - 10E/1/2 Upgrade
- Copex
  - 7E3 MOP
  - 10E MOP
  - 10E1 GO (Change to MOP)
  - 10E1 MOP
  - 10E2 MOP
  - 7E1 RETROFIT TO UPGRADE
  - 7E3 UPGRADE
  - 7E2 MOP MINOR

The second submission excludes the 18 programs as per instruction. The 35 GO and 36 GO also excluded based on that no shunting strategy included.

An additional 30% included in the unscheduled maintenance line as components life cycle will be exceeded.

The impact would add an additional R615m over the ten year period.

Regards

**TRANSNET**



Clifford Ramages  
Senior Fleet Maintenance Manager  
(Diesel Locomotives)  
Capital Program  
Transnet Freight Rail  
Transnet Limited

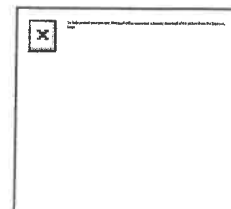
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## ANNEXURE FC 56



**TFR PRELIMINARY VIEW ON EXPEDITING 1064 LOCOMOTIVES**

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Compiled by:  
Francis Callard  
Pragasen Pillay  
Ms. Rita Roper

11 Feb 2014



## 1 Introduction

This document was prepared in response to a request by the GCFO to ascertain TFR's ability to absorb an accelerated 1064 locomotive programme delivery.

TFR can accommodate the accelerated 1064 locomotive programme delivery subject to the conditions stipulated.

Table 1

Year	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	Total
Electric	0	33	89	86	86	86	86	86	47	0	599
Diesel	0	26	94	94	94	94	63	0	0	0	465
<b>Original</b>	<b>0</b>	<b>59</b>	<b>183</b>	<b>180</b>	<b>180</b>	<b>180</b>	<b>149</b>	<b>86</b>	<b>47</b>	<b>0</b>	<b>1064</b>
<b>Accelerated</b>		<b>216</b>	<b>300</b>	<b>300</b>	<b>248</b>						<b>1064</b>

## 2 Strategy

- To accommodate the maximum number of locomotives that TFR can absorb into operations based on the maximum tonnages that can be hauled.
- Fast-track the parking of old locomotives and addressing operational system reliability and efficiency.
- To overcome Eskom power constraints, TFR will operate an electric-diesel DP configuration

Caveat: Organisational recognition of the technical nature of the work and the skills required.

## 3 Market

Market supports the accelerated additional tonnages.

Table 2 Aggressive traffic demand against original demand

	FY	2014/ 2015	2015/ 2016	2016/ 2017	2017/ 2018	2018/ 2019	2019/ 2020	2020/ 2021	2021/ 2022	2022/ 2023	2023/ 2024
<b>GENERAL FREIGHT TONS</b>	Budget	97.8	110.9	130.1	144.7	159.9	169.2	173.2	177.4	183.2	188.4
	ACCELE RATED Budget	97.8	118.8	142.1	157.1	170.7	184.4	189.6	191.9	197.5	202.4
	++	-	7.9	12.0	12.4	10.8	15.1	16.4	14.5	14.3	14.0

For detail refer to the annexure.

## 4 Wagons

The wagon demand plan is adjusted accordingly. The additional wagons required would not exceed the annual budget that has been allocated for the total new builds.

## 5 Linkage to Major Projects

### 5.1 General

The following lists the infrastructure projects that need to be fast-tracked to support the aggressive tonnages based on the aggressive delivery of the 1064 locomotives. Not all of these projects are currently fully funded.

### 5.2 Majuba

The Majuba link line and tonnages must be validated as per the indicated time line

### 5.3 Pyramid / Rustenburg Flows

- Require 200 wagon passing loops between Waterberg and Ermelo inclusive of passing loops at Pyramid South for re-man purposes
- Thabazimbi to Lephelale to be electrified
- AC/DC switching at Pyramid South
- The sidings at the chrome sites need to be extended to accommodate 100 wagon train lengths
- This supports the growth of the Waterberg and TFR's expansion

### 5.4 Manganese/PE

Not a risk in terms of the short-term aggressive positioning, however opportunity is available should there be fast tracking of the projects such as port capacity at Ngqura.

### 5.5 Maputo

The Witbank coal, rock phosphate, and magnetite increased volumes requires infrastructure investment in the following areas:

- Phalaborwa (increased customer capability)
- Kaapmuiden-Komatipoort (increase slot capacity)
- Komatipoort-Maputo (urgent liaison with CFM, upgrade line)

### 5.6 Komatipoort / Richards Bay

- Capacity constrained and requires several infrastructure interventions
- Richards Bay port capacity to increase to 60 trains per week
- Require additional passing loops to create more slot

### 5.7 Mahikeng / Vryburg / Warrenton (Botswana Coal)

- Line to be restored to acceptable standard to haul the coal from Botswana to East London

### 5.8 Risks

- Volatile demand from Eskom
- The price of coal may rise or fall affecting the demand from Botswana
- Capacity within the infrastructure department to execute the projects listed above
- Critical to address, as part of the total logistics chain the customers' ability to deal with the increased freight; this includes 1000km of private sidings and associated infrastructure material supply and transport; road cannot transport rail lengths

## 6 Delivery

- A locomotive is deemed delivered if and only if it is in operation.
- Ability to absorb is subject to :
  - On-time commencement of the delivery of locomotives
  - Even and consistent delivery of locomotives
- Ability to meet the tonnages is dependent on delivery and operational at the start of the financial year

First 10 locomotives from each supplier to be assembled and type tested at suppliers' facility.

The dotted line reflects TE's delivery promise for the start of the aggressive ramp-up.

- To set up local manufacture is a project in its own right.
- Assume 4 production lines with two known suppliers and current production lines and two unknown suppliers with new production lines.
- OEM's will not share production lines or the same facilities to protect their intellectual property and it is unreasonable to expect them to do so.

- Based on the process of acceptance a known supplier must deliver earlier and at a faster rate than an unknown supplier.
- TFR's concern is that the start-up of local manufacture of previous contracts has not been visibly managed as a project under a dedicated and accountable programme manager according to a visible and communicated project plan. This is the cause of the delays experienced.
- Identify the program manager and make the start-up plan visible.

High Level Project Phases Include:

• Supplier Agreements
• Identify premises
• Identify (assembly bays, manufacturing facility, warehouse, paint shop, offices, testing facilities)
• Incoming Logistics (SCS to procure locally sourced material) (Risk – Tendering process and delays)
• Vacate Premises
• Prepare Premises (Paint and Clean and Power)
• Equip Premises (jigs, fixtures, cranes, special tools, etc. )
• Workflow Processes
• QC/QA System
• Identify People
• Train People
• Receive Material (Overseas and Local) (Link to Supplier Agreements)
• Commence manufacture

## 7 Commissioning

### 7.1 General

- Commissioning regime to be changed to cater for rapid ramp-up.
- TFR is considering that the diesel locomotives be commissioned by TE and this matter shall be addressed at a later time.
- There is one electrical team for “type testing” and one diesel team for “type testing”. This is an inherent limitation.
- For both electrical and diesel locomotives the “type testing” period cannot overlap between the two suppliers. (Refer to strategy of separating “known” and “unknown” supplier).
- Design reviews of the electric locomotives cannot overlap; similarly the design reviews of the diesel locomotives cannot overlap.

### 7.2 Delivery and Commissioning Points

- First 10 of any new designed locomotive to type tested at the supplier's overseas factory where equipment, facilities and a test beds are available.

- Commissioning will take 1.5 weeks per locomotive.
- For the acceptance testing 20 special test drivers will be required within TFR Technology Management (Train Design), however it is subject to review.
- Whilst TFR has to recruit 20 specialised drivers, TFR will contract 2 retired drivers namely, Georg Noah and Apie Coetzee as a short term measure.

The following commissioning sites have been identified:

- Durban / Empangeni (1 Electric stream; 1 diesel stream)
- Pyramid South (1 Electric stream; 1 diesel stream)
- Pyramid South is constrained to a maximum of 16 locomotives at any one time. Commissioning is dependent on regular and consistent delivery of locomotives
- The testing is subject to the availability of four adequately equipped and capable test coaches.

### 7.3 Staff

The following preliminary staff arrangements are a pre-requisite:

Name	Role	Action
<b>Required from TE – Design Reviews</b>		
Gerhardus Gildenhuys	Senior Fleet Manager – Engine and Maintenance Specialist	To be seconded for design reviews
Sarel Oberholzer	Manager R&D – Product Development. – Engine and Maintenance Specialist	To be seconded for design reviews
Andy Mabaso	Manager – Diesel Control System Specialist	Transferred to TFR for acceptance testing.
Bertus Els	Manager – Diesel Control System Specialist	Transferred to TFR for acceptance testing.

## 8 Operations

### 8.1 Locomotive Preparation

- TFR is rolling out a full preparation process that will accommodate the delivery of the 1064 locomotives

### 8.2 Crew

- TFR is reviewing the crew requirements based on the aggressive tonnages and the crew will be trained ahead of demand.
- An aggressive intake will commence in the financial year 2014/15. This ramp-up will exceed the current train crew budget.



- Cabs are similar across all new locomotives facilitating driver training and training across series.

## 9 Maintenance

### 9.1 Maintenance

#### 9.1.1 Not negotiable: OEM's to contract and

- (i) perform maintenance during the warranty period and
- (ii) train TE in maintenance procedures.
- (iii) post warranty OEM's to have a presence to transfer technology.

#### 9.1.2 Major maintenance interventions

Adjustment based on delivery of locomotives

Table 3 Possible locomotive CAPEX/COPEX savings from 2015/16 to 2023/24

	2015/2016	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	Total
Capex	R 59 551	R 378 743	R 669 113	R 709 260	R 751 815					
Copex	R 80 143	R 24 272			R 81 046	R 98 532	R 173 797	R 184 225	R 195 278	
Total	R 139 694	R 403 015	R 669 113	R 709 260	R 832 861	R 98 532	R 173 797	R 184 225	R 195 278	R 3 405 773

A consequence of the aggressive delivery is a R3.4bn saving. This will be reviewed once the delivery schedule is confirmed which will inform the timing of the discontinued maintenance programmes.

### 9.2 Locomotive Control

- Locomotive control to move to the office of Logistics Integration
- Locomotive control to be strengthened with a focus (measured) on proactive national planning of general freight revenue earning locomotives
- Continuous technical monitoring of locomotive condition (real time alarms) within locomotive control (finalised technical office)
- Key performance indicators to be developed and enforced (maintaining asset to condition and ensuring return on investment of the asset)

## 10 Upgrade and Maintenance Intervention Impact

The 10E/2 and 10E1 upgrade is abandoned due to aggressive introduction of the 1064 locomotives

## 11 Risk management – Business Case Extract

### 11.1 Risk overview

#### EXHIBIT 1

**Risk assessment and rating**

High medium likelihood, high impact  
 Medium likelihood, medium impact  
 High medium likelihood, medium impact/ Medium  
 Low likelihood, low impact

Risk	Risk ranking	Mitigation action
Planning	I	<ul style="list-style-type: none"> <li>Specialized procurement and planning team</li> <li>Conservative payment regimes to incentivize delivery</li> <li>Optimize number of OEMs for planning required and benefit realized</li> </ul>
Market	II	<ul style="list-style-type: none"> <li>Staged procurement strategy to maintain flexibility in delivery schedule and continuous monitoring of performance against MDS estimates</li> <li>Execute against Market Development Strategy</li> <li>Clean sheet costing to unpack key locomotive cost components</li> </ul>
Exchange rate	I	<ul style="list-style-type: none"> <li>Hedge all foreseeable foreign currency-based expenditure as per Transnet policy</li> </ul>
Operational readiness	II	<ul style="list-style-type: none"> <li>Develop people infrastructure plan</li> <li>Upgrade training modules in line with new locomotives</li> <li>Include maintenance staff training in supplier contract</li> </ul>
	II	<ul style="list-style-type: none"> <li>Implementation of 7 year maintenance plan</li> <li>Increase capacity by increasing production lines and shifts</li> <li>Regular review of build programme that aligns TRE factories</li> </ul>
	III	<ul style="list-style-type: none"> <li>Develop infrastructure expansion business plan</li> <li>Implement infrastructure maintenance plan</li> </ul>
	V	<ul style="list-style-type: none"> <li>The IAT5<sup>1</sup> technologies as part of the new locomotives specifications</li> <li>School of Rail to provide appropriate IAT5 training</li> </ul>
Transaction governance	II	<ul style="list-style-type: none"> <li>Minimize size of working team and minimize dissemination information where possible while enforcing strictest confidentiality</li> <li>Enforce protocol on document sharing and data rooms</li> </ul>
Legal	I	<ul style="list-style-type: none"> <li>Ensure transparent procurement process with accountability</li> <li>Contract with multiple OEMs</li> </ul>
Exogenous	II	<ul style="list-style-type: none"> <li>Explore long term supplier agreements with Eskom while also taking advantage of electric locomotive regenerative powers</li> </ul>

1 Information and Administrative Technology Services

### 11.2 Planning and delivery risk

- |                               |                   |
|-------------------------------|-------------------|
| • approval delays             | - Not addressed   |
| • procurement process delays, | - Not addressed   |
| • production delays           | - Addressed above |

#### 11.2.1 Delivery schedule sensitivities

To mitigate the risk of delays, TFR will pursue a number of strategies simultaneously, including contracting

- |  |  |
|--|--|
| • multiple suppliers;  | - 4 suppliers                            |
| • staging procurement by using international suppliers for initial batches as local supplier development ramps up; | - Initial 10 from international supplier |
| • pursuing a conservative payment strategy <sup>1</sup> to incentivise delivery                                    | - Not addressed                          |
| • mitigation strategies to address the immediate locomotive shortfalls, including leveraging existing contracts,   | - Done – 60 Class 44                     |

<sup>1</sup> Bulk of payment made on delivery and acceptance.

- front-loading orders with international suppliers,
  - exploring leasing, and
  - revising the fleet run-out strategy.
- Initial 10 from international supplier
  - Aurizon Locomotives
  - Constant review

### 11.3 Market risk

- market growth will not materialise.
- inflated purchase prices (not related to forex changes) and
- cost increases exceeding forecasts.

#### 11.3.1 Volume

- 1 percent lower than the MDS base case of 7 percent, results in an NPV of –R1.5 billion.
- Accelerated tariff growth 1 percent above MDS results in a positive NPV of R7.8 billion.
- Tariffs have a marginal impact on CIC with the biggest impact in 2015/16, dropping from 4.0X to 3.9X.

## EXHIBIT 2

### Demand, tariffs, and delivery schedule risks must be managed (1/2)

Greatest impact on NPV

Sensitivities

Base case

Sensitivity 1

Sensitivity 2

Impact

Base case

Sensitivity 1

Sensitivity 2

- Delivery as per RFP: first 100 diesels in 2013-2014; first 65 electrics in 2014/15

- 6 months to complete procurement process
- 12-month diesel production
- 22-month electric production
- ~120 diesels per year
- ~125 electrics per year

- 8 months to complete procurement process
- 18-month diesel production
- 28-month electric production
- ~120 diesels per year
- ~125 electrics per year

- Volume Impact: -49mt
- Revenue Impact: -R13.3bn
- NPV: R2.7bn
- CIC: 3.3x to 3.1x (2013/14)

- Volume Impact: -110mt
- Revenue Impact: -R30.2bn
- NPV: R2.2bn
- CIC: 3.6x to 3.0x (2014/15)

- Volume Impact: -155mt
- Revenue impact: -R43.1bn
- NPV: R1.5bn
- CIC: 3.6x to 3.0x (2014/15)

- MDS volumes achieved

- Current performance vs. MDS (~7% below)

- Volumes grow with projected GDP

- NPV: R2.7bn

- Volume Impact: -59mt
- Revenue Impact: -R16.4bn
- NPV: R1.0bn
- CIC: 3.3x to 3.1x (2013/14)

- Volume Impact: -239mt
- Revenue impact: -R67.9bn
- NPV: -R20bn
- CIC: 4.1x to 2.7x (2016/17)

- ~7% annual escalation to 2019 and CPI thereafter

- Escalation with CPI (~6%)

- Escalation at more than MDS (8%) to 2019; CPI thereafter

- NPV: R2.7bn

- Revenue Impact: -R5.4bn
- NPV: -R1.5bn
- CIC: 4.0x to 3.9x (2015/16)

- Revenue impact: +R9.7bn
- NPV: R7.8bn

### 11.4 Purchase price

- Price estimates incorrect

- Price escalations higher than current assumptions.
- capable procurement team

## 11.5 Costs

### 11.5.1 Forex risk

Forex movement sensitivities in Exhibit 38 indicate a moderate impact on NPV with a 10 percent devaluation in Rand versus USD resulting in a -R2.4 billion movement in NPV. To mitigate the risk of exchange rate fluctuations, the project will be hedged according to the Group policy.

## EXHIBIT 3

### Demand, tariffs, and delivery schedule risks must be managed (2/2)

	Sensitivities			Impact		
	Base case	Sensitivity 1	Sensitivity 2	Base case	Sensitivity 1	Sensitivity 2
4	TFR Fleet Plan	TFR fleet plan with 5% additional efficiencies	TFR Fleet Plan with 10% additional efficiencies	NPV: R2.7bn	NPV: R5.2bn	NPV: R7.6bn
5	Hedging at current forward rate	10% devaluation of ZAR vs. USD	10% appreciation of ZAR vs. USD	NPV: R2.7bn	NPV: R0.3bn	NPV: R5.2bn
6	USD2.6m (diesel), USD3.5m (electric) before escalation	Price increase by 10% over base case	Price decrease by 10% from base case	NPV: R2.7bn	NPV: R1.2bn	NPV: R4.3bn
7	Costs classified as locomotives, wagons and infrastructure with an allocation of GFB overheads	5% increase on base costs	5% decrease in base costs	NPV: R2.7bn	NPV: -R0.8bn	NPV: R6.3bn

## 11.6 Transaction governance risk

## 11.7 Operational readiness risk

## 11.8 Exogenous risks

### 11.8.1 Energy security

- Delays (Khusile etc.)
- Energy costs
- Timely decisions
- Electrification infrastructure not installed

## 11.8.2 Potential strike action





Table 4 Extract of the traffic demand schedule from 2014/15 until 2018/19

Row Labels	CAPACITY NEW DEMAND 2014/2015	CAPACITY NEW DEMAND 2014/2015	CAPACITY NEW DEMAND 2015/2016	CAPACITY NEW DEMAND 2015/2016	CAPACITY NEW DEMAND 2016/2017	CAPACITY NEW DEMAND 2016/2017	CAPACITY NEW DEMAND 2017/2018	CAPACITY NEW DEMAND 2017/2018	CAPACITY NEW DEMAND 2018/2019	CAPACITY NEW DEMAND 2018/2019
COAL (EXPORT BOTSWANA - COAL (EXPORT MAPUTO)	450	3 057	750	1 250	1 250	2 250	1 500	3 500	1 600	5 600
ESKOM (MAJUBA - COAL)	3 057	7 549	3 093	4 093	5 397	5 397	5 397	5 397	5 397	5 397
IRON ORE (DOMESTIC - ORIG	4 920	4 920	5 013	5 013	10 276	12 270	12 600	14 000	14 000	14 000
IRON ORE (DOMESTIC - ORIG	691	691	688	688	5 465	6 465	5 972	8 172	6 451	8 251
MAGNETITE (EXPORT MAPUTO)	3 009	3 009	3 275	5 000	688	983	983	983	983	983
MAGNETITE (EXPORT RICHAR	4 838	4 838	5 095	6 000	3 475	6 000	3 700	6 000	3 900	6 000
MANGANESE (EXPORT DURB	1 170	1 170	1 170	1 684	5 860	6 500	6 700	6 700	6 700	6 700
MANGANESE (EXPORT PORT	4 900	4 900	4 900	6 075	1 170	1 684	1 170	1 684	1 170	1 734
STEEL (DOMESTIC)	218	218	577	577	4 900	6 075	4 900	6 075	5 485	6 075
COAL (WATERBERG)					953	953	963	1 563	973	1 973
MANGANESE (EXPORT VIA O			1 500	1 500	2 500	3 000	8 000	5 000	14 000	10 000
GOLD ORE CRUDE OR SLAG	1 000	1 000	1 500	1 500	1 500	1 500	1 500	1 500	1 500	1 500
RAILWAY EQUIPMENT OR INI	913	913	2 000	2 000	2 400	2 400	2 400	2 400	2 400	2 400
	1 913	1 913	943	943	974	974	1 007	1 007	1 040	1 040
GENERAL FREIGHT	97 754	97 754	5 943	5 943	7 374	7 874	12 907	9 907	18 940	14 940
			110 873	118 765	130 113	142 148	144 749	157 106	159 899	170 716

The entire 10 year traffic demand is available on request.

## ANNEXURE FC 57



**fcallard@telkomsa.net**

---

**From:** Francis Callard Transnet Freight Rail JHB  
**Sent:** 26 February 2014 11:12  
**To:** Anoj Singh Corporate JHB; Mohammed Mahomed Transnet Corporate JHB  
**Subject:** 1064 Aggressive Schedule  
**Attachments:** 1064\_Revenue.pdf; 1064\_Revenue.xlsx

**Follow Up Flag:** Follow up  
**Flag Status:** Flagged

Hi Anoj /Mohammed

Apologies for the delay. My laptop joined the ranks of the unemployed and this new one is still bedding down. Only really online last night. I am not sure if you got the earlier mail. It was in the outbox but disappeared and is not in sent items.

The files attached refer. Also a PDF for tablet reading.

The calcs are high level and relate to the differences in revenue only. The rand per NTK is from the 1064 business case. The locomotive productivity closely matches that of the 100 plus 60. Extracting the detail from the 1064model is more time consuming.

Three scenarios.

- 48 pm versus to Original
- 48 pm versus 300 per year
- 300 per year versus original

Also factored in delivery to production.

Please note (NB) that we cannot absorb more than the 300 per year due to market and commissioning constraints per the earlier note.

Best and regards

Francis

## ANNEXURE FC 58



**TFR PRELIMINARY VIEW ON EXPEDITING 1064 LOCOMOTIVES****UPDATED FOR AGGRESSIVE DELIVERY OF 480 PEAK PER YEAR****Index**

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Compiled by:  
Francis Callard  
Pragasen Pillay  
& Team

Updated 11 March 2014



## 1 Introduction

This document was prepared in response to a request by the GCFO. The GCFO informed that the proposed delivery schedule of the 1064 locomotives is not affordable and the approximate opportunity cost of R10BN exists should the aggressive delivery schedule be shortened. The impact of this request requires an analysis of:

1. TFR's ability to commission and absorb the locomotives according to the more aggressive delivery schedule (480 per annum)
2. The market demand to take up the capacity generated
3. The review of the network constraints and the infrastructure programmes required to take up the increased capacity

Table 1

Year	14/15	15/16	16/17	17/18	18/19	19/20	20/21	21/22	22/23	23/24	Total
Electric	0	33	89	86	86	86	86	86	47	0	599
Diesel	0	26	94	94	94	94	63	0	0	0	465
Original	0	59	183	180	180	180	149	86	47	0	1064
Accelerated TFR Proposal		216	300	300	248						1064
Accelerated R10BN Proposal		216	480	368							1064

## 2 Strategy

- a. To accommodate the maximum number of locomotives that TFR can absorb into operations based on the maximum tonnages that can be hauled.
- b. Fast-track the parking of old locomotives and addressing operational system reliability and efficiency. Exiting of the old locomotives will be accelerated.
- c. To identify the critical network constraints and the project management to meet the timelines required of the aggressive delivery schedule of the locomotives to deliver on the line tonnage ramp-up.
- d. To review and adjust the maintenance of the existing locomotive fleet.
- e. To have the OEM manage and be accountable for the maintenance of the 1064 locomotives during the warranty and defect liability period and provide support in the post warranty period.
- f. To overcome Eskom power constraints, TFR will endeavour to operate an electric-diesel DP configuration where applicable.

Caveat: Organisational recognition of the technical nature of the work and the skills required.

### 3 Market

Market supports the accelerated additional tonnages.

Table 2 Aggressive GFB traffic demand against original demand

FY	2014/20 15	2015/20 16	2016/20 17	2017/20 18	2018/20 19	2019/20 20	2020/20 21	2021/20 22	2022/20 23	2023/2 024
Business Plan 2014/15	97.8	110.9	130.1	144.7	159.9	169.2	173.2	177.4	183.2*	188.4*
ACCELERATED at 300	97.8	118.8	142.1	157.1	170.7					
++	-	7.9	12.0	12.4	10.8	15.1	16.4	14.5	14.3	14.0
ACCELERATED at 480	97.8	118.8	152.3	163.6	175.9					

Note \* refers to MDS tonnages per the business plan submitted for 2014/15 and not resourced by the 1064 locomotives.

For detail refer to the annexure.

### 4 Wagons

There are implications to the wagon budget. Preliminary indications are that even for the 300 locomotive per year ramp up, ~4500 wagons are required for 2015/16. This would cost ~ R4.3bn against the budget of ~ R3bn.

TE has a peak capacity of 3200 wagons per annum. The wagon peak is temporary and this capacity should not be expanded as the demand is not sustainable beyond one or two years.

The move to 480 locomotives per year will further increase pressure on the wagon fleet for 2015/16 and production in 2014/15 (producing the year in advance to meet demand)

The vacuum to air-brake conversion will be fast-tracked.

### 5 Linkage to Major Projects

#### 5.1 General

The following lists the infrastructure projects that need to be fast-tracked to support the aggressive tonnages based on the aggressive delivery of the 1064 locomotives. Not all of these projects are currently fully funded.

#### 5.2 Maluba

Table 3 Schedule of Deliverables

Requirements	Completion timeline
--------------	------------------------

5.2.1 The Majuba link line construction and tippler construction must be finalised to accommodate 14mt coal per annum.	Ali Motala	March 2016
--	------------	------------

### 5.3 Pyramid / Rustenburg Flows

Table 4 Schedule of Deliverables

Requirements (Capital requirements to be brought forward)	Who	Completion timeline
5.3.1 Require 200 wagon passing loops between Waterberg and Ermelo inclusive of passing loops at Pyramid South for re-man purposes (6.3mt coal + chrome expansion)	Ali Motala	March 2016
5.3.2 Thabazimbi to Lephelale to be electrified	Ali Motala	March 2016
5.3.3 AC/DC switching at Pyramid South	Ali Motala	March 2015
5.3.4 The <b>customer</b> sidings at the chrome sites need to be extended to accommodate 100 wagon train lengths	Ali Motala	March 2015
5.3.5 The customers to be aligned at Waterberg	Transnet – Divyesh Kalan	Oct 2014
5.3.6 Two consolidation loops at Thabazimbi (2 x 100 to 1 x 200 wagon trains), or alternatively 5.3.7.	Ali Motala	March 2016
5.3.7 Resgen to construct 200 wagon holding yard at Lephelale and TFR to guarantee cost of construction	Ali Motala	March 2016
5.3.8 Two consolidation loops at Rustenburg (2 x 100 to 1 x 200 wagon trains) for chrome (unbudgeted).	Ali Motala	March 2016
5.3.9 This supports the growth of the Waterberg and TFR's expansion	N/A	N/A

#### 5.4 Manganese/Saldanha

Not a risk in terms of the short-term aggressive positioning, however opportunity is available should there be fast tracking of the projects such as port capacity at Ngqura.

Table 5 Schedule of Deliverables

Requirements (Capital requirements to be brought forward)	Who	Completion timeline
5.4.1 PE bulk terminal limited to 4.9mt until decommissioned	N/A	Until Ngqura is commissioned
5.4.2 PE MPT (Rail solution combination of Swartkops terminal and ALOES siding)	N/A	Until Ngqura is commissioned
5.4.3 Bloemcon containerised solution to PE	Deirdre Strydom	Ongoing
5.4.4 Ngqura expansion to 16mt (awaiting DPE approval); schedule as presented is aggressive and requires on time approval of all procurement events. Procurement delays are single biggest risk to the schedule. TFR requires that this project be brought forward due to the tonnages being aligned to MDS. Locomotives are available but export tons are constrained by the terminal project.	Deirdre Strydom	Feb 2019

#### 5.5 Maputo

The Witbank coal, rock phosphate, and magnetite increased volumes requires infrastructure investment in the following areas:

- Phalaborwa (increased customer capability)
- Kaapmuiden-Komatipoort (increase slot capacity)
- Komatipoort-Maputo (urgent liaison with CFM, upgrade line)

Requirements	Who	Completion timeline
5.5.1 Increase the slot capacity from Komatipoort to Kaapmuiden. Increase (i) loop lengths and then (ii) number of loops.	Caesar Mtetwa	March 2015
5.5.2 Increase and upgrade the line capacity from Kaapmuiden to Maputo – CFM line. Increase to take 50 wagon trains and 20 tons per axle. Critical for magnetite.	Cleo Shiceka	March 2015
5.5.3 Query and potentially upgrade the tippler capacity at Matola.	Cleo Shiceka	

## 5.6 Komatipoort / Richards Bay

Capacity constrained and requires several infrastructure interventions

Requirements	Who	Completion timeline
5.6.1 Richards Bay port capacity to increase to 60 magnetite trains per week from current 35.	Caesar Mtetwa	March 2015
5.6.2 Require additional passing loops to create more slots	Caesar Mtetwa	March 2015
5.6.3 Increase loop lengths in Swaziland to Richards Bay to accommodate long trains.	Cleo Shiceka and/or Caesar Mtetwa	March 2015

## 5.7 Mahikeng / Vryburg / Warrenton (Botswana Coal)

Requirements	Who	Completion timeline
5.7.1 Line to be restored to acceptable standard to haul the coal from Botswana to East London. To move from 40 to 50 wagon trains at 20 tons axle mass.	Caesar Mtetwa	Dec 2014

## 5.8 Risks

- Volatile demand from Eskom.
- The price of coal may rise or fall affecting the demand from Botswana.
- Capacity within the infrastructure department and TCP to execute the projects listed above.
- Critical to address, as part of the total logistics chain, the customers' ability to deal with the increased freight. This includes 1000km of private sidings and associated infrastructure material supply and transport. It must be noted that road cannot transport the rail lengths used.
- Material availability on the infra side.
- Supply of rail contract.
- Reputational risk if commitments made to customers on aggressive schedule are not kept.

## 5.9 Implications

- There must be an adjustment in the capital cash flows to fast track the above to meet the aggressive tonnages as per the time lines stipulated.
- There can be no delay in approving commencing FEL studies not in Project Approvals.
- Supply Chain Services to be fully briefed and accountable for zero delay in material procurement.





- OEM's will not share production lines or the same facilities to protect their intellectual property and it is unreasonable to expect them to do so.
- Based on the process of acceptance a known supplier must deliver earlier and at a faster rate than an unknown supplier.
- TFR's concern is that the start-up of local manufacture of previous contracts has not been visibly managed as a project under a dedicated and accountable programme manager according to a visible and communicated project plan. This is the cause of the delays experienced.
- Identify the program manager and make the start-up plan visible.

#### High Level Project Phases Include:

<ul style="list-style-type: none"> <li>• Supplier Agreements</li> </ul>
<ul style="list-style-type: none"> <li>• Identify premises</li> <li>• Identify (assembly bays, manufacturing facility, warehouse, paint shop, offices, testing facilities)</li> <li>• Incoming Logistics (SCS to procure locally sourced material) (Risk – Tendering process and delays)</li> <li>• Vacate Premises</li> <li>• Prepare Premises (Paint and Clean and Power)</li> <li>• Equip Premises (jigs, fixtures, cranes, special tools, etc.)</li> </ul>
<ul style="list-style-type: none"> <li>• Workflow Processes</li> <li>• QC/QA System</li> </ul>
<ul style="list-style-type: none"> <li>• Identify People</li> <li>• Train People</li> </ul>
<ul style="list-style-type: none"> <li>• Receive Material (Overseas and Local) (Link to Supplier Agreements)</li> </ul>
<ul style="list-style-type: none"> <li>• Commence manufacture</li> </ul>

## 7 Commissioning

### 7.1 General

- 7.1.1 Commissioning regime to be changed to cater for rapid ramp-up.
- 7.1.2 TFR is considering that the diesel locomotives be commissioned by TE and this matter shall be addressed at a later time.
- 7.1.3 There is one electrical team for “type testing (**acceptance**)” and one diesel team for “type testing (**acceptance**)”. This is an inherent limitation based on available expertise.
- 7.1.4 TFR is looking at where additional specialised expertise may be available but it is a highly specialised and scarce resource.
- 7.1.5 For both electrical and diesel locomotives the “type testing (**acceptance**)” period cannot overlap between the two suppliers. (Refer to strategy of separating “known” and “unknown” supplier).
- 7.1.6 Design reviews of the electric locomotives cannot overlap; similarly the design reviews of the diesel locomotives cannot overlap; **in addition both streams of locomotives cannot overlap.**

### 7.2 Delivery and Commissioning Points

- 7.2.1 First 10 of any new designed locomotive **type to be type tested** at the supplier’s overseas factory where equipment, facilities and a test beds are available. **This type test includes component -, combination - and overall system type testing. The acceptance testing referred to in 7.1 is done locally for a minimum period of 91 business days and requires TFR attendance to fulfil RSR requirements.**
- 7.2.2 **The first 30 of each set of locomotives should, in TFR’s opinion, be assembled at the supplier’s premises while TE sets up its production facilities.**
- 7.2.3 Commissioning (**excluding the first 10 of each type**) will take 1.5 weeks per locomotive.
- 7.2.4 For the acceptance testing 50 special test drivers will be required within TFR Technology Management (Train Design); however it is subject to review.
- 7.2.5 Whilst TFR has to recruit 50 specialised drivers, TFR will contract 2 retired drivers namely, Georg Noah and Apie Coetzee as a short term measure.  
The following commissioning sites have been identified:
- 7.2.6 Durban / Empangeni (1 Electric stream; 1 diesel stream)
- 7.2.7 Pyramid South (1 Electric stream; 1 diesel stream)
- 7.2.8 Pyramid South is constrained to a maximum of 16 locomotives at any one time. Commissioning is dependent on regular and consistent delivery of locomotives
- 7.2.9 The testing will be done with four test coaches. Two test coaches will be used for the electric locomotive testing by TFR personnel and the other two test coaches plus a test coach specialist will be made available to TE to conduct tests on diesel. Tests cannot overlap for both types.

7.2.10 The two test coaches operating in tandem as one team shorten the test period. This will be reviewed depending on what additional expertise can be sourced

### 7.3 Staff

For all staffing relating to commissioning - **Rita Roper and Tumelo Mkwena**

Recruit and train test drivers per above;

The following preliminary staff arrangements are a pre-requisite:

Name	Role	Action
<b>Required from TE – Design Reviews</b>		
Gerhardus Gildenhuys	Senior Fleet Manager – Engine and Maintenance Specialist	Full Access
Sarel Oberholzer	Manager R&D – Product Development. – Engine and Maintenance Specialist	Full Access
Andy Mabaso	Manager – Diesel Control System Specialist	Full access for acceptance testing.
Bertus Els	Manager – Diesel Control System Specialist	Full access for acceptance testing.

## 8 Operations

### 8.1 Locomotive Preparation

8.1.1 TFR is rolling out a full preparation process that will accommodate the delivery of the 1064 locomotives

### 8.2 Crew

8.2.1 TFR is reviewing the crew requirements based on the aggressive tonnages and the crew will be trained ahead of demand.

8.2.2 An aggressive intake will commence in the financial year 2014/15. This ramp-up will exceed the current train crew budget.

8.2.3 Cabs are similar across all new locomotives facilitating driver training and training across series.

## 9 Maintenance

### 9.1 Maintenance

9.1.1 Not negotiable: OEM's to contract and

- (i) Perform maintenance during the warranty and defect liability period including support relating to systems and sub-systems. This is required due to the rapid change in the locomotive technologies and to support TFR in-service. It is reiterated that is

essential in the warranty and defect liability period and highly desirable post the warranty period.

- (ii) Train TE in maintenance procedures.
- (iii) Post warranty OEM's to have a presence to transfer technology.
- (iv) OEM's to provide support to TFR in-service personnel.

#### 9.1.2 Major maintenance interventions

Adjustment based on delivery of locomotives

**Table 6 Possible locomotive CAPEX/COPEX savings from 2015/16 to 2023/24**

	2014/15	2015/2016	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24	Total
Submission 1	34,65	139,69	403,02	669,11	709,26	832,86	98,53	173,80	184,22	195,28	3 440,42
Submission 2	159,72	235,79	460,11	709,30	751,86	878,01	146,39	224,53	238,00	252,28	4 056,00
Variance	125,07	96,09	57,10	40,19	42,60	45,15	47,86	50,74	53,78	57,01	615,58

A consequence of the second aggressive delivery (Submission2) is a R4bn saving. This will be reviewed once the delivery schedule is confirmed which will inform the timing of the discontinued maintenance programmes.

Stopping the maintenance interventions at short notice has the following implications:

- (i) TE staff and workshops will either idle or source alternative incoming generating activity.
- (ii) An estimated R500m in working spares will no longer be required. TE to take up with Group on appropriate disposal.

## 9.2 Locomotive Control

Locomotive Control (also known as Technical Operating) is responsible for managing the locomotive fleet. Primary KPA's are:

- (i) Ensuring locomotive availability (correct locomotive at correct place on time
- (ii) That fleet is maintained
- (iii) Locomotive utilisation (GTK and NTK per locomotive)
- (iv) Minimising running of light locomotives
- (v) Manage warranty of the locomotives

Activities of locomotive control include

- (i) Proactive planning of locomotive allocation to trains up to 7 days in advance
- (ii) Manage technical call outs relating to locomotive failure before departure and during trip. Accountable for decision to replace locomotive or proceed with trip  
Ensuring that locomotives are maintained on schedule and optimising trips to depots to avoid running light to workshops.
- (iii) All new locomotives are equipped with on line condition monitoring and reporting. Technical staff in locomotive control receive the locomotive alarm condition and guide driver as to the best action (i)stop (ii) proceed with care (iii) how to rectify fault
- (iv) Collate all faults relating to the locomotives, analyse and **manage the warranty** of the locomotives

Tools of Locomotive Control will include, amongst others, the New Integrated Train Plan software.



- 9.2.1 Locomotive control (Fanie Marx and Team – currently with TE) to move to the office of Logistics Integration
- 9.2.2 Locomotive control to be strengthened with a focus (measured) on proactive national planning of general freight revenue earning locomotives
- 9.2.3 Continuous technical monitoring of locomotive condition (real time alarms) within locomotive control (finalised technical office)
- 9.2.4 Key performance indicators to be developed and enforced (maintaining asset to condition and ensuring return on investment of the asset)

## 10 Upgrade and Maintenance Intervention Impact

The 10E/2 and 10E1 upgrade is abandoned due to aggressive introduction of the 1064 locomotives

## 11 Risk management – Business Case Extract

### 11.1 Risk overview

#### EXHIBIT 1

Risk assessment and rating			
			<div> <div>High medium likelihood, high impact</div> <div>High medium likelihood, medium impact/ Medium likelihood, high impact</div> <div>Medium likelihood, medium impact</div> <div>Low likelihood, low impact</div> </div>
Risk		Risk ranking	Mitigation action
Planning		I	<ul style="list-style-type: none"> <li>Specialized procurement and planning team</li> <li>Conservative payment regimes to incentivize delivery</li> <li>Optimize number of OEMs for planning required and benefit realized</li> </ul>
Market		I	<ul style="list-style-type: none"> <li>Staged procurement strategy to maintain flexibility in delivery schedule and continuous monitoring of performance against MDS estimates</li> <li>Execute against Market Development Strategy</li> <li>Clean sheet costing to unpack key locomotive cost components</li> </ul>
Exchange rate		I	<ul style="list-style-type: none"> <li>Hedge all foreseeable foreign currency-based expenditure as per Transnet policy</li> </ul>
Operational readiness	Skills	II	<ul style="list-style-type: none"> <li>Develop people infrastructure plan</li> <li>Upgrade training modules in line with new locomotives</li> <li>Include maintenance staff training in supplier contract</li> </ul>
	Maintenance	II	<ul style="list-style-type: none"> <li>Implementation of 7 year maintenance plan</li> <li>Increase capacity by increasing production lines and shifts</li> <li>Regular review of build programme that aligns TRE factories</li> </ul>
	Infrastructure	III	<ul style="list-style-type: none"> <li>Develop infrastructure expansion business plan</li> <li>Implement infrastructure maintenance plan</li> </ul>
	Technology	V	<ul style="list-style-type: none"> <li>The IATS<sup>1</sup> technologies as part of the new locomotives specifications</li> <li>School of Rail to provide appropriate IATS training</li> </ul>
Transaction governance		II	<ul style="list-style-type: none"> <li>Minimize size of working team and minimize dissemination information where possible while enforcing strictest confidentiality</li> <li>Enforce protocol on document sharing and data rooms</li> </ul>
Legal		I	<ul style="list-style-type: none"> <li>Ensure transparent procurement process with accountability</li> <li>Contract with multiple OEMs</li> </ul>
Exogenous		II	<ul style="list-style-type: none"> <li>Explore long term supplier agreements with Eskom while also taking advantage of electric locomotive regenerative powers</li> </ul>

1. Information and Administrative Technology Services

### 11.2 Planning and delivery risk

- approval delays - Past processes
- procurement process delays, - Past processes
- production delays - Addressed above

### 11.2.1 Delivery schedule sensitivities

To mitigate the risk of delays, TFR will pursue a number of strategies simultaneously, including contracting

- |  |  |
|--|--|
| • multiple suppliers;  | - 4 suppliers                            |
| • staging procurement by using international suppliers for initial batches as local supplier development ramps up; | - Initial 10 from international supplier |
| • pursuing a conservative payment strategy <sup>1</sup> to incentivise delivery                                    | - Not addressed                          |
| • mitigation strategies to address the immediate locomotive shortfalls, including leveraging existing contracts,   | - Done – 60 Class 44                     |
| • front-loading orders with international suppliers,   | - Initial 10 from international supplier |
| • exploring leasing, and   | - Aurizon Locomotives                    |
| • revising the fleet run-out strategy.   | - Constant review                        |

### 11.3 Market risk

- Market growth will not materialise.
- inflated purchase prices (not related to forex changes) and
- Cost increases exceeding forecasts.

#### 11.3.1 Volume

- 1 percent lower than the MDS base case of 7 percent, results in an NPV of –R1.5 billion.
- Accelerated tariff growth 1 percent above MDS results in a positive NPV of R7.8 billion.
- Tariffs have a marginal impact on CIC with the biggest impact in 2015/16, dropping from 4.0X to 3.9X.

<sup>1</sup> Bulk of payment made on delivery and acceptance.

## EXHIBIT 2

**Demand, tariffs, and delivery schedule risks must be managed (1/2)**

■ Greatest Impact on NPV

	Sensitivities			Impact		
	Base case	Sensitivity 1	Sensitivity 2	Base case	Sensitivity 1	Sensitivity 2
1 Delivery schedule	<ul style="list-style-type: none"> <li>Delivery as per RFP: first 100 diesels in 2013-2014; first 65 electrics in 2014/15</li> </ul>	<ul style="list-style-type: none"> <li>6 months to complete procurement process</li> <li>12-month diesel production</li> <li>22-month electric production</li> <li>~120 diesels per year</li> <li>~125 electrics per year</li> </ul>	<ul style="list-style-type: none"> <li>8 months to complete procurement process</li> <li>18-month diesel production</li> <li>28-month electric production</li> <li>~120 diesels per year</li> <li>~125 electrics per year</li> </ul>	<ul style="list-style-type: none"> <li>Volume impact: -49mt</li> <li>Revenue impact: -R13.3bn</li> <li>NPV: R2.7bn</li> <li>CIC: 3.3x to 3.1x (2013/14)</li> </ul>	<ul style="list-style-type: none"> <li>Volume impact: -110mt</li> <li>Revenue impact: -R30.2bn</li> <li>NPV: R2.2bn</li> <li>CIC: 3.6x to 3.0x (2014/15)</li> </ul>	<ul style="list-style-type: none"> <li>Volume impact: -155mt</li> <li>Revenue impact: -R43.1bn</li> <li>NPV: R1.5bn</li> <li>CIC: 3.6x to 3.0x (2014/15)</li> </ul>
2 Volume	<ul style="list-style-type: none"> <li>MDS volumes achieved</li> </ul>	<ul style="list-style-type: none"> <li>Current performance vs. MDS (~7% below)</li> </ul>	<ul style="list-style-type: none"> <li>Volumes grow with projected GDP</li> </ul>	<ul style="list-style-type: none"> <li>NPV: R2.7bn</li> </ul>	<ul style="list-style-type: none"> <li>Volume impact: -59mt</li> <li>Revenue impact: -R16.4bn</li> <li>NPV: R1.0bn</li> <li>CIC: 3.3x to 3.1x (2013/14)</li> </ul>	<ul style="list-style-type: none"> <li>Volume impact: -239mt</li> <li>Revenue impact: -R67.9bn</li> <li>NPV: -R20bn</li> <li>CIC: 4.1x to 2.7x (2016/17)</li> </ul>
3 Tariffs	<ul style="list-style-type: none"> <li>~7% annual escalation to 2019 and CPI thereafter</li> </ul>	<ul style="list-style-type: none"> <li>Escalation with CPI (~6%)</li> </ul>	<ul style="list-style-type: none"> <li>Escalation at more than MDS (8%) to 2019; CPI thereafter</li> </ul>	<ul style="list-style-type: none"> <li>NPV: R2.7bn</li> </ul>	<ul style="list-style-type: none"> <li>Revenue impact: -R5.4bn</li> <li>NPV: -R1.5bn</li> <li>CIC: 4.0x to 3.9x (2015/16)</li> </ul>	<ul style="list-style-type: none"> <li>Revenue impact: +R9.7bn</li> <li>NPV: R7.8bn</li> </ul>

**11.4 Purchase price**

- Price estimates incorrect
- Price escalations higher than current assumptions.

- capable procurement team

**11.5 Costs****11.5.1 Forex risk**

Forex movement sensitivities in Exhibit 38 indicate a moderate impact on NPV with a 10 percent devaluation in Rand versus USD resulting in a -R2.4 billion movement in NPV. To mitigate the risk of exchange rate fluctuations, the project will be hedged according to the Group policy.

## EXHIBIT 3

**Demand, tariffs, and delivery schedule risks must be managed (2/2)**

	Sensitivities			Impact		
	Base case	Sensitivity 1	Sensitivity 2	Base case	Sensitivity 1	Sensitivity 2
<b>4 Fleet strategy</b>	▪ TFR Fleet Plan	▪ TFR fleet plan with 5% additional efficiencies	▪ TFR Fleet Plan with 10% additional efficiencies	▪ NPV: R2.7bn	▪ NPV: R5.2bn	▪ NPV: R7.6bn
<b>5 Finance</b>	▪ Hedging at current forward rate	▪ 10% devaluation of ZAR vs. USD	▪ 10% appreciation of ZAR vs. USD	▪ NPV: R2.7bn	▪ NPV: R0.3bn	▪ NPV: R5.2bn
<b>6 Price</b>	▪ USD2.6m (diesel), USD3.5m (electric) before escalation	▪ Price increase by 10% over base case	▪ Price decrease by 10% from base case	▪ NPV: R2.7bn	▪ NPV: R1.2bn	▪ NPV: R4.3bn
<b>7 Costs</b>	▪ Costs classified as locomotives, wagons and infrastructure with an allocation of GFB overheads	▪ 5% increase on base costs	▪ 5% decrease in base costs	▪ NPV: R2.7bn	▪ NPV: -R0.8bn	▪ NPV: R6.3bn

**11.6 Transaction governance risk**

11.6.1 Each OEM to have 30 locomotives brought in to enable TFR to ramp up to required production.

**11.7 Operational readiness risk****11.8 Exogenous risks****11.8.1 Energy security**

- Delays (Khusile etc.)
- Energy costs
- Timely decisions
- Electrification infrastructure not installed

**11.8.2 Potential strike action**

## ANNEXURE A

Table 7 Extract of the traffic demand schedule from 2014/15 until 2018/19 updated for the aggressive delivery schedule.

GFB AGGRESSIVE LOCOMOTIVE DELIVERY SCHEDULE TONNAGE IMPACT FLOWS										
	CAPACITY NEW DEMAND 2014/2015	CAPACITY NEW DEMAND 2015/2016	CAPACITY NEW DEMAND 2016/2017	CAPACITY NEW DEMAND 2017/2018	CAPACITY NEW DEMAND 2018/2019	CAPACITY NEW DEMAND 2019/2020	CAPACITY NEW DEMAND 2020/2021	CAPACITY NEW DEMAND 2021/2022	CAPACITY NEW DEMAND 2022/2023	CAPACITY NEW DEMAND 2023/2024
GF GROUP FLOWS										
CHROME (EXPORT MAPUTO)	0,015	-	0,490	0,490	0,500	0,500	0,510	0,510	0,520	0,520
CHROME (EXPORT RICHARDSBAY)	4,865	5,490	5,865	5,925	6,130	6,180	6,395	6,445	6,550	6,590
COAL (EXPORT BOTSWANA - DURBAN)	0,450	1,250	2,200	2,750	3,450	3,450	3,450	3,450	3,450	3,450
COAL (EXPORT MAPUTO)	3,057	4,093	5,397	5,397	5,397	5,397	5,397	5,397	5,397	5,397
COAL (EXPORT RICHARDSBAY)	1,792	1,863	3,565	3,656	3,751	3,851	3,955	4,065	4,181	4,302
COAL (WATERBERG)	-	1,500	6,000	6,000	10,000	12,000	16,000	18,000	20,000	22,000
ESKOM (CAMDEN - COAL IN CONTAINERS)	1,800	2,600	4,000	5,300	5,300	5,485	5,485	5,485	5,485	5,485
ESKOM (GROOTVLEI - COAL IN CONTAINERS)	0,600	0,800	3,000	5,000	5,000	5,000	5,000	5,000	5,000	5,000
ESKOM (MAJUBA - COAL)	7,576	9,221	14,000	14,000	14,000	14,000	14,000	14,000	14,000	14,000
ESKOM (TUTUKA COAL IN CONTAINERS)	1,751	1,809	3,465	4,215	5,215	5,215	5,215	5,215	5,215	5,215
FERRO-CHROME (EXPORT MAPUTO)	0,105	-	0,600	0,600	0,605	0,605	0,610	0,610	0,610	0,610
IRON ORE (DOMESTIC - ORIGIN POSTMASBURG)	4,920	5,013	6,465	8,172	8,251	8,331	8,411	8,493	8,575	8,659
MAGNETITE (EXPORT MAPUTO)	3,009	5,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000	6,000
MANGANESE (EXPORT PORT ELIZABETH)	4,900	6,075	6,075	8,250	11,200	14,000	16,000	16,000	16,000	16,000
OTHER	6,182	6,511	8,169	8,405	8,626	8,908	8,987	9,334	9,525	9,603
STEEL (DOMESTIC)	0,218	0,577	0,953	1,563	1,973	2,981	3,023	3,067	3,110	3,154
WOOD & WOOD PRODUCTS	1,836	2,073	3,044	3,154	3,356	3,495	3,662	3,791	3,924	4,059

The entire 10 year traffic demand is available on request.



## ANNEXURE B

Locomotive financial impact should all programs be stopped.

1. The first submission included the following programs being stopped

- Capex
  - 10E/1/2 Upgrade
- Copex
  - 7E3 MOP
  - 10E MOP
  - 10E1 GO (Change to MOP)
  - 10E1 MOP
  - 10E2 MOP
  - 7E1 RETROFIT TO UPGRADE
  - 7E3 UPGRADE
  - 7E2 MOP MINOR

2. The second submission excludes the 18 programs as per instruction. The 35 GO and 36 GO also excluded based on that no shunting strategy included.

An additional 30% included in the unscheduled maintenance line as components life cycle will be exceeded.

The impact would add an additional R615m over the ten year period.

## ANNEXURE FC 59



**fcallard@telkomsa.net**

**From:** Francis Callard Transnet Freight Rail JHB  
**Sent:** 29 May 2014 14:09  
**To:** Charlene Lefleur Transnet Freight Rail JHB; Sandra Gertenbach Transnet Freight Rail JHB; Nyembezi Magagula Transnet Freight Rail JHB; 'Chris Pretorius'; Stevens Tjabadi Transnet Freight Rail JHB; Vilvalingum Nair Transnet Freight Rail JHB; Tamara Govender Transnet Freight Rail PTA; Pragasen Pillay Transnet Freight Rail JHB; Lucky Diphoko Transnet Freight Rail JHB; Patrick Ntuta Transnet Freight Rail JHB; Frikkie Harris Transnet Freight Rail JHB; Caesar Mtetwa Transnet Freight Rail JHB; Lungi Maminza Transnet Freight Rail JHB; Brian Monakali Transnet Freight Rail JHB; Willem Kuys Transnet Freight Rail JHB; Natasia McMahon Transnet Freight Rail JHB; Ali Motala Transnet Freight Rail JHB; Gene Beilings Transnet Freight Rail JHB; Thembi Lekganyane Transnet Freight Rail JHB; Mandisa Mondli Transnet Freight Rail JHB; Johan Bouwer Transnet Freight Rail JHB; Tshifhango Mukheli Transnet Freight Rail JHB; Zunaid Vally Transnet Freight Rail JHB; Mohammed Moola Transnet Freight Rail JHB; Yousuf Laher Transnet Freight Rail JHB  
**Cc:** Nomfuyo Galeni Transnet Freight Rail JHB; Rita Roper Transnet Freight Rail JHB  
**Subject:** 1224 Locomotive Position Paper.  
**Attachments:** 2014-03-11 1064 Locomotives 2nd Aggressive Schedule.pdf  
**Importance:** High  
**Sensitivity:** Confidential

**Dear Colleagues**

The meeting on Meeting 27 May 2014 chaired by the CFO and GM Capital Planning regarding the 1222 Locomotive Position paper refers.

Please see the allocation of task below. I know that that not all addressed were at the meeting but you were identified as having a crucial role to play in the preparation of this position paper.

To recap, the paper / presentation is for the June CAPIC and is TFR's holistic response to addressing the 1224 locomotives and its implications. I hope the structure below is self-explanatory but please contact myself, JD, Johan or Charlene if you have any questions.

We need to have a working draft presentation by noon Friday 6th June.

Please can you submit your first response to Charlene and by 0800 Wednesday 4 June.

This will be collated during Wednesday for discussion Thursday 5 the June. A separate meeting request will follow for Thursday.

Charlene will distribute the powerpoint template to be used.

The initial response is first drafted by JD and Francis is attached for further context / update and expansion. This is an updated version of that which accompanied the initial meeting request.

Please continue to treat this as confidential and sensitive.

Please call if any clarity / direction or assistance is needed.

**Mandisa** – You are included as the meeting believed that there is a significant risk attached.

## 1 Context

Charlene, Francis, Sandra

1. Holistic view
2. Locomotive delivery as the driver
3. Periods
  - a. Till locos arrive
  - b. Locos arriving
  - c. Post locos
4. Focus – till locomotives arrive and loco arriving 2017/18

## 2 Market Volumes

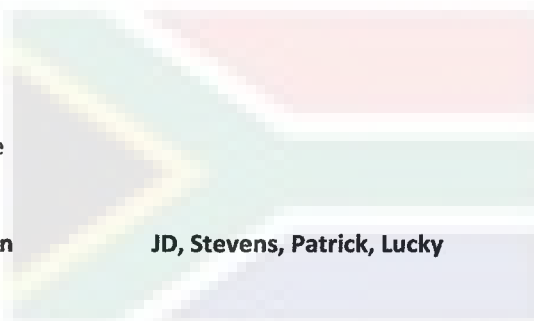
Nyembezi, Christo, Stevens

1. A high level validation of demand (= production) (any change to current File)
2. Loading and Off loading capability confirmation
3. Confirmation of port capacity

## 3 Wagons = Wagon Fleet Plan

Vilva, Tamara

5. Current fleet
6. What is used and unused
7. Wagons required – new builds
8. Efficiency assumptions
9. Validity check calculations.
10. Run outs / scrap and Book value
11. Financial implication



## 4 Locomotives = Locomotive Fleet Plan

JD, Stevens, Patrick, Lucky

1. Delivery schedule (a given)
2. Fleet requirements
3. Run out plan
4. Deployment plan
5. Revised maintenance programmes and savings
6. Book value of run outs
7. Financial implication

## 5 Commissioning of Locomotives

Frikkie

1. Personnel and capability

## 6 Infrastructure

Caesar, Lungi

1. Infra hotspots (line capacity)
2. Infra conditions for running new locos
3. Revised infra sustaining capital timeline
4. Financial implication

## 7 Strategic Projects

Brian, Willem, Natasia, Ali

1. Linked to volumes, timelines and dependencies
2. Confirm Ramp up tonnages
  - a. Waterberg
  - b. Maputo Link (Eastern Corridor)
  - c. Swaziland Link
  - d. Natcor debottlenecking
  - e. Manganese
  - f. Iron Ore
3. Eskom considerations
4. Financial Implications
5. Risks

**8 Operational readiness****Gene, Thembi**

1. Train Crew recruitment and training
2. Locomotive control (management)
3. Locomotive maintenance
4. Depot readiness

**9 Train Operations and Yard Plan****JD, Stevens,**

1. Utilisation of AC/DC capability linked to Loco Deployment Plan
2. Optimising train design, service design and train composition
3. Preliminary view of redundant yards
4. Financial implication

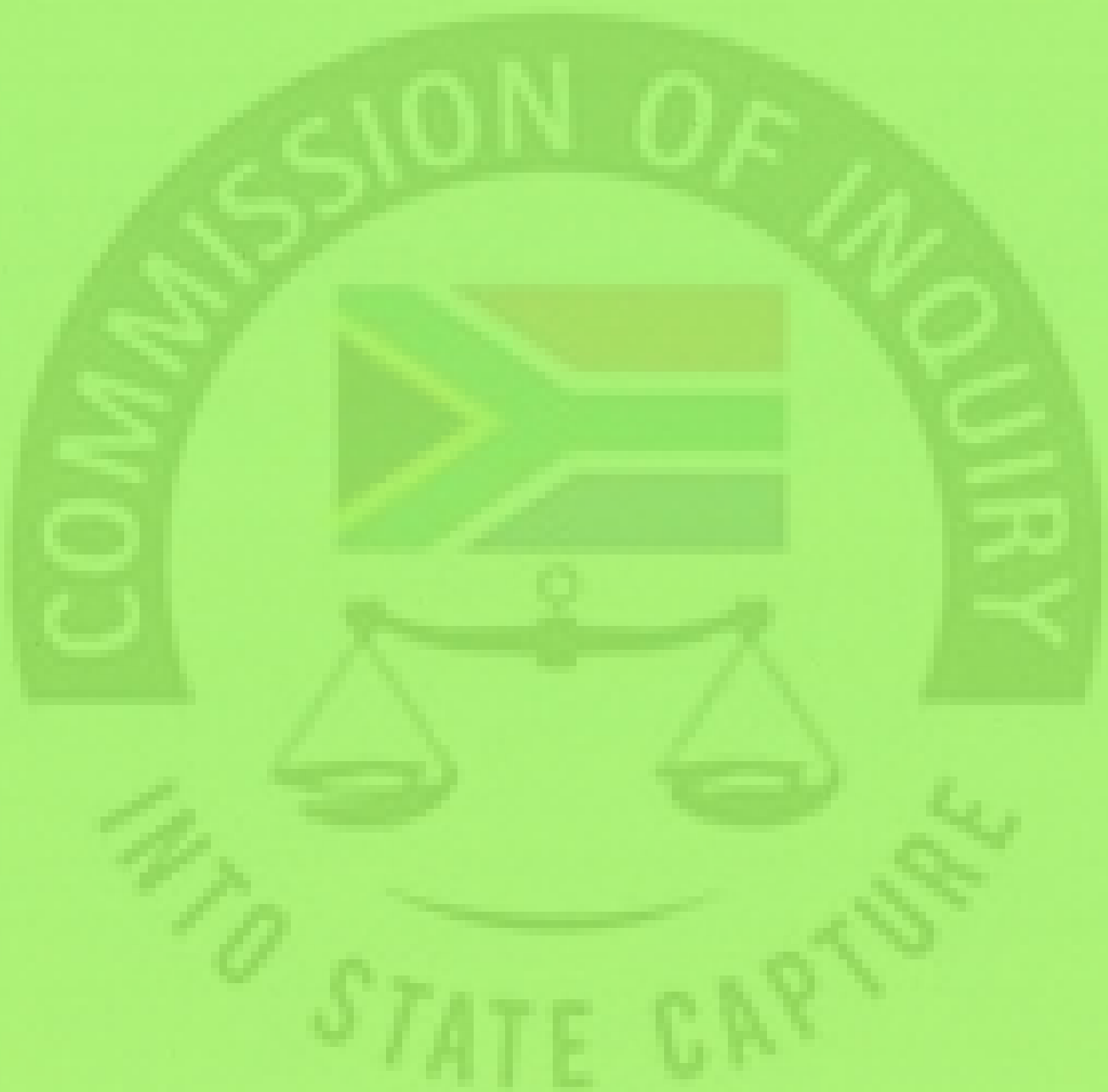
**10 Risks****Mandisa****11 Capital Update****Johan, Natasia, Willem, Vilva, Lungi****12 Financial Model****Tshifhango, Zunaïd****13 Scenarios****Team**

Regards

*Francis Callard*  
 Capital Program  
 083 283 1593



## ANNEXURE FC 60



fcallard@telkomsa.net

**From:** Sandra Gertenbach Transnet Freight Rail JHB  
**Sent:** 01 July 2014 14:28  
**To:** Nomfuyo Galeni Transnet Freight Rail JHB; Zunaïd Vally Transnet Freight Rail JHB; Tshifhango Mukheli Transnet Freight Rail JHB; Johan Bouwer Transnet Freight Rail JHB; Pragasen Pillay Transnet Freight Rail JHB  
**Cc:** Charlene Lefleur Transnet Freight Rail JHB; Francis Callard Transnet Freight Rail JHB; Cleopatra Shiceka Transnet Freight Rail JHB; Caesar Mtetwa Transnet Freight Rail JHB  
**Subject:** 1064 Accelerated Loco Delivery  
**Attachments:** 140701\_Accelerated Loco Delivery Plan\_PDF.pdf; Rail Network Plan \_ Loco Deployment Final 20 June 2014.pdf

Colleagues

Since the first meeting (27 May) on 1064 accelerated loco delivery and organisational readiness we have consolidated all inputs received – largely as per the framework circulated by Francis

Given that there is an EXCO workshop at the end of July and possible Group EXCO and Board strategy sessions from July / August, it would probably be prudent to extend the work already done such that it becomes the first iteration of the Business Plan and Budgeting cycle for 2015/16 and the 7 years beyond that

Analysis of the inputs gives rise to a number of issues and questions.....

It is proposed that some of these issues are raised at the meeting tomorrow to clarify next steps

#### Market Volumes

- From July, daily volume reporting will be reflected against the 236mt budget
- There appears to be some misalignment amongst the team roleplayers on what the annual targets are for the 7 year period relative to accelerated loco delivery
- Does a traffic file exist for the revised 7 year view?
- Still need to apply revenue to aligned volume forecast to enable financial modelling

#### Loco Fleet Plan

- Changes to Operations Methodology : need to fully align all – BUs and NCC on revised operations methodology and develop appropriate implementation plans for revised service designs and changes to the ITP as well as operational changes, eg. shift working, yard changes, etc.
- What changes do specific BUs have to make regarding Loco Depots that will receive new locos – different equipment for fuelling, shedding, etc.? And changes for the run-out of older locomotives?
- Also need to re-align customers in cases where new loco deployment impacts arrival and departure times
- Finance may require greater detail on revised maintenance costs and timing per annum to incorporate into financial modelling. This includes estimating maintenance costs of older locos dedicated to Rail Network
- Slides refer to “parking” of locos – will these be scrapped and removed from the asset register? Parking applies that they are stored somewhere – in the past parking resulted in vandalism of assets rendering them useless
- Detailed Loco Deployment Plan has been provided – implementation plan and other readiness required??
- Efficiency assumptions and targets require clarification

#### Wagon Fleet Plan

- Validate required wagon numbers and indicate wagon types required / surplus and shortfall wagon types
- TE capacity for new builds?
- Cost of new builds?
- Efficiency assumptions and targets require clarification / refinement

#### Commissioning of Locos

- Is any alignment with BUs operational areas required for commissioning?
- Risks are identified – need to develop real / appropriate mitigating actions

#### Infrastructure (separate pack)

- It is not clearly apparent how Infra work planned supports / is directly aligned to the corridors / yards where locos will be deployed (vs overall upgrade of the network)
- NCC would need to be aligned regarding provision for an increased number of slots for occupations
- Indicate Rail Network / RMC capability to execute increased infrastructure maintenance / upgrades
- Occupations planning relative to volume growth
- Skills and capabilities requirements?

#### Strategic Projects

- Analysis incomplete – require discussion
- Ramp up ahead of / trailing tonnage projections?? How can these be better aligned
- Unclear if capital indications are in addition to existing provisions?

#### Operational Readiness

- Changes to Operations Methodology : need to fully align all – BUs and NCC on revised operations methodology and develop appropriate implementation plans for revised service designs and changes to the ITP as well as operational changes, eg. shift working, yard changes, etc.
- Need to prepare for labour engagement
- Finance may require greater detail on revised labour movements and costs and timing per annum to incorporate into financial modelling.

#### Risks

Team to discuss and develop with assistance of Risk Management

#### Revised Capex Plan

- Not received / incorporated. Possible that more detailed inputs are required

#### Financial Model

Not possible to perform modelling until all required data received



Sandra Gertenbach

Executive Manager  
Office of the CE : Strategy & Business Planning

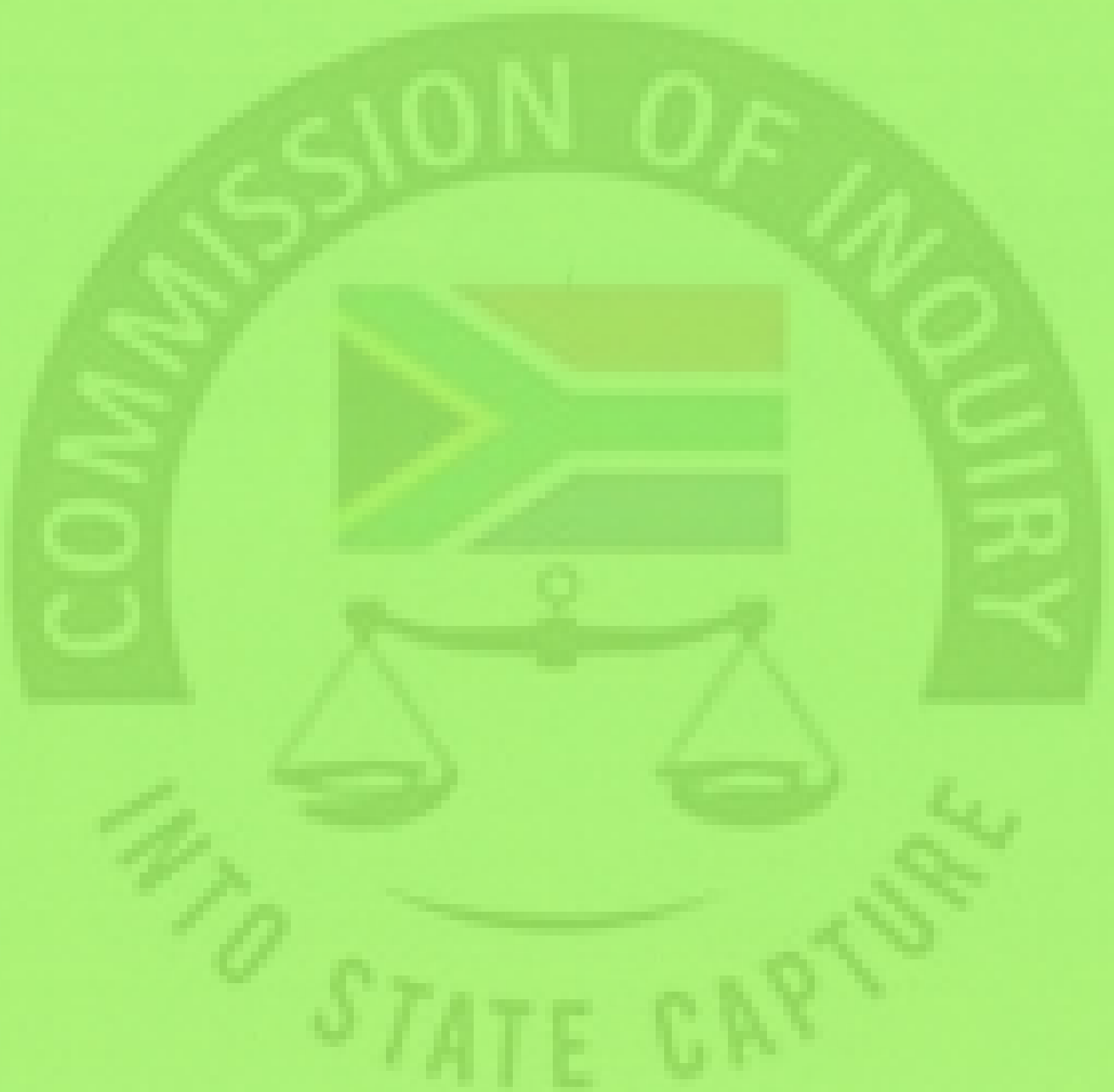
Transnet Freight Rail

📞 011 544 9571 📠 083 286 4823

✉️ 011 544 9364 📧 [Sandra.gertenbach@transnet.net](mailto:Sandra.gertenbach@transnet.net)

[www.transnet.net](http://www.transnet.net)

## ANNEXURE FC 61



fcallard@telkomsa.net

**From:** Sandra Gertenbach Transnet Freight Rail JHB  
**Sent:** 10 July 2014 15:20  
**To:** Pragasen Pillay Transnet Freight Rail JHB; Stevens Tjabadi Transnet Freight Rail JHB; Francis Callard Transnet Freight Rail JHB; Nyembezi Magagula Transnet Freight Rail JHB; Christo van der Merwe Transnet Freight Rail JHB; Juwith Magabe Transnet Freight Rail JHB; Johan Bouwer Transnet Freight Rail JHB; Natasia McMahon Transnet Freight Rail JHB; Charlene Lefleur Transnet Freight Rail JHB; Yousuf Laher Transnet Freight Rail JHB; Tshifhango Mukheli Transnet Freight Rail JHB; Zunaid Vally Transnet Freight Rail JHB; Lungi Maminza Transnet Freight Rail JHB; Mandisa Mondisi Transnet Freight Rail JHB; Vilvalingum Nair Transnet Freight Rail JHB; Estelle Winnaar Transnet Freight Rail JHB  
**Cc:** Nomfuyo Galeni Transnet Freight Rail JHB; Caesar Mtetwa Transnet Freight Rail JHB; Rita Roper Transnet Freight Rail JHB; Mlamuli Buthelezi Transnet Freight Rail JHB; Nelisa Khumalo Transnet Freight Rail JHB  
**Subject:** URGENT : 1064 Delivery and Budget  
**Importance:** High

#### Team

We presented to the CE, and key EXCO members, the consolidation of the work done on the accelerated loco delivery. The risks were highlighted and financial results summarised

The CE has indicated that we should not submit to Group at this stage but rather that:

- we prepare to highlight the Constraints of the *contracted* accelerated delivery on each of the elements on the integrated rail business
- we develop alternative delivery scenarios (with financial impact)
- consider the impact of scenarios on the contract terms and price

It is expected that Group will allow us a bit more time but not much beyond Tuesday / Wednesday next week. In this regard it is imperative that each team revises the work done to reflect the additional two scenarios

Sure you all know what to do but just to align:

- Scenario 1 : Current view
- Scenario 2 : JD will provide the loco delivery numbers and related tonnages before 1100 tomorrow (Friday)
- Scenario 3 : JD plans to provide this and tonnages by Monday
- Nyembezi to review and validate tonnages based on known risks factors / opportunities – including alignment with ports capacity – and terminals / customer facilities to the extent possible
- Align with Stevens in the case that tonnages are to be revised
- Christo / Juwith calculate Rand/Ton for Scenarios 2 and 3 and submit to Tshifhango by Monday
- Vilva / Francis : Revise Wagon requirements and associated costs – Opex, Copex and Capex for the 2 scenarios and submit to Johan and Natasia in appropriate format for a revised Capital Budget
- Lungi : Revise Infrastructure requirements and associated costs – Opex, Copex and Capex for the 2 scenarios and submit to Johan and Natasia in appropriate format for a revised Capital Budget
- Yousef to provide Contract review implications and costs
- Johan and Natasia : Consolidate and prepare revised Capital Budget and submit to Tshifhango for financial modelling
- Estelle – please advise if you can make any updated HC numbers available within this time frame
- Mandisa and team to continue with Risk Analysis (we need to submit to Group in time for the Group EXCO scheduled 23 July)



It would be appreciated if your inputs could be ready for submission to Tshifhango and Zunaïd on :

- Scenario 2 - Monday 14 July 1200 to allow for modelling
- Scenario 3 - Tuesday 15 July 1200 to allow for modelling

Thanks in advance



Sandra Gertenbach

Executive Manager  
Office of the CE : Strategy & Business Planning

Transnet Freight Rail

☎ 011 544 9571 📠 083 286 4823

✉ 011 544 9364 📧 [Sandra.gertenbach@transnet.net](mailto:Sandra.gertenbach@transnet.net)

[www.transnet.net](http://www.transnet.net)

## ANNEXURE FC 62



**fcallard@telkomsa.net**

---

**From:** Francis Callard Transnet Freight Rail JHB  
**Sent:** 16 July 2014 17:04  
**To:** Sandra Gertenbach Transnet Freight Rail JHB; Charlene Lefleur Transnet Freight Rail JHB; Nomfuyo Galeni Transnet Freight Rail JHB; Pragasen Pillay Transnet Freight Rail JHB; Rita Roper Transnet Freight Rail JHB  
**Cc:** Johan Bouwer Transnet Freight Rail JHB  
**Subject:** Conclusion slide  
**Attachments:** 140715 Conclusion.pptx

Hi Charlene

Please see the conclusion slide.

Francis

*Francis Callard*  
Capital Program  
083 283 1593



## Conclusion and Recommendation

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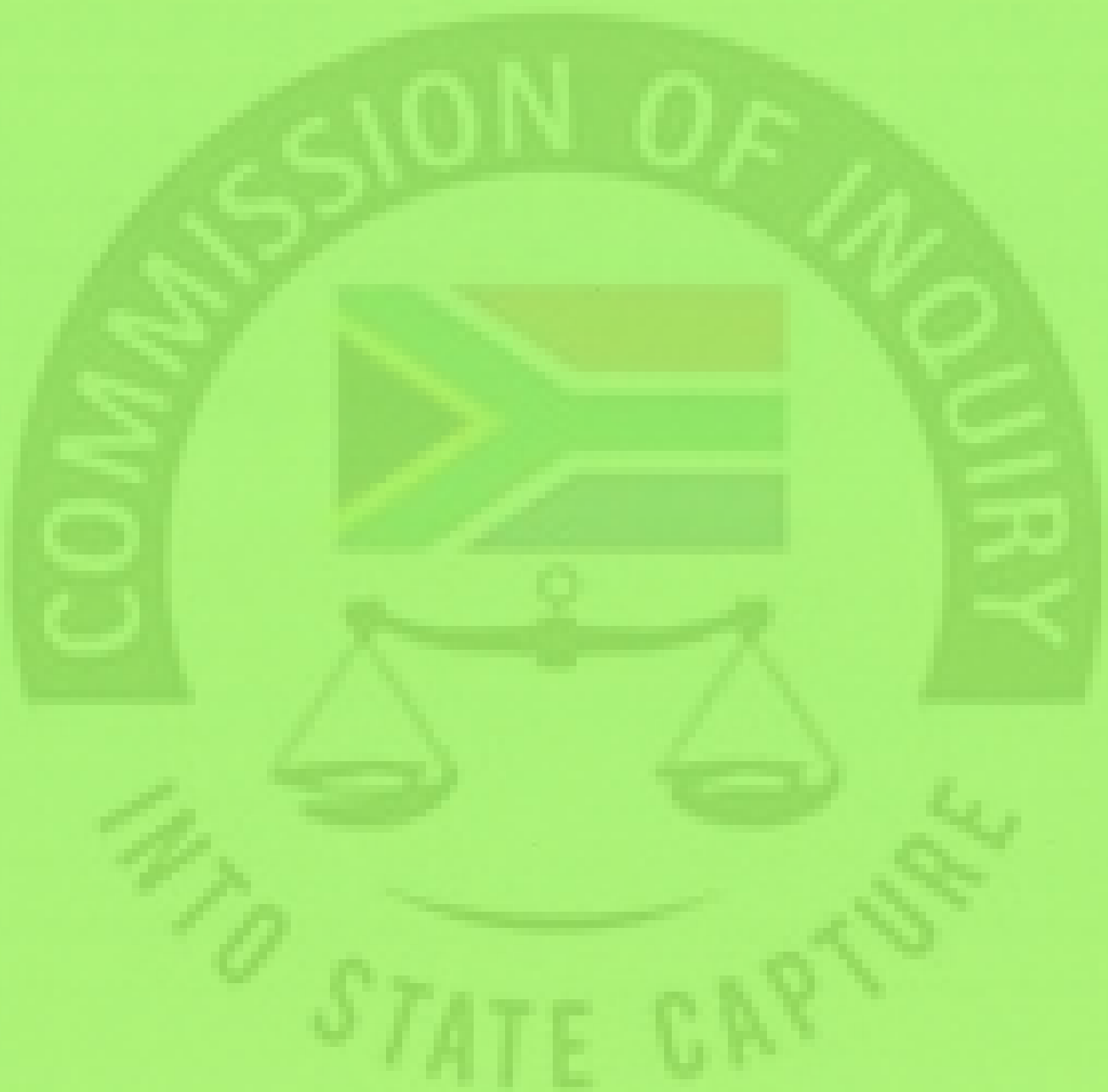
### Conclusion

- There is no significant financial difference between three scenarios
- The Gearing and Debt / Interest cover breach governance limits in all cases
- The prospect of delays in the locomotive delivery has not been addressed but is very real
- The volumes for the accelerated delivery (480) are a significant high risk
- Locomotives, market volumes, infrastructure, wagons and terminal facilities are not synchronised
- Capital (and opex) related to the 1064 and 160 can be phased but not negated

### Recommendation

- That the locomotive delivery be re-phased to between 250 and 300 locomotives per annum with 300 being the upper limit.
- That the Shareholder and Treasury be approached to approve the short term breach in Cash Interest Cover and Gearing.

## ANNEXURE FC 62A





# TFR ramp up timing can be reduced only slightly with significant increased risk

Time from contract start to delivery of 1<sup>st</sup> prototype

OEM	OEM Timing	Low Risk	Medium Risk (TFR proposed)	High Risk
CSR	17 Months	17 Months	12 Months	12 Month
BT	18 Months	22 Months	22 Months	18 Months
GE	15 Months	15 Months	13 Months	13 Months
CNR	18 Months	20 Months	20 Months	18 Months

- The current proposed schedule form TFR is already considered quite aggressive for the known OEMs of CSR and GE. The TFR proposed design schedules for both these OEM's have been reduced.
- It is considered high risk to take the shortest design period from either TFR or the OEM's. TFR do not have sufficient skills to complete all four design phases simultaneously and if forced to do so will significantly increase risk. Errors made in the design phase have long lasting impacts to the loco performance and life time costs.

PwC

February 2014  
17

11-03-15

## ANNEXURE FC 63



**fcallard@telkomsa.net**

**From:** Francis Callard Transnet Freight Rail JHB  
**Sent:** 23 October 2014 09:49  
**To:** Nomfuyo Galeni Transnet Freight Rail JHB; Rita Roper Transnet Freight Rail JHB; Natasia McMahon Transnet Freight Rail JHB; Pragasen Pillay Transnet Freight Rail JHB  
**Cc:** Gene Beilings Transnet Freight Rail JHB; Sandra Gertenbach Transnet Freight Rail JHB  
**Subject:** RE: DPE Validation Oct 2014.xlsx  
**Attachments:** Foreign Borrowing Limit Application - DPE Response Presentation.pptx

Apologies – Slides attached.

**From:** Francis Callard Transnet Freight Rail JHB  
**Sent:** 23 October 2014 09:11 AM  
**To:** Nomfuyo Galeni Transnet Freight Rail JHB; Rita Roper Transnet Freight Rail JHB; Natasia McMahon Transnet Freight Rail JHB; Pragasen Pillay Transnet Freight Rail JHB  
**Cc:** Gene Beilings Transnet Freight Rail JHB; Sandra Gertenbach Transnet Freight Rail JHB  
**Subject:** FW: DPE Validation Oct 2014.xlsx

Hi All

Group have applied to DPE for an increase in the Foreign Funding Limit. They have come back with addition questions - in particular what extra capacity will the 1064 (+100+60) create? They are meeting DPE on Thursday and needed to prepare slides for Anoj and Mathane in response to their questions.

I prepared two responses. The first from the business case and incorporated in the slides. They are high level but align to the business case and also provide a quick cigarette box sanity check.

The second – based on current state – is not yet complete. It must be tweaked with the revised loco run out schedule

**JD** – come to your office early tomorrow on the runouts

**Natasia** – does this link to the proposed announcement be the GCE you were talking about.

Regards

Francis

**From:** Francis Callard Transnet Freight Rail JHB  
**Sent:** 23 October 2014 08:46 AM  
**To:** Marianna Papadopoulos Transnet Corporate JHB  
**Subject:** RE: DPE Validation Oct 2014.xlsx

Hi Marriana

For this presentation can use volumes synonymously with capacity.

Just a note though that the 100 locomotives are for the coal line and they do not create capacity “.There is a temporary capacity creation as locomotives are released to GFB for three years before they are retired.

As discussed – working on the revised runout schedule.

Best

Francis

---

**From:** Marianna Papadopoulos Transnet Corporate JHB  
**Sent:** 22 October 2014 03:16 PM  
**To:** Francis Callard Transnet Freight Rail JHB  
**Subject:** RE: DPE Validation Oct 2014.xlsx

Thank you Francis.

Could you also please confirm whether I can use volumes synonymously with capacity? Please see slides attached – the last slide only please.

Thank you!

Kind regards  
 Marianna

---

**From:** Francis Callard Transnet Freight Rail JHB  
**Sent:** 22 October 2014 02:40 PM  
**To:** Marianna Papadopoulos Transnet Corporate JHB  
**Cc:** Dorothy Kobe Transnet Corporate JHB  
**Subject:** RE: DPE Validation Oct 2014.xlsx

Hi Marianna  
 Your summary is fine.  
 Working on the 60 and 100  
 Best  
 Francis

---

**From:** Marianna Papadopoulos Transnet Corporate JHB  
**Sent:** 22 October 2014 02:33 PM  
**To:** Francis Callard Transnet Freight Rail JHB  
**Cc:** Dorothy Kobe Transnet Corporate JHB  
**Subject:** DPE Validation Oct 2014.xlsx

Hi Francis,

Attached are my summary calculations of the Volumes/Capacity created (without the 60+100). Please could you check if you are happy.

Please could you then send me the 60+100 figures soonest.

Thank you!

Kind regards  
 Marianna

---

**From:** Marianna Papadopoulos Transnet Corporate JHB  
**Sent:** 21 October 2014 02:08 PM  
**To:** Amos Letlhake Transnet Freight Rail JHB; Yousuf Laher Transnet Freight Rail JHB; Mohammed Moola Transnet Freight Rail JHB  
**Subject:** DPE Request - Foreign Borrowing limit application  
**Importance:** High

Good day Gentlemen,

I hope you are well.

We have applied to the DPE for an increase in the Foreign Funding Limit. They have come back with additional questions - in particular what **extra capacity will the 1064 (+100+60) create?** **We are meeting DPE on Thursday and need to prepare slides for Anoj and Mathane in response to their questions. Could you be so kind to respond at your earliest convenience!**

Thank you in advance!

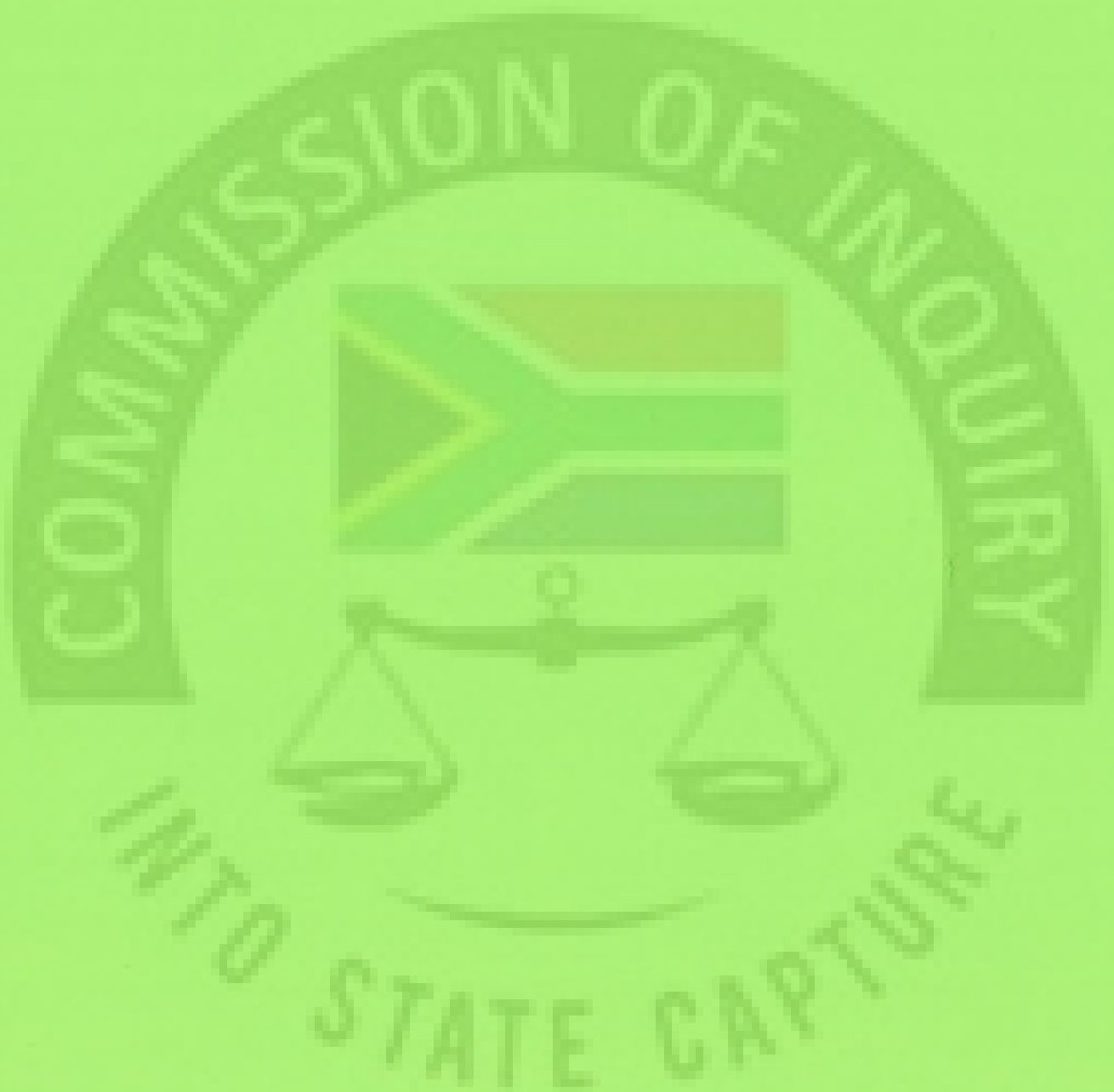
Kind regards

Marianna Papadopoulos Transnet Corporate JHB





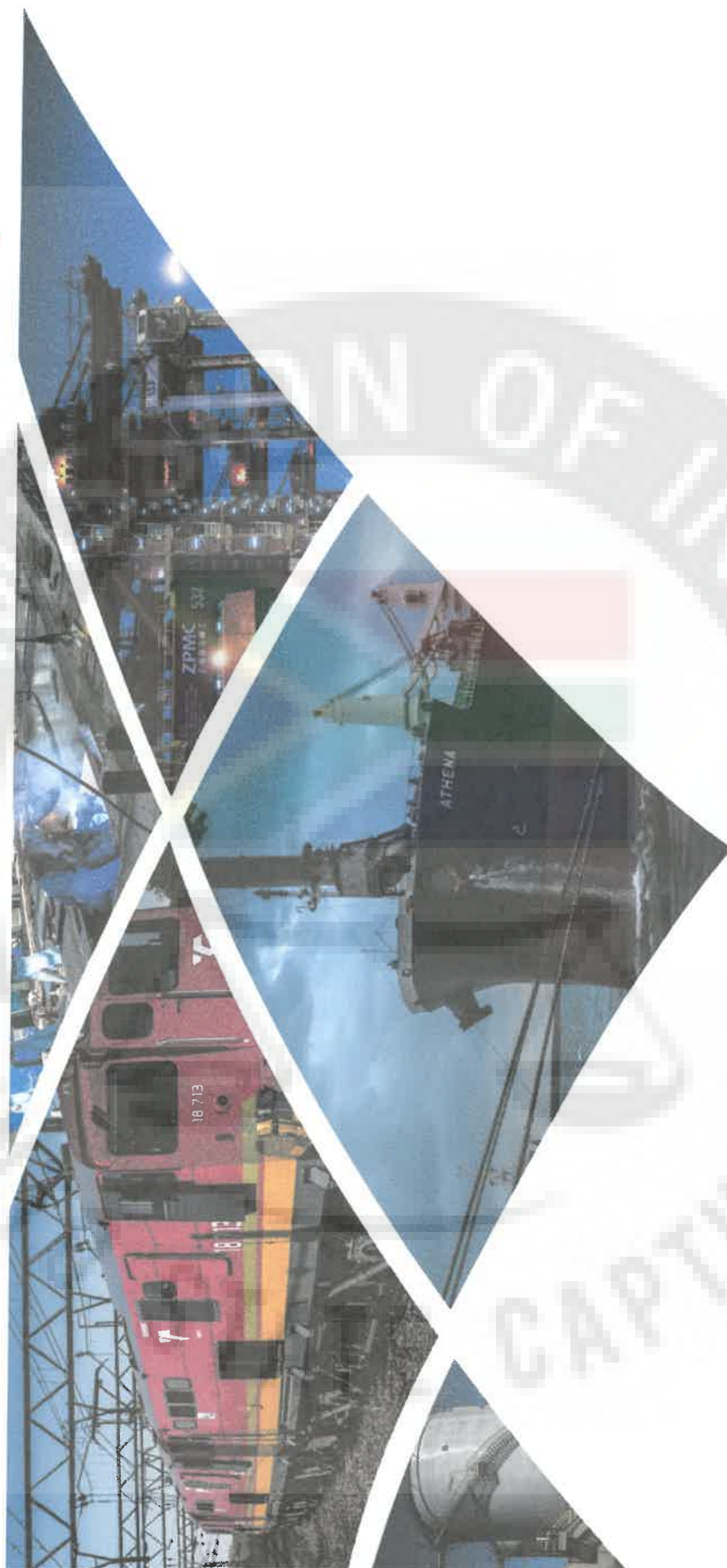
## ANNEXURE FC 64



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## TRANSNET FOREIGN BORROWING LIMIT APPLICATION



## FUNDING TO DATE

Sources of Funding	Required Funding for 2014/15 (Corporate plan) R billion	Raised to date (as at 22 October 2014) R billion	Domestic/Foreign Split
<b>Domestic Bonds</b>			
RMB (TNF20U)		1.000	Domestic
TN20; TN30; TN40	5.700	950	Domestic
Commercial Paper		3.150	Domestic
DFI's			
ECA	4.400		
GMTN			
Bank Loans			
BTMU (*US\$300 m @ USD/ZAR10.32 and US\$200 m @ USD/ZAR10.65)		3.095*	Foreign
LIBFIN		2.129*	
Standard Bank (SBSA)	5.000	1.750	Domestic
		2.000	Domestic
<b>TOTAL</b>	<b>15.100</b>	<b>14.074</b>	





## REVISED FUNDING REQUIREMENTS

	Budget	Projections					
	2014/15 R million	2015/16 R million	2016/17 R million	2017/18 R million	2018/19 R million	2019/20 R million	2020/21 R million
Cash Surplus/(Shortfall)	-11 449	-10 191	-13 156	-12 468	-14 006	-9 059	8 095
Loan Redemptions	-3 624	-7 790	-5 632	-9 379	-3 603	-2 876	-8 511
Funding Requirement	-15 073	-17 981	-18 788	-21 847	-17 609	-11 935	-416
<b>less</b>							
Previous Locomotive Cashflows (1064 Locomotives)	-315	-4 188	-8 344	-9 123	-9 420	-8 383	-1 696
(60 Locomotives)	-1 003	-1 073	-228				
<b>sub total</b>	<b>13 755</b>	<b>12 720</b>	<b>10 216</b>	<b>12 724</b>	<b>8 189</b>	<b>3 552</b>	<b>-1 280</b>
<b>plus</b>							
Current Locomotives Cashflows							
1064 Locomotives	4 824	5 296	5 996	16 925	15 427	1 077	
60 Locomotives	1 226	155	369				
100 Locomotives	1 320	1 596	1 351	132			
<b>Adjusted Funding Requirement</b>	<b>-21 125</b>	<b>-19 767</b>	<b>-17 932</b>	<b>-29 781</b>	<b>-23 616</b>	<b>-4 629</b>	<b>1 280</b>





## LOCOMOTIVE CAPACITY CREATION

- The current General Freight Business fleet is made up of 66 per cent. electric locomotives and 34 per cent. diesel locomotives with a total fleet size of 1,888 locomotives. Each of these locomotives will be able to transport 83 000 million tons per locomotive.
- Transnet will be acquiring an additional 1224 (1064+160) locomotives to address capacity demands. These locomotives will be able to transport 100 000 million tons per locomotive.
- Detailed below is a tabulated summary of the existing MDS expected volumes; the existing volumes generated as a result of the existing fleet, the volumes/capacity created as a result of the 1064 locomotive acquisition programme and the expected shortfall:

	2014	2015	2016	2017	2018	2019	2020
MDS Expected Volumes	91	104	127	151	161	170	170
Volumes - Existing Locomotives	83	82	100	106	92	85	81
Volumes - New 1064 Locomotives	1	7	21	41	60	77	89
Capacity Created	84	90	121	147	152	162	170
<b>Volume Shortfall</b>	<b>7</b>	<b>15</b>	<b>6</b>	<b>4</b>	<b>9</b>	<b>8</b>	<b>1</b>

- In order to address the above depicted shortfall, Transnet will be acquiring an additional 160 Locomotives as detailed in the tabulated summary below:

## ANNEXURE FC 65





## ANNEXURE C

Transnet SOC Ltd.  
Registration  
Number  
1990/000900/30

13 Gorton Road.  
Parktown  
2193

Private Bag X47  
Johannesburg  
2000  
Tel: 011 584 0509  
Fax: 011 774 9978

TRANSNET



15

## MEMORANDUM

www.transnet.net

**TO :** 1064 Locomotive Steering Committee

**FROM :** The Cross Functional Evaluation Team (CFET) (Finance)

**DATE :** 15 January 2014

**SUBJECT :** 599 ELECTRIC LOCOMOTIVES – RESULTS OF 'BEST AND FINAL OFFER' RESPONSES

**PURPOSE:**

- 1) The purpose of this memo is to provide the steering committee with an update of the results of the 'Best and Final Offer (BAFO)' response from Bidders 1 and 2;

**BACKGROUND:**

- 2) On 27 December 2013 the 1064 steering committee issued a memo (Attached Annexure A) to the CFET Finance requesting that a 'Best and Final Offer' letter be issued to Bidders 1 and 2;
- 3) Responses from Bidders 1 and 2 were received on 10 January 2014;

**BUDGET IMPLICATIONS:**

- 4) There are no budget implications applicable to this memo;

**FINANCIAL IMPLICATIONS:****Outcome of responses received:**

- 5) The table below outlines the BAFO prices as provided by the Bidders 1 and 2:

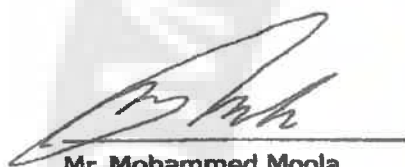
	<b>Bidder 1</b>	<b>Bidder 2</b>
BAFO Evaluated price	R32 377 762	R32 462 295
Previous Evaluated price	R32 833 423	R34 716 188
Difference	R455 661	R2 253 893

**Note:** A reconciliation of the BAFO price submitted and the previous price used for evaluation is attached hereto (Annexure B)

*[Handwritten signatures and initials]*

16.

- 6) Bidder 1 did not provide a BAFO price. Bidder 1 provided a confirmation of the foreign currency content percentage applicable to the price. We used this percentage to update the evaluated price;
- 7) Bidder 2 provided a new BAFO price as well as a new foreign currency content amount. Both of these were used to update the evaluated price;
- 8) Bidder 1 included some additional SD related proposals in their response. We advised SCS of these items.
- 9) This memorandum must be read in conjunction with the CFET (Finance) report dated 10<sup>th</sup> December 2013.

**SUBMITTED BY:**


Mr. Mohammed Moola  
Senior Manager: TFR  
Date: 15/1/2014



Mr. Danie Smit  
Deputy Treasurer: Middle Office: Group Treasury  
Date: 20/1/15



Mr. Yousuf Laher  
Executive Manager: TFR  
Date: 15/1/14



Mr. Thabo Seapi  
Senior Manager: TFR  
Date: 15/01/2014



Mr. Zunaïd Vally  
Executive Manager: TFR  
Date:



Mr. Tsietse Tlaetsi  
Debt Manager: Group Treasury  
Date: 15/1/2014

17

## Annexure B

Reconciliation between BAFO (Best and Final Offer) submitted in January 2014 and prices used for evaluation as per December 2013 report

BAFO price per loco as submitted by bidder

Add adjustments for items to reconcile to price per Annexure F:

Special tooling  
Engineering support  
Capital Spares  
Consumables  
Spares holding  
Setup cost  
Insurance  
Rounding  
Forex Hedging

29 049 488	29 800 000
1 821 465	636 007
3 762	34 789
491 240	402 918
45 302	
27 405	198 300
1 253 756	
30 870 951	29 526 007

Price per loco submitted as per annex F, before the impact adjustments and options

Adjustments to normalise:

Deduct Schedule B capital spares

Deduct Forex hedging

Sub Total 1 (Amended BAFO Price excluding impact of hedging and escalations)

-16 360	-122 648
-1 253 756	
29 600 836	29 403 359

Add Options

1 266 001	1 262 187
-----------	-----------

Sub Total 2 - Amended BAFO Price with options included (Capital acquisition cost)

30 866 836	30 665 546
------------	------------

Impact of Re-basing (foreign exchange movements)

1 518 926	1 796 749
-----------	-----------

Sub Total 3 (Amended BAFO Total price before TE adjustment)

32 377 762	32 462 295
------------	------------

Impact of not using TE as the main sub-contractor

BAFO - Price used for evaluation

32 377 762	32 462 295
------------	------------

Price used for evaluation before BAFO

32 833 423	34 716 188
------------	------------

Difference

455 661	2 253 893
---------	-----------

Made up of:

Discount on price

Forex change due to import content and rate changes

-	2 010 000
455 661	243 893

Note:

- The BAFO prices requested from bidders was without the use of TE as a subcontractor. Therefore the impact of using TE as main subcontractor is already being factored into the initial BAFO price.
- Bidder 1 did not provide BAFO price but provided the foreign currency component percentage which was used to update the rebasing of foreign portion of the price.
- Bidder 2 provided a new BAFO price and a new foreign currency component percentage. These were used to update the price.

M.M

TS

## ANNEXURE FC 65A



## Annexure B

Reconciliation between BAFO (Best and Final Offer) submitted in January 2014 and prices used for evaluation as per December 2013 report

**BAFO price per loco as submitted by bidder**

	Bidder 1	Bidder 2
	29,049,486	28,890,000
Add adjustments for items to reconcile to price per Annexure F:		
Special tooling	1,821,465	636,007
Engineering support	3,762	34,789
Capital Spares	491,240	402,918
Consumables	45,302	
Spares holding	27,405	198,300
Setup cost		
Insurance		
Rounding		
Forex Hedging	1,253,756	
	<b>30,870,951</b>	<b>29,526,007</b>

**Price per loco submitted as per annex F , before the impact adjustments and options**

Adjustments to normalise:

Deduct Schedule B capital spares  
Deduct Forex hedging

	-16,360	-122,648
	-1,253,756	-

**Sub Total 1 (Amended BAFO Price excluding impact of hedging and escalations)**

	<b>29,600,835</b>	<b>29,403,359</b>
--	-------------------	-------------------

Add Options

	1,266,001	1,262,187
--	-----------	-----------

**Sub Total 2 - Amended BAFO Price with options included (Capital acquisition cost)**

	<b>30,866,836</b>	<b>30,665,546</b>
--	-------------------	-------------------

Impact of Re-basing (foreign exchange movements)

	1,510,926	1,796,749
--	-----------	-----------

**Sub Total 3 (Amended BAFO Total price before TE adjustment)**

	<b>32,377,762</b>	<b>32,462,295</b>
--	-------------------	-------------------

Impact of not using TE as the main sub-contractor

**BAFO - Price used for evaluation**

	<b>32,377,762</b>	<b>32,462,295</b>
--	-------------------	-------------------

Price used for evaluation before BAFO

	32,833,423	34,716,188
--	------------	------------

**Difference**

Made up of:

Discount on price

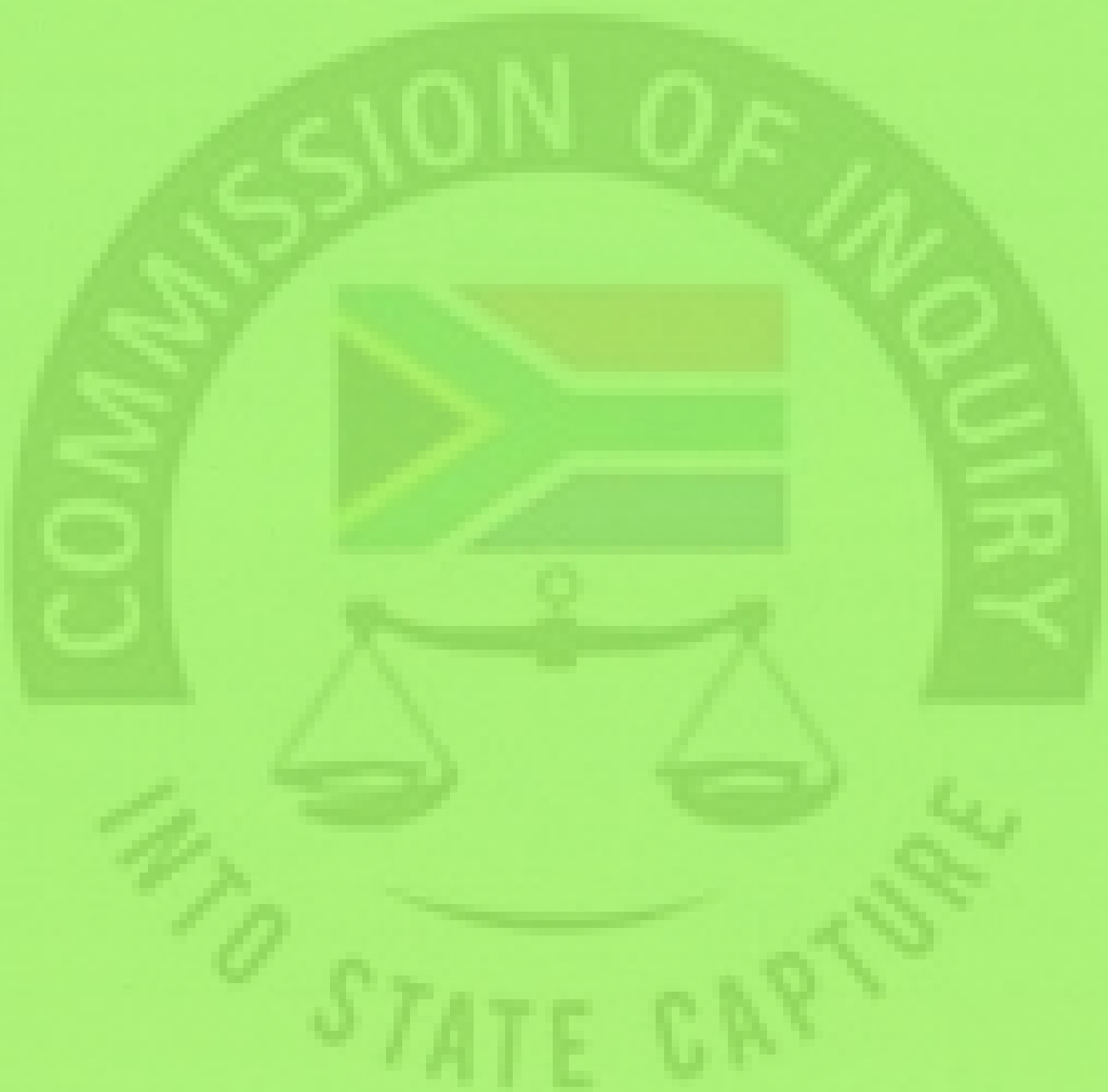
Forex change due to import content and rate changes

	-	2,010,000
	455,661	243,893

**Note:**

1. The BAFO prices requested from bidders was without the use of TE as a subcontractor. Therefore the impact of using TE as main subcontractor is already being factored into the initial BAFO price.
2. Bidder 1 did not provide BAFO price but provided the foreign currency component percentage which was used to update the rebasing of foreign portion of the price.
3. Bidder 2 provided a new BAFO price and a new foreign currency component percentage. These were used to update the price.

## ANNEXURE FC 66





## ANNEXURE B

Transnet SOC Ltd.  
Registration  
Number  
1990/000900/30

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Parktown  
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TRANSNET



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## MEMORANDUM

**TO :** 1064 Locomotive Steering Committee

**FROM :** The Cross Functional Evaluation Team (CFET) (Finance)

**DATE :** 15 January 2014

**SUBJECT :** 465 DIESEL LOCOMOTIVES – RESULTS OF 'BEST AND FINAL OFFER' RESPONSES

## PURPOSE:

- 1) The purpose of this memo is to provide the Steering Committee with an update of the evaluation results based on the 'Best and Final Offer's (BAFO)' received;

## BACKGROUND:

- 2) On 27 December 2013 the 1064 Steering Committee issued a memo (Attached Annexure A) to the CFET Finance requesting that a 'Best and Final Offer' letter be issued to all Bidders;
- 3) Responses from Bidders were received on 10 January 2014;

## BUDGET IMPLICATIONS:

- 4) There are no budget implications applicable to this memo;

## FINANCIAL IMPLICATIONS:

## Outcome of responses received:

- 5) The table below outlines the BAFO prices as provided by the Bidders:

	<u>Bidder 1</u>	<u>Bidder 2</u>	<u>Bidder 3</u>	<u>Bidder 4</u>
BAFO Evaluated price	R30 455 335	R30 320 728	R40 244 313	R27 159 485
Previous Evaluated price	R44 232 853	R33 254 876	R42 761 272	R27 493 481
Difference	R13 777 518	R2 934 148	R2 516 959	R333 996

**Note:** A reconciliation of the BAFO price submitted and the previous price used for evaluation is attached hereto (Annexure B)

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- 6) Bidder 1's BAFO price was reduced by R13.8 million (31%). This is a significant reduction from the original price offer;
- 7) Bidder 1 did not provide confirmation of the foreign currency content applicable to the new BAFO price. This information was requested from the Bidders as any reduction in offer prices could change the proportion of the foreign currency content to the new price. The other 3 Bidders provided this information as requested. A further clarification letter was therefore issued to Bidder 1 in order to obtain this information. The response from Bidder 1 was to make reference back to the tender documents of 30 April 2013. Accordingly we reverted back to the foreign content amounts provided on the original price offer (Appendix E of the original tender submission) and applied the same percentage allocation to the BAFO price for the purposes of completing the evaluation. It should be noted that this percentage does not tie in to the local content % declaration. Any change in the foreign content percentage in relation to the new BAFO price could have a significant impact on the ranking as Bidder 1 and Bidder 2's final scoring are almost the same (0.8 points difference);
- 8) Bidder 3 in their response indicated their concern around the integrity of the tender process. An extract from their response letter dated 9 January 2014 is quoted below:  
  
*"(Please note that with respect to TFR's request that bidders provide a quotation "using subcontractors of (their) choice not Transnet Engineering"; we trust that this does not allow a bidder who did not previously offer a non-Transnet Engineering option to now amend their bid to include a new "private sector" offer. If this is the case we are concerned that this could jeopardize the integrity of the tender process)";*
- 9) Some bidders included additional SD related proposals in their response. We advised SCS of these items for further consideration;
- 10) This memorandum must be read in conjunction with the CFET (Finance) report dated 10<sup>th</sup> December 2013;

Handwritten signatures and initials at the bottom right of the page, including a large signature, a checkmark, and the letters 'M.M.' and 'TD'.



## Annexure B

Reconciliation between BAFO (Best and Final Offer) submitted in January 2024 and prices used for evaluation as per December 2023 report

BAFO prices per lot as submitted by bidder

Add adjustments for items to reconcile to price per Annexure F:

Special tooling

Engineering support

Capital Spares

Construction

Spares holding

Setup cost

Insurance

Mounting

Customs

Forex Hedging

Price per lot as submitted as per Annex F, before the impact adjustments and options

Adjustments to normative:

Deduct Schedule II capital spares

Add spares not included

Deduct Forex hedging

Sub Total 1 (Amended BAFO Price excluding impact of hedging and excise/duty)

Add Options

Sub Total 2 - Amended BAFO Price with options included (Capital acquisition cost)

Impact of re-bidding for foreign exchange movements

Sub Total 3 (Amended BAFO Total price before TE adjustment)

Impact of not using TE as the main sub-contractor

BAFO - Price used for evaluation

Price used for evaluation before BAFO

Differences

Made up of:

Discount on price

Forex change due to import content and rate changes

Bidder 1	Bidder 2	Bidder 3	Bidder 4
28 128 248	28 900 000	32 788 000	24 311 700

491 202	948 193	2 275 033	24 141
21 787		30 724	31 073
442 830	332 721	407 918	
27 585	15 472	1 756 462	3 866
		74 399	
-10		2 534	-1

28 617 371	27 448 281	36 034 033	24 341 841
------------	------------	------------	------------

-	-126 634	-	-
41 012	-	26 863	-497 257
	-100 000	-	-

28 658 383	27 222 159	36 060 896	24 843 080
------------	------------	------------	------------

496 105	196 389	1 059 637	881 342
---------	---------	-----------	---------

29 154 481	27 418 548	36 120 533	25 724 422
------------	------------	------------	------------

1 300 844	2 902 120	4 123 782	1 431 045
-----------	-----------	-----------	-----------

30 455 325	30 320 668	40 244 315	27 155 467
------------	------------	------------	------------

--	--	--	--

30 455 325	30 320 668	40 244 315	27 155 467
------------	------------	------------	------------

44 232 653	33 254 876	42 761 292	27 453 481
------------	------------	------------	------------

13 797 918	2 834 148	2 516 959	333 874
------------	-----------	-----------	---------

12 375 631	2 499 163	2 091 000	266 800
------------	-----------	-----------	---------

1 491 887	434 985	425 999	67 196
-----------	---------	---------	--------

Note: 1. The BAFO prices requested from bidders was without the use of TE as a subcontractor.  
Therefore the impact of using TE as main subcontractor is already being factored into the initial BAFO price.

M.M

## ANNEXURE FC 66A





## Annexure B

Reconciliation between BAFO (Best and Final Offer) submitted in January 2014 and prices used for evaluation as per December 2013 report

### BAFO price per loco as submitted by bidder

Add adjustments for items to reconcile to price per Annexure F:

Special tooling	493,202	548,193	2,275,033	34,141
Engineering support	22,787		33,724	31,075
Capital Spares	442,830	532,721	407,915	
Consumables			1,756,462	3,066
Spares holding	27,595	15,472	74,399	
Setup cost				
Insurance			2,534	
Rounding	-10		-1	
Customs				
Forex Hedging				

### Price per loco submitted as per annex F , before the impact adjustments and options

#### Adjustments to normalise:

Deduct Schedule B capital spares	-	-126,034	-	-
Add spares not included	41,012	-	26,855	497,257
Deduct Forex hedging	-	-100,000	-	-

### Sub Total 1 (Amended BAFO Price excluding impact of hedging and escalations)

Add Options	28,658,383	27,222,159	35,060,888	24,843,098
	496,108	196,399	1,059,637	881,342

### Sub Total 2 - Amended BAFO Price with options included (Capital acquisition cost)

Impact of Re-basing for foreign exchange movements	29,154,491	27,418,558	36,120,526	25,724,440
	1,300,844	2,902,170	4,123,787	1,435,045

### Sub Total 3 (Amended BAFO Total price before TE adjustment)

Impact of not using TE as the main sub-contractor	30,455,335	30,320,728	40,244,313	27,159,485
	-	-	-	-

### BAFO - Price used for evaluation

Price used for evaluation before BAFO	30,455,335	30,320,728	40,244,313	27,159,485
	44,232,853	33,254,876	42,761,272	27,493,481

#### Difference

#### Made up of:

Discount on price	12,375,831	2,499,163	2,091,000	266,800
Forex change due to import content and rate changes	1,401,687	434,985	425,959	67,196
	13,777,518	2,934,148	2,516,959	333,996

Note:  
1. The BAFO prices requested from bidders was without the use of TE as a subcontractor.  
Therefore the impact of using TE as main subcontractor is already being factored into the initial BAFO price.



## ANNEXURE FC 67



Base Cost in yr zero per locomotive

	Capital acquisition cost(separated into:	Per loco
1	Base price - as per technical specification	0
2	Engineering support cost	
3	Special tooling and test equipment requirements	
	Capital spares (detail must be provided on 4 attached "Capital Spares" sheet)	
5	Consumables	
6	Set up costs	
7	Spares holding costs	
	Spares holding (detail must be provided on 8 attached "Spares holding" sheet)	
9	Forex Hedging Costs	
10	Customs & excise duties	
11	Insurance costs	
12	Other (please detail)	
13	Options re-alignment (see options sheet)	

14	1st Exchange rate used by bidder USD & JPY
15	2nd Exchange rate used by bidder EUR
16	Import Content % 1st exchange rate
17	Import Content % 2nd exchange rate
18	Total import content % (per declaration)
19	Import content foreign value - 1st rate
	Import content foreign value - 2nd rate
20	
21	Indicated Forex hedging cost
22	Forex rate @ 11 November 2013 - 1st exchange rate USD & JPY
23	Forex rate @ 11 November 2013 - 2nd exchange rate - EUR
24	Difference in currency - 1st exchange rate
25	Difference in currency - 2nd exchange rate
26	Additional cost to add to base price

	Capital Acquisition cost excluding forex and escalations rebaselined to 11 November 2013 rates and options re-aligned
27	

28	For illustrative purposes the fixed price including escalation excluding hedging as supplied by bidders post clarification is as follows (note the FX portion of the escalation and the normalising of the price for fx movement is not included):
----	--

Bidder 1	Bidder 2	Bidder 3	Bidder 4	Bidder 5	Bidder 6	Bidder 7
Bombardier	CSR	Alstom	n/a	Siemens	CNR	Mitsui
Unescalated	Unescalated	Unescalated	n/a	Unescalated	Unescalated	Unescalated
100 % Co-co	100 % Co-co	100 % Co-co	n/a	100 % Co-co	100 % Co-co	100 % Co-co
Per Loco	Per Loco	Per Loco	n/a	Per Loco	Per Loco	Per Loco
32,772,350	36,155,546	44,219,229	n/a	33,359,761	Note 6	32,787,950
28,788,150	32,937,100	39,792,193	n/a	30,958,000	Note 6	26,425,599
619,100	0	0	n/a	400,000	Note 6	85,000
3,762	34,789	39,997	n/a	136,998	Note 6	37,080
474,880	280,270	836,534	n/a	538,547	Note 6	483,562
45,302	0	7,817	n/a	0	Note 6	0
1,238,200	925,000	8,799	n/a	15,025	Note 6	2,606,601
0	0	24,852	n/a	0	Note 6	0
27,405	198,300	228,482	n/a	8,150	Note 6	264,762
0	0	0	n/a	0	Note 6	0
309,550	332,900	0	n/a	0	Note 6	0
0	185,000	114,807	n/a	0	Note 6	298,800
0	0	0	n/a	0	Note 6	464,000
1,266,001	1,262,187	3,165,748	n/a	1,303,041	Note 6	2,122,546

	9,2000		n/a		Note 6	0,0950
11.9000		11.5000	n/a	10.0988	Note 6	
	44%		n/a		Note 6	30%
30.2%		22.5%	n/a	37.6%	Note 6	
30.2%	35%	32.6%	n/a	40%	Note 6	12.3%
	USD 1,733,398		n/a		Note 6	JPY 94,480,357
EUR 979,069		EUR 864,673		EUR 1,242,049	Note 6	
2,448,500	2,387,000	5,662,297	n/a	5,552,645	Note 6	4,743,786
	10.3773		n/a		Note 6	0.10457
13.9086		13.9086	n/a	13.9086	Note 6	
	1.1773		n/a		Note 6	0.0096
2.01		2.41	n/a	3.81	Note 6	
1,966,587	2,040,643	2,082,677	n/a	4,731,994	Note 6	907,051

34,738,937	38,196,188	46,301,906	n/a	38,091,755	n/a	33,695,001

45,316,859	37,629,007	53,950,745	n/a	Note 5	Note 6	39,694,197

Notes:

- 1.1 Bombardier - The capital spares was reflected as R491 240. This include both schedule A and B spares. Schedule B was removed and price changed to R474 880.
- 1.2 Bombardier - after clarification Bombardier have confirmed that cost of insurance is included in their glaobal insurance program and thus is included in the base price
- 1.3 Bombardier - used a rate of 10.0988 EUR for the local content declaration, thus we used this rate to calculate the foreign portion. Bombardier confirmed a rate of 11.9 EUR was used for pricing thus this was used to normalise the price
- 2.1 CSR - have confirmed post clarification the import content in USD, when converted to a % it does not tie up to the local content declaration, however we assume that this is because the local content % was based in July 2012 whereas the price was on April 2013
- 2.2 CSR - in their response letter page 11 - para 5 risks - CSR is willing to absorb FX risks between 9.1508 and 9.5 USD
- 2.3 CSR - import declaration schedule shows 3 different currencies at different rates as compared to the rates provided on the executive summary. We have used the rates on the exec summary.
- 2.4 CSR - The capital spares was reflected as R402 918. This include both schedule A and B spares. Schedule B was removed and price changed to R280 270.
- 2.5 CSR confirmed the set up costs post clarification.
- 2.6 CSR confirmed the customs costs post clarification.
- 2.6 CSR confirmed the insurance post clarification.
- 2.7 CSR confirmed the engineering support costs is included in their base price as part of clarification annexure A.
- 3.1 Alstom - have confirmed post clarification the import content in Euro, when converted to a % it does not tie up to the local content declaration, however we assume that this is because the local content % was based in July 2012 whereas the price was on April 2013
- 3.2 Alstom - The capital spares was reflected as R85 648. This include both schedule A and B spares. Schedule B was removed and price changed to R836 534.
- 3.3 Alstom - have confirmed post clarification that no customs duties are payable.
- 3.4 Alstom - the quote for the cost of hedging is overstated as although they used the forward rate @ 11 Nov, the cost of hedging was calculated by using the difference between 11 Nov forwards and 30 April Spot rate.
- 4 Bidder 4 did not make through to stage 6 of the evaluation process and has thus not been evaluated at this stage.
- 5.1 Siemens - no change required for capital spares as only schedule A was included.
- 5.2 Siemens - have confirmed post clarification that no customs duties are payable as they will import under a Euro one certificate where all components are duty free.
- 5.3 Siemens - after clarification Siemens have confirmed that cost of insurance is included in their global insurance program and thus is included in the base price
- 5.4 Siemens - are not willing to quote on a fixed price basis due to uncertainty of indices over the 7 years and uncertainty around delivery batches
- 5.5 Siemens - have confirmed post clarification the import content in Euro, when converted to a % it does not tie up to the local content declaration, however we assume that this is because the local content % was based in July 2012 whereas the price was on April 2013
- 5.6 Siemens have recalculated their price based on 11 November rates and indicate a price of R 37 837 000 per loco. Our recalculated price differs from their recalculation. We have used our calculation.
- 6 CNR have not provided a quote for Co locomotives, as such this could not be evaluated
- 7.1 Mitsui - The capital spares was reflected as R507 558. This include both schedule A and B spares. Schedule B was removed and price changed to R438 562.
- 7.2 Mitsui - Base price + engineering support + other + insurance = R 29880000
- 7.3 Mitsui has confirmed the quantum of the set up costs post clarification and also confirmed that this was previously included in the base price.
- 7.4 Mitsui - have confirmed post clarification that no customs duties are payable as they will set up a rebate store.
- 7.5 Mitsui - have confirmed post clarification the reasons why the import declaration % is different from the import % per the priced offer.
- 8 Per clause 3.1 of RFP break point pricing was provided by bidders. For purposes of evaluation pricing based on contracting for the full 599 loco's was used.
- 9 Generally - where the import content foreign value was not provided by the bidder we recalculated this amount based on the local content declaration
- 10 The date to convert foreign exchange to to rands was omitted from the RFP. As such tenderers utilised their own dates. This must be clarified and tenderers must be told at which date to convert forex and thereby quote on forex hedging costs  
We have stripped the forex hedging costs portion out of the price for evaluation purposes for now, after clarification. All forex impacts was rebased to 11 November 2013 rates

## ANNEXURE FC 68



Base Cost in yr zero per locomotive

	Capital acquisition cost(separated into:	Per loco
1	Base price - as per technical specification	0
2	Engineering support cost	
3	Special tooling and test equipment requirements	
	Capital spares (detail must be provided on 4 attached "Capital Spares" sheet)	
5	Consumables	
6	Set up costs	
7	Spares holding costs	
	Spares holding (detail must be provided on 8 attached "Spares holding" sheet)	
9	Forex Hedging Costs	
10	Customs & excise duties	
11	Insurance costs	
12	Other (please detail)	
13	Options re-alignment (see options sheet)	

14	1st Exchange rate used by bidder USD & JPY
15	2nd Exchange rate used by bidder EUR
16	Import Content % 1st exchange rate
17	Import Content % 2nd exchange rate
18	Total import content % (per declaration)
19	Import content foreign value - 1st rate
	Import content foreign value - 2nd rate
20	
21	Indicated Forex hedging cost
22	Forex rate @ 11 November 2013 - 1st exchange rate USD & JPY
23	Forex rate @ 11 November 2013 - 2nd exchange rate - EUR
24	Difference in currency - 1st exchange rate
25	Difference in currency - 2nd exchange rate
26	Additional cost to add to base price

	Capital Acquisition cost excluding forex and escalations rebaselined to 11 November 2013 rates and options re-aligned
27	

28	For illustrative purposes the fixed price including escalation excluding hedging as supplied by bidders post clarification is as follows (note the FX portion of the escalation and the normalising of the price for fx movement is not included):
----	--

Bidder 1	Bidder 2	Bidder 3	Bidder 4	Bidder 5	Bidder 6	Bidder 7
Bombardier	CSR	Alstom	n/a	Siemens	CNR	Mitsui
Unescalated	Unescalated	Unescalated	n/a	Unescalated	Unescalated	Unescalated
100 % Co-co	100 % Co-co	100 % Co-co	n/a	100 % Co-co	100 % Co-co	100 % Co-co
Per Loco	Per Loco	Per Loco	n/a	Per Loco	Per Loco	Per Loco
31,506,349	34,893,359	41,053,481	n/a	32,056,719	Note 6	30,665,404
28,788,150	32,937,100	39,792,193	n/a	30,958,000	Note 6	26,425,599
619,100	0	0	n/a	400,000	Note 6	85,000
3,762	34,789	39,997	n/a	136,998	Note 6	37,080
474,880	280,270	836,534	n/a	538,547	Note 6	483,562
45,302	0	7,817	n/a	0	Note 6	0
1,238,200	925,000	8,799	n/a	15,025	Note 6	2,606,601
0	0	24,852	n/a	0	Note 6	0
27,405	198,300	228,482	n/a	8,150	Note 6	264,762
0	0	0	n/a	0	Note 6	0
309,550	332,900	0	n/a	0	Note 6	0
0	185,000	114,807	n/a	0	Note 6	298,800
0	0	0	n/a	0	Note 6	464,000

	9,2000		n/a		Note 6	0,0950
11.9000		11.5000	n/a	10.0988	Note 6	
	46%		n/a		Note 6	30%
30.2%		24.2%	n/a	39.1%	Note 6	
30.2%	35%	32.6%	n/a	40%	Note 6	12.3%
	USD 1,733,398		n/a		Note 6	JPY 94,480,357
EUR 941,247		EUR 864,673		EUR 1,242,049	Note 6	
2,448,500	2,387,000	5,662,297	n/a	5,552,645	Note 6	4,743,786
	10.3773		n/a		Note 6	0.10457
13.9086		13.9086	n/a	13.9086	Note 6	
	1.1773		n/a		Note 6	0.0096
2.01		2.41	n/a	3.81	Note 6	
1,890,617	2,040,643	2,082,677	n/a	4,731,994	Note 6	907,051

33,396,966	36,934,002	43,136,159	n/a	36,788,713	n/a	31,572,455
6%	17%	37%		17%		0%

45,316,859	37,629,007	53,950,745	n/a	Note 5	Note 6	39,694,197
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Notes:

- 1.1 Bombardier - The capital spares was reflected as R491 240. This include both schedule A and B spares. Schedule B was removed and price changed to R474 880.
- 1.2 Bombardier - after clarification Bombardier have confirmed that cost of insurance is included in their glaobal insurance program and thus is included in the base price
- 1.3 Bombardier - used a rate of 10.0988 EUR for the local content declaration, thus we used this rate to calculate the foreign portion. Bombardier confirmed a rate of 11.9 EUR was used for pricing thus this was used to normalise the price
- 2.1 CSR - have confirmed post clarification the import content in USD, when converted to a % it does not tie up to the local content declaration, however we assume that this is because the local content % was based in July 2012 whereas the price was on April 2013
- 2.2 CSR - in their response letter page 11 - para 5 risks - CSR is willing to absorb FX risks between 9.1508 and 9.5 USD
- 2.3 CSR - import declaration schedule shows 3 different currencies at different rates as compared to the rates provided on the executive summary. We have used the rates on the exec summary.
- 2.4 CSR - The capital spares was reflected as R402 918. This include both schedule A and B spares. Schedule B was removed and price changed to R280 270.
- 2.5 CSR confirmed the set up costs post clarification.
- 2.6 CSR confirmed the customs costs post clarification.
- 2.6 CSR confirmed the insurance post clarification.
- 2.7 CSR confirmed the engineering support costs is included in their base price as part of clarification annexure A.
- 3.1 Alstom - have confirmed post clarification the import content in Euro, when converted to a % it does not tie up to the local content declaration, however we assume that this is because the local content % was based in July 2012 whereas the price was on April 2013
- 3.2 Alstom - The capital spares was reflected as R85 648. This include both schedule A and B spares. Schedule B was removed and price changed to R836 534.
- 3.3 Alstom - have confirmed post clarification that no customs duties are payable.
- 3.4 Alstom - the quote for the cost of hedging is overstated as although they used the forward rate @ 11 Nov, the cost of hedging was calculated by using the difference between 11 Nov forwards and 30 April Spot rate.
- 4 Bidder 4 did not make through to stage 6 of the evaluation process and has thus not been evaluated at this stage.
- 5.1 Siemens - no change required for capital spares as only schedule A was included.
- 5.2 Siemens - have confirmed post clarification that no customs duties are payable as they will import under a Euro one certificate where all components are duty free.
- 5.3 Siemens - after clarification Siemens have confirmed that cost of insurance is included in their global insurance program and thus is included in the base price
- 5.4 Siemens - are not willing to quote on a fixed price basis due to uncertainty of indices over the 7 years and uncertainty around delivery batches
- 5.5 Siemens - have confirmed post clarification the import content in Euro, when converted to a % it does not tie up to the local content declaration, however we assume that this is because the local content % was based in July 2012 whereas the price was on April 2013
- 5.6 Siemens have recalculated their price based on 11 November rates and indicate a price of R 37 837 000 per loco. Our recalculated price differs from their recalculation. We have used our calculation.
- 6 CNR have not provided a quote for Co locomotives, as such this could not be evaluated
- 7.1 Mitsui - The capital spares was reflected as R507 558. This include both schedule A and B spares. Schedule B was removed and price changed to R438 562.
- 7.2 Mitsui - Base price + engineering support + other + insurance = R 29880000
- 7.3 Mitsui has confirmed the quantum of the set up costs post clarification and also confirmed that this was previously included in the base price.
- 7.4 Mitsui - have confirmed post clarification that no customs duties are payable as they will set up a rebate store.
- 7.5 Mitsui - have confirmed post clarification the reasons why the import declaration % is different from the import % per the priced offer.
- 8 Per clause 3.1 of RFP break point pricing was provided by bidders. For purposes of evaluation pricing based on contracting for the full 599 loco's was used.
- 9 Generally - where the import content foreign value was not provided by the bidder we recalculated this amount based on the local content declaration

3 The date to convert foreign exchange to to rands was omitted from the RFP. As such tenderers utilised their own dates. This must be clarified and tenderers must be told at which date to convert forex and thereby quote on forex hedging costs  
We have stripped the forex hedging costs portion out of the price for evaluation purposes for now, pending clarification.



## ANNEXURE FC 69



Base Cost in yr zero per locomotive

	Capital acquisition cost(separated into:	Per loco
1	Base price - as per technical specification	0
2	Engineering support cost	
3	Special tooling and test equipment requirements	
4	Capital spares (detail must be provided on attached "Capital Spares" sheet)	
5	Consumables	
6	Set up costs	
7	Spares holding costs	
8	Spares holding (detail must be provided on attached "Spares holding" sheet)	
9	Forex Hedging Costs	
10	Customs & excise duties	
11	Insurance costs	
12	Other (please detail)	
13	Options re-alignment (see options sheet)	

14	1st Exchange rate used by bidder USD & JPY
15	2nd Exchange rate used by bidder EUR
16	Import Content % 1st exchange rate
17	Import Content % 2nd exchange rate
18	Total import content % (per declaration)
19	Import content foreign value - 1st rate
20	Import content foreign value - 2nd rate
21	Indicated Forex hedging cost
22	Forex rate @ 13 January 2014 - 1st exchange rate USD & JPY
23	Forex rate @ 13 January 2014 - 2nd exchange rate - EUR
24	Difference in currency - 1st exchange rate
25	Difference in currency - 2nd exchange rate
26	Additional cost to add to base price

27	Impact of TE
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28	Capital Acquisition cost excluding forex and escalations rebaselined to 13 January 2014 rates and options re-aligned
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29	For illustrative purposes the fixed price including escalation excluding hedging as supplied by bidders post clarification is as follows (note the FX portion of the escalation and the normalising of the price for fx movement is not included):
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Bidder 1	Bidder 2	Bidder 3	Bidder 4	Bidder 5	Bidder 6	Bidder 7
Bombardier	CSR	Alstom	n/a	Siemens	CNR	Mitsui
Unescalated	Unescalated	Unescalated	n/a	Unescalated	Unescalated	Unescalated
100 % Co-co	100 % Co-co	100 % Co-co	n/a	100 % Co-co	100 % Co-co	100 % Co-co
Per Loco	Per Loco	Per Loco	n/a	Per Loco	Per Loco	Per Loco
30,866,836	30,665,546	44,219,229	n/a	33,359,761	Note 6	32,787,950
26,882,636	27,447,100	39,792,193	n/a	30,958,000	Note 6	26,425,599
619,100	0	0	n/a	400,000	Note 6	85,000
3,762	34,789	39,997	n/a	136,998	Note 6	37,080
474,880	280,270	836,534	n/a	538,547	Note 6	483,562
45,302	0	7,817	n/a	0	Note 6	0
1,238,200	925,000	8,799	n/a	15,025	Note 6	2,606,601
0	0	24,852	n/a	0	Note 6	0
27,405	198,300	228,482	n/a	8,150	Note 6	264,762
0	0	0	n/a	0	Note 6	0
309,550	332,900	0	n/a	0	Note 6	0
0	185,000	114,807	n/a	0	Note 6	298,800
0	0	0	n/a	0	Note 6	464,000
1,266,001	1,262,187	3,165,748	n/a	1,303,041	Note 6	2,122,546

	9.1508		n/a		Note 6	0.0950
11.9000		11.5000	n/a	10.0988	Note 6	
	4%		n/a		Note 6	30%
29.0%		22.5%	n/a	37.6%	Note 6	
30.2%	35%	32.6%	n/a	40%	Note 6	12.3%
	USD 1,465,000		n/a		Note 6	JPY 94,480,357
EUR 752,217		EUR 864,673		EUR 1,242,049	Note 6	
2,448,500	2,387,000	5,662,297	n/a	5,552,645	Note 6	4,743,786
	10.3773		n/a		Note 6	0.10457
13.9086		13.9086	n/a	13.9086	Note 6	
	1.2265		n/a		Note 6	0.0096
2.01		2.41	n/a	3.81	Note 6	
1,510,926	1,796,749	2,082,677	n/a	4,731,994	Note 6	907,051

	-	note 11		0		note 11
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32,377,762	32,462,295	46,301,906	n/a	38,091,755	n/a	33,695,001
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45,316,859	37,629,007	53,950,745	n/a	Note 5	Note 6	39,694,197
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Notes:

- 1.1 Bombardier - The capital spares was reflected as R491 240. This include both schedule A and B spares. Schedule B was removed and price changed to R474 880.
- 1.2 Bombardier - after clarification Bombardier have confirmed that cost of insurance is included in their glaobal insurance program and thus is included in the base price

Bombardier - used a rate of 10.0988 EUR for the local content declaration, thus we used this rate to calculate the foreign portion. Bombardier confirmed a rate of 11.9 EUR was used for pricing thus 1.3 this was used to normalise the price

- 1.4 Bombardier - Base price + engineering support + set up costs + customs = R 30 995 000
- 1.5 Bombardier - Breakdown in reduction of price for TE of R 1905514 as follows = R 863644 from reduced rates and R 1041 870 from lower set up costs.

Bombardier - have confirmed post clarification that the revised offer excluding TE is based on the same assumptions as the original tender response. As such we have assumed that the import content 1.6 remains the same.

196330	29089486	40000
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CSR - have confirmed post clarification the import content in USD, when converted to a % it does not tie up to the local content declaration, however we assume that this is because the local content 2.1 % was based in July 2012 whereas the price was on April 2013

- 2.2 CSR - in their response letter page 11 - para 5 risks - CSR is willing to absorb FX risks between 9.1508 and 9.5 USD
- 2.3 CSR - import declaration schedule shows 3 different currencies at different rates as compared to the rates provided on the executive summary. We have used the rates on the exec summary.
- 2.4 CSR - The capital spares was reflected as R402 918. This include both schedule A and B spares. Schedule B was removed and price changed to R280 270.
- 2.5 CSR confirmed the set up costs post clarification.
- 2.6 CSR confirmed the customs costs post clarification.
- 2.6 CSR confirmed the insurance post clarification.
- 2.7 CSR confirmed the engineering support costs is included in their base price as part of clarification annexure A.

CSR - have not confirmed post clarification that the revised offer excluding TE is based on the same assumptions as the original tender response. As such we have assumed that the import content 2.8 remains the same.

Alstom - have confirmed post clarification the import content in Euro, when converted to a % it does not tie up to the local content declaration, however we assume that this is because the local

- 3.1 content % was based in July 2012 whereas the price was on April 2013
- 3.2 Alstom - The capital spares was reflected as R85 648. This include both schedule A and B spares. Schedule B was removed and price changed to R836 534.
- 3.3 Alstom - have confirmed post clarification that no customs duties are payable.
- Alstom - the quote for the cost of hedging is overstated as although they used the forward rate @ 11 Nov, the cost of hedging was calculated by using the difference between 11 Nov forwards and 30 April Spot rate.
- 3.5 Alstom - SCS have confirmed based on information from the SD files that Alstom have initially quoted excluding TE. Thus a clarification was not sent to Alstom.

4 Bidder 4 did not make through to stage 6 of the evaluation process and has thus not been evaluated at this stage.

- 5.1 Siemens - no change required for capital spares as only schedule A was included.
- 5.2 Siemens - have confirmed post clarification that no customs duties are payable as they will import under a Euro one certificate where all components are duty free.
- 5.3 Siemens - after clarification Siemens have confirmed that cost of insurance is included in their global insurance program and thus is included in the base price
- 5.4 Siemens - are not willing to quote on a fixed price basis due to uncertainty of indices over the 7 years and uncertainty around delivery batches

Siemens - have confirmed post clarification the import content in Euro, when converted to a % it does not tie up to the local content declaration, however we assume that this is because the local 5.5 content % was based in July 2012 whereas the price was on April 2013

- 5.6 Siemens have recalculated their price based on 11 November rates and indicate a price of R 37 837 000 per loco. Our recalculated price differs from their recalculation. We have used our calculation.
- 5.7 Siemens - price does not change whether TE is used or not (as per clarification response) on an equelly scoped contractual and commercial basis.

6 CNR have not provided a quote for Co locomotives, as such this could not be evaluated



- 7.1 Mitsui - The capital spares was reflected as R507 558. This include both schedule A and B spares. Schedule B was removed and price changed to R438 562.
- 7.2 Mitsui - Base price + engineering support + other + insurance = R 29880000
- 7.3 Mitsui has confirmed the quantum of the set up costs post clarification and also confirmed that this was previously included in the base price.
- 7.4 Mitsui - have confirmed post clarification that no customs duties are payable as they will set up a rebate store.
- 7.5 Mitsui - have confirmed post clarification the reasons why the import declaration % is different from the import % per the priced offer.
- 7.6 Mitsui - SCS have confirmed based on information from the SD files that Mitsui have initially quoted excluding TE. Thus a clarification was not sent to Mitsui.

8 Per clause 3.1 of RFP break point pricing was provided by bidders. For purposes of evaluation pricing based on contracting for the full 599 loco's was used.

9 Generally - where the import content foreign value was not provided by the bidder we recalculated this amount based on the local content declaration

The date to convert foreign exchange to to rands was omitted from the RFP. As such tenderers utilised their own dates. This must be clarified and tenderers must be told at which date to convert

10.1 forex and thereby quote on forex hedging costs

10.2 We have stripped the forex hedging costs portion out of the price for evaluation purposes, after clarification. All forex impacts was rebased to 11 November 2013 rates

The Price evaluation has been done on the basis of excluding the cost of using TE as the main subcontractor but rather bidders were requested to quote as if another private sector subcontractor is used (per the GCE request after this was requested via clarification from bidder 1,2 & 5). SCS issued the clarifications to those bidders that indicated that they had used TE as the main subcontractor

11 per the SD files.

Impact of TE

Bidder 1	Bidder 2	Bidder 3	Bidder 4	Bidder 5	Bidder 6	Bidder 7
-1,905,514	-3,480,000	0	n/a	0	n/a	0

## ANNEXURE FC 70



Base Cost in yr zero per locomotive

	Capital acquisition cost(separated into:	Per loco
1	Base price - as per technical specification	0
2	Engineering support cost	
3	Special tooling and test equipment requirements	
4	Capital spares (detail must be provided on attached "Capital Spares" sheet)	
5	Consumables	
6	Set up costs	
7	Spares holding costs	
8	Spares holding (detail must be provided on attached "Spares holding" sheet)	
9	Forex Hedging Costs	
10	Customs & excise duties	
11	Insurance costs	
12	Other (please detail)	
13	Options re-alignment (see options sheet)	

14	1st Exchange rate used by bidder USD & JPY	
15	2nd Exchange rate used by bidder EUR	
16	Import Content % 1st exchange rate	
17	Import Content % 2nd exchange rate	
18	Total import content % (per declaration)	
19	Import content foreign value - 1st rate	
	Import content foreign value - 2nd rate	
20	Indicated Forex hedging cost	1,328,080.00
21	Forex rate @ 10 March 2014 - 1st exchange rate USD & JPY	
22	Forex rate @ 10 March 2014 - 2nd exchange rate - EUR	
23	Difference in currency - 1st exchange rate	
24	Difference in currency - 2nd exchange rate	
25	Additional cost to add to base price	

27	Impact of TE	
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28	Capital Acquisition cost excluding forex and escalations rebaselined to 10 March 2014 rates and options re-aligned	
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Bidder 1	Bidder 2
Bombardier	CSR
Unescalated	Unescalated
100 % Co-co	100 % Co-co
Per Loco	Per Loco
30,866,836	30,665,546
26,882,636	27,447,100
619,100	0
3,762	34,789
474,880	280,270
45,302	0
1,238,200	925,000
0	0
27,405	198,300
0	0
309,550	332,900
0	185,000
0	0
1,266,001	1,262,187

	9.1508
11.9000	
29.0%	48%
30.2%	35%
	USD 1,591,828
EUR 1,328,080	
2,448,500	2,387,000
	10.7813
14.8680	
2.97	1.6305
3,941,741	2,595,537

405,637 -0

	-
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34,808,577	33,261,083
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261336  
30955000

CSR	Offer per CSR	Saving per loco
Negotiated offer		
32,370,000	32,370,000	
33,341,100	33,341,100	
33,988,500	34,312,000	323,500
36,254,400	37,316,136	1,061,736

103%

100.95%

571,466,252.00



	8/8/8/73/3	13/7/75/5
	240	359
BAFO	Bombardier	CSR
	29,049,486	28,890,000
1 Add back original TE scope	1,905,514	3,480,000
2 Exchange rate impact	3,536,104	2,595,537
3 Escalation up to date of signature	1,941,299	3,156,976
4 Batch pricing adjustment	5,859,171	1,618,500
	13,242,088	10,851,013
New Price @ 18 Feb 14	42,291,574	39,741,013
Add cost of new TE scope	1,399,000	1,113,732
Further discount 25 Feb 2014		
Price excluding TE scope excluding forward escala	43,690,574	40,854,745
Cost to fix escalation going forward	7,646,119	7,936,367
	51,336,693	48,791,112
	3,035,000	1,688,888
Cost of hedging going forward	54,371,693	50,480,000
Add cost of new TE scope	54,371,693	50,480,000
Cost after TE scope		
	54,371,693	50,480,000
	43,690,574	40,854,745
Cost of hedging agreed with BT on 15March14		
	Bidder 1	Bidder 2
	-1,905,514	-3,480,000



599 Electrics - Negotiation Statistics based on latest offers @ 21 February 2014

40/60	Base price excluding additional TE scope excl esca per loco no of loco's Total	BT	CSR
		42,291,574	39,741,013
		240	359
		10,149,977,760	14,267,023,667
40/60	Base price including TE excl escalation excl hedgir per loco no of loco's Total	43,690,574	40,854,745
		240	359
		10,485,737,760	14,666,853,455
40/60	Base price including TE including escalation and her per loco no of loco's Total	54,371,693	50,480,000
		240	359
		13,049,206,320	18,122,320,000
Transnet Board Mandate (ETC) for 1064 locomotives excluding hedging and excluding escalations			
Total for 1064 locomotives excluding additional TE scope excluding hedging and excluding escalations			
Total for 1064 locomotives including additional TE scope excluding hedging and excluding escalations			

24,417,001,427
25,152,591,215
31,171,526,320
38,600,000,000
39,350,461,859
40,092,429,415

BAFO evaluated price excluding forex and escalations rebaselined to spot on 13 January 2014 rates and including options re-1 aligned			32,377,762	32,462,295	
2 Delivery Schedule					
by March 2016 by March 2017 by December 2017 by January 2018			6 137 97	88 142 129	CSR 1st 40 from China BT produce all loco's locally
3 General warranty extention Current offer 24 months			6 months 12 months 18 months 24 months 30 months 36 months	3.0% 3.2% 4.1% 4.8% 6.1% 7.8%	811,000 870,000 1,128,000 1,304,000 1,645,000 2,114,000
4 Traction motor warranty extention			1 year		1,262,000 1,262,000 1,514,400 2,524,000 3,028,800 3,533,600
Current offer 6 years			2 years		5% p.a. on loco price 5% p.a. on loco price 6 % p.a. on loco price 10 % p.a. on loco price 12 % p.a. on loco price 14 % p.a. on loco price
Spares warranty			12 months	Complete bogie	20% p.a. on traction motor price limited to 1 milion kms 25% p.a. on traction motor price limited to 1.15 milion kms
Current offer 12 months			12 months	Other parts	
Optional SD bond cost to increase to 12.5 % from 2.5%			SD bond covers full obligations		
5			Difference on SD bond up to 12.5 % to be covered by the PCG		
6 Break Pricing					
after 290 loco's after 195 locos after 190 loco's after 140 loco's after 90 loco's after 65 locos after 40 loco's Additional costs			Once off amount	Once off amount	72,331,367 500,548,815 190,000,000 349,185,897 477,012,876 6,162,328,725 548,720,697
			Agreed that we will reimburse for reasonable and auditable costs, limited to the liability cap of 15 % of contract value		
			Agreed that we will reimburse for reasonable and auditable costs, limited to the liability cap of 15 % of contract value		

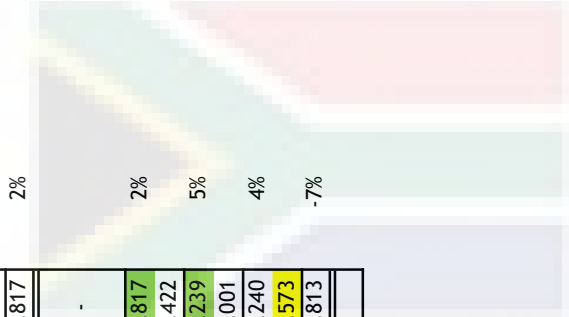
7 Deferral of delivery schedule cost		if deferred on overseas quantity	TFR will reimburse for reasonable and auditable costs	1st 3 months free thereafter at an escalating cost of 1 % of contract price per month per loco	Fixed price regardless of quantity, this will push up the price per loco of a smaller batch of loco's
Benchmarking exercise has indicated that this will cost around 10 % of loco price p.a.		if deferred locally (TE)	TFR will reimburse for reasonable and auditable costs	TFR will reimburse for reasonable and auditable costs	
8 Special tools and test equipment total cost once off			22,558,000	20,838,611	
Special tools and test equipment total cost per loco			93,992	58,046	
9 Revised Options pricing		ECP with WDP	790,000	599,952	
		RDP	1,395,000	789,952	
		Both ECP with WDP & RDP	2,185,000	1,320,409	
10 Payment terms		Deposit		10%	
		Design review		20%	
		Acceptance	68%	65%	
		Retention	5%	5%	
11 Local content			60%	65.30%	
12 Delay penalties			Capped @ 10 % of total contract price	Capped @ 10 % of total contract price	
13 SD penalties			Capped @ 2.5 % of SD value	Capped @ 2.5 % of SD value	
FRC penalties			Capped @ 7.5 % of SD value	Capped @ 7.5 % of SD value	
14 Hedging cost			3,035,000	1,688,888	
15 Limitation of liability (for both parties)			15% of contract price	15% of contract price	
			No consequential damages	No consequential damages	
16 Escalations if fixed (excluding TE scope) per loco			7,835,000		
Escalations if fixed (including TE scope) per loco			7,646,119	9,962,422	
17 Energy efficiency (TCO) penalty regime			Principle to be agreed, mechanics to be dealt with at design review stage	Principle to be agreed, mechanics to be dealt with at design review stage	
18 Warranty bond			Propose to bidder that we drop the warranty bond and increase the retention to 5 % for 24 months	Warranty bond to remain intact as the price reduction is negligible.	
Warranty bond cost per loco			212,050	10,500	
Warranty bond cost in total			50,891,905	3,779,942	
should be about 0.3 & 0.5 % of the value			BT quoted 0.39% of total contract value	CSR quoted 0.08% of 13 % of total contract value	



<u>Saving in total</u>	<u>Loco's scenario</u>	<u>Simple calculation of expected escalation</u>				
		Foreign	Local	Foreign escalation	Local escalation	Total escalation
	480					
	420					
116,460,000	360	17,976,087.80	22,878,657	1,438,087.02	7,321,170.30	8,759,257
318,520,800	300	16,419,100	20,897,036	1,149,337	5,851,170	7,000,507

	24/66/10	20/77/3
BAFO	Bombardier	CSR
	28,788,150	28,900,000
1 Add back original TE scope	2,166,850	3,480,000
2 Exchange rate impact	3,711,411	2,562,000
3 Escalation up to date of signature	1,941,299	5,299,417
4 Batch pricing adjustment	4,277,290	2,374,136
	12,096,850	13,715,553
	312,000	
New Price @ 18 Feb 14	40,573,000	42,615,553
Cost of change in payment terms change	1,282,000	-
Further discount 23 Feb 2014		-1,061,736
Price excluding TE scope excluding forward esca	41,855,000	41,553,817
Cost to fix escalation going forward	8,705,000	11,222,585
	50,560,000	52,776,402
Cost of hedging going forward	3,421,000	1,899,647
	53,981,000	54,676,049
Add cost of new TE scope	6,486,000	527,764
Cost after TE scope	60,467,000	55,203,813

	24/66/10	20/77/3
BAFO	50/50	50/50
	28,788,150	28,890,000
1 Add back original TE scope	2,166,850	3,480,000
2 Exchange rate impact	3,711,411	2,784,425
3 Escalation up to date of signatu	1,941,299	3,156,976
4 Batch pricing adjustment	4,277,290	3,242,416
	12,096,850	12,663,817
	312,000	
New Price @ 18 Feb 14	40,573,000	41,553,817
Cost of change in payment terms change		-
Further discount 23 Feb 2014		
Price excluding TE scope excluc	40,573,000	41,553,817
Cost to fix escalation going forv	8,705,000	9,962,422
	49,278,000	51,516,239
Cost of hedging going forward	3,421,000	3,141,001
	52,699,000	54,657,240
Add cost of new TE scope	6,486,000	546,573
Cost after TE scope	59,185,000	55,203,813



## ANNEXURE FC 71





## Award of 599 Electric Locomotive Contract

<u>Total</u>	Electrics	
	Bombardier	CSR
	240 (40%)	359 (60%)

## Best and Final Offer per Board submission

29,049,486	28,890,000	0.6%
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Adjusted for changes to:

Escalation up to signature date (from close of tender to Mar 14)  
 Longer delivery schedule impact due to production rate tempo of 12 per month  
 Forex adjustment to spot rate at 17 March 2014  
 Batch pricing adjustment for reduction of batch size to 40 % / 60 %

## Best and Final Offer updated to 17 March 2014

42,291,574	39,741,013	6.4%
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Adjustments for:

Additional TE Scope  
 Negotiated discounts

## New Price including TE scope

43,690,574	40,854,745	6.9%
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Cost to fix escalation to end of contract

7,646,119 7,936,367

Cost of Hedging

3,035,000 1,688,888

## Final Locomotive cost excluding TE scope

54,371,693	50,480,000	7.7%
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## Estimated Total Cost excluding Hedging, Escalation

25,152,591,215	10,485,737,760	14,666,853,455
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## Estimated Total Cost including Hedging &amp; Escalation

31,171,526,320	13,049,206,320	18,122,320,000
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Delivery Schedule

	BT produce all loco's locally, CSR 1st 40 from China	
by March 2016	6	88
by March 2017	137	142
by December 2017	97	
by January 2018		129

Payment terms

Deposit	27% (9+9+9)	10%
Design review		20%
Acceptance	68%	65%
Retention	5%	5%

## Delay penalties

Capped @ 10 % of total  
contract priceCapped @ 10 % of  
total contract price

## SD penalties

Capped @ 2.5 % of SD  
valueCapped @ 2.5 % of SD  
value

## FRC penalties

Capped @ 7.5 % of SD  
valueCapped @ 7.5 % of SD  
value

## ANNEXURE FC 72



Reconciliation of Negotiated prices

8/8/73/3 13/7/70/10  
240 359

## BAFO

- 1 Add back original TE scope
- 2 Exchange rate impact
- 3 Escalation up to date of signature
- 4 Batch pricing adjustment

Bombardier	CSR
28,788,150	28,890,000
2,166,850	3,480,000
3,711,411	2,784,425
1,941,299	3,156,976
5,952,290	1,971,644
13,771,850	11,393,045

New Price @ 18 Feb 14

#

42,560,000	40,283,045
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6%

- Add cost of new TE scope @ 18/23 Feb 2014  
Price including TE scope excluding forward escalation and hedging  
Cost to fix escalation going forward @ 18/23 Feb 2014

6,129,000	668,238
48,689,000	40,951,283
9,111,000	17,607,010
57,800,000	58,558,293
3,659,000	2,086,965
61,459,000	60,645,258

Cost of hedging going forward @ 18/23 Feb 2014

Cost after TE scope @ 18/23 Feb 2014

61,459,000	60,645,258
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1%

- Negotiated Discount on Batch Pricing @ 27/28 Feb 2014  
Negotiated Discount on Escalation @ 27/28 Feb 2014  
Negotiated Discount on Hedging @ 27/28 Feb 2014  
Negotiated Discount on TE scope @ 27/28 Feb 2014

-1,999,000	
-975,000	-8,444,561
-44,000	-398,077
-55,000	
58,386,000	51,802,620

13%

58,386,000

## ANNEXURE FC 73



Base Cost in yr zero per locomotive	
	Per loco
Capital acquisition cost(separated into:	0
1 Base price - as per technical specification	
2 Engineering support cost	
3 Special tooling and test equipment requirements	
4 Capital spares (detail must be provided on attached "Capital Spares" sheet)	
5 Consumables	
6 Set up costs	
7 Spares holding costs	
8 Spares holding (detail must be provided on attached "Spares holding" sheet)	
9 Forex Hedging Costs	
10 Customs & excise duties	
11 Insurance costs	
12 Other (please detail)	
13 Options re-alignment (see options sheet)	

14 1st Exchange rate used by bidder - USD
15 2nd Exchange rate used by bidder - EUR
16 Import Content % 1st exchange rate
17 Import Content % 2nd exchange rate
18 Total import content % (per declaration)
19 Import content foreign value - 1st rate
20 Import content foreign value - 2nd rate
21 Indicated Forex hedging cost
22 Forex rate @ 11 November 2013 - 1st exchange rate
23 Forex rate @ 11 November 2013 - 2nd exchange rate
24 Difference in currency - 1st exchange rate
25 Difference in currency - 2nd exchange rate
26 Additional cost to add to base price

Capital Acquisition cost excluding forex and escalations rebaselined to 11 November 2013 rates and options re-aligned
---

For illustrative purposes the fixed price including escalation excluding hedging as supplied by bidders post clarification is as follows (note the FX portion of the escalation and the normalising of the price for fx movement is not included):
--

Bidder 1	Bidder 2	Bidder 3	Bidder 4
CNR	CSR	EMD	GE
no escalations	no escalations	no escalations	no escalations
Per Loco	Per Loco	Per Loco	Per Loco
41,530,322	31,447,911	39,851,526	27,037,300
39,735,831	29,741,514	32,466,387	25,422,060
135,000	100,000	108,703	70,000
22,787	200,000	33,724	31,075
483,842	406,687	505,392	490,939
5,221	350,000	1,756,462	3,066
215,054	100,000	303,814	0
0	13,000	0	0
27,595	2,472	3,777	6,319
0	0	0	0
138,655	237,839	208,004	132,500
270,229	100,000	2,534	0
	0	3,403,091	0
496,108	196,399	1,059,637	881,342

9	8.2584	8.20	9.168
11.86			
27.0%	42.06%	44.91%	42.1%
73.0%			
38.9%	42.05%	43.0%	44.5%
USD 484,285	USD 1,574,984	USD 2,089,754	USD 1,242,291
EUR 993,615			
	100,000	9,926,569	2,798,120
10.3773	10.3773	10.3773	10.3773
13.9086			
1.377	2.119	2.177	1.209
2.049			
2,702,531	3,337,155	4,549,746	1,502,241

44,232,853	34,785,066	44,401,272	28,539,541

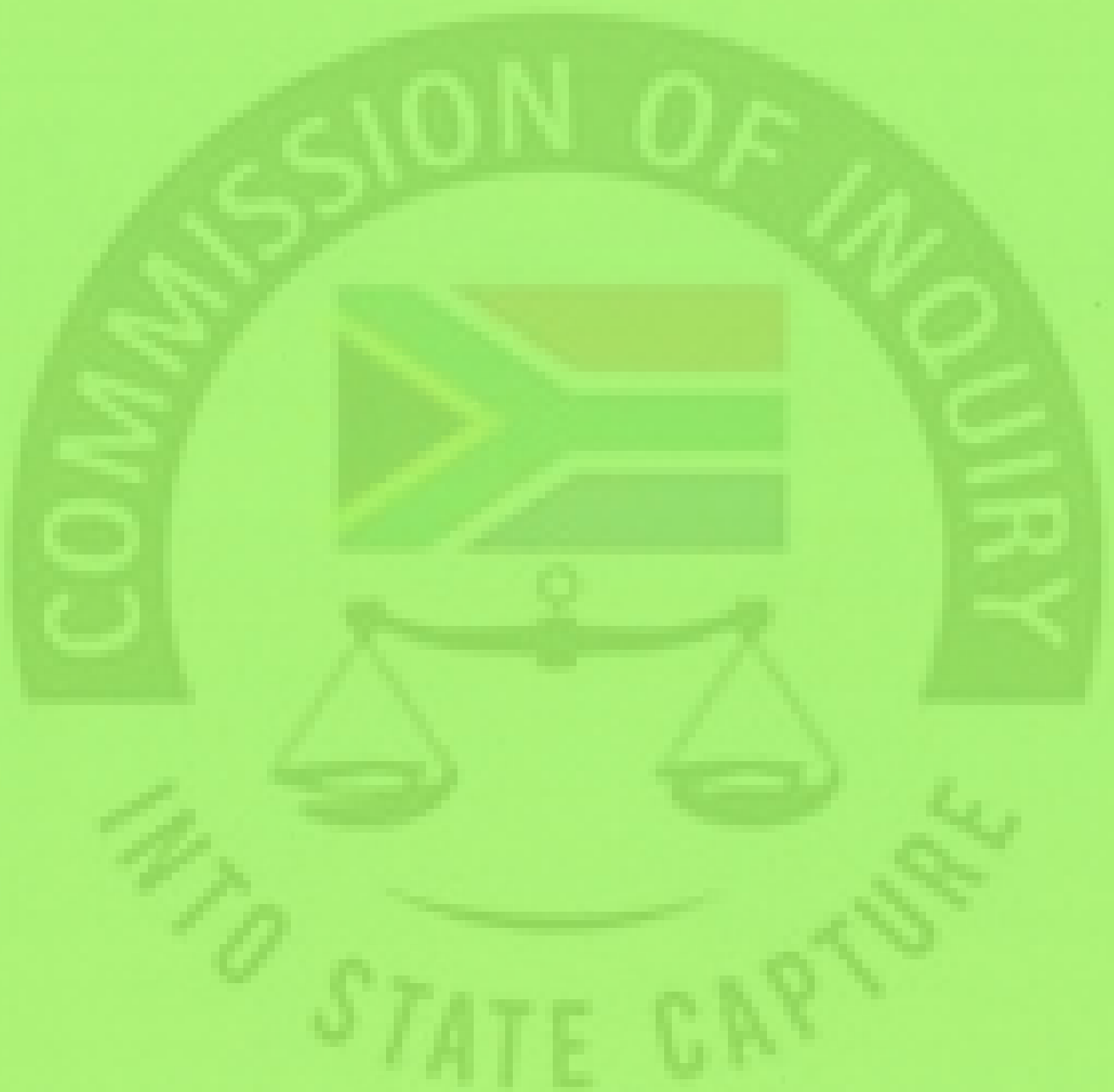
48,841,026	36,524,063	note 3.7	31,234,246

Notes:

- 1.1 CNR - provided a split of the currency componnts as per the calrification request based on the BOM. However this BOM excluded labour, thus we used the import declaration % for the calculation.
- 1.2 CNR - The currency split between 1st & 2nd exchange rate per the BOM was used.
- 1.3 CNR - even after clarification CNR did not provide a cost of hedging.
- 1.4 CNR - have confirmed after clarification that the price quoted excludes escalation and hedging costs
- 1.5 CNR quoted R442 830 under cell E9 i.r.o. capital spares. They did not include price for turbocharger assembly on capital spares list of TCO model. This was added.See notes on TCO model.
- 2.1 CSR quoted for forex hedging costs based on \$8.2584 at 16 July 2012
- 2.2 CSR Price is based on the fixed pricing option and no escalation is referred to. This was confirmed during clarification
- 2.3 CSR - no hedging strategy provided even after clarification. R 100 000 per loc for forex hedging seems unrealistic however we have removed from the normalisation of the price for all bidders.
- 2.4 CSR - has not stipulated the forex portion that they will hedge
- 2.5 CSR quoted R532 721 under capital spares, cell F9. This was changed to R406 687 to only reflect the value of of secton A spares as reflected on TCO model (capital spares). They by mistake include both section A and section B spares.
- 3.1 EMD have quoted different levels of pricing for different quantities (break points) per clause 3.1 of RFP. We are evaluating on the assumption of contracting for the full 465 loco's
- 3.2 This must be considered as part of the negotiations
- 3.3 EMD have provided pricing using TE and pricing without TE (own plant). We have used the price based on using TE for the evaluation.
- 3.4 EMD's pricing offer = R 36.49 millon whereas the Annexure F schedule has amount as above. We have used the annexure F schedule for this evaluation.
- 3.5 EMD quoted R74 399 under spares holding cell G13. This was reflected on annexure F. t was changed to R3 777 as was calculated on TCO model "sheet spares holding"
- 3.6 EMD have added an amount of R 3403091 to the price of their loco for localisation expenses.
- 3.7 EMD have not provided a fixed price quotation even after clarification (explained in their clarification letter due to the extended period of time and substantial contract amount)
- 3.8 EMD quoted a price of R407 915 in cell G9. This was changed to R505 392 as they did not include all the spares listed under schedule A. See notes in TCO model capital spares.
- 4.1 GE's quoted price specifically states that the price quoted is subject to escalation. We have used a price excluding escalation above.
- 4.2 GE has not included the cost of Capital spares and spares holding - we have addded these costs based on numbers as supplied in annexure F. (TCO model R 193495355/465 = R 416119)
- 4.3 GE quoted a price of R 416 119 in cell H9. This was changed to R490 939 as they did not include all the capital spares listed under schedule A. Also see notes in TCO model (capital spares)
- 4.4 GE have confirmed post clarificaion that set up costs is included in the base price and that the US portion is negligible as they already have a production line in place.
- 4.5 GE have confirmed post clarificaion that they have not quoted for insurance costs seperately as they carry blanket insurance and that this transaction would not increase their insurance costs as a company.
- 4.6 GE - the cost of hedging was provided based on rates on 19 November 2013 when R:\$ was 10.1237
- 4.7 GE have used a rate of 8.2584 for the local content declaration however their price offer is based on a rate of 9.168.
- 4.8 GE have indicated that the impact of spot exchange rate on their price would be R 1187340 per loco at 11 November 2013, we could not calculate how they got to this number but should they become the preferred bidder then this must be clarified.
- 4.9 Note that point 4.8 above does not impact the price evaluation however needs to be considered during a negotiation phase if GE becomes the preferred bidder.
- 4.10 GE have not supplied the quantities of the spares to hold, we have assumed 1 of each item for purposes of including in the evaluation to be consistent with other bidders.
- 5 Generally where dollar rates were quoted we assumed that the import portion would be in dollars
- 6 Per clause 3.1 of RFP break point pricing was provided by bidders. For purposes of evaluation pricing based on contracting for the full 465 loco's was used.
- 7.1 The date to convert foreign exchange to to rands was omitted from the RFP. As such tenderers utilised their own dates. Tenderers should have been told at which date to convert forex and thereby quote on forex hedging costs
- 7.2 We have stripped the forex hedging costs portion out of the price for evaluation purposes, and through clarification confirmed the exchange rates used.



## ANNEXURE FC 74



Base Cost in yr zero per locomotive						
	Per loco		Bidder 1	Bidder 2	Bidder 3	Bidder 4
			CNR	CSR	EMD	GE
			no escalations	no escalations	no escalations	no escalations
			Per Loco	Per Loco	Per Loco	Per Loco
			29,154,491	27,418,558	36,120,526	25,724,440
			27,360,000	25,712,161	28,735,387	24,109,200
			135,000	100,000	108,703	70,000
			22,787	200,000	33,724	31,075
			483,842	406,687	505,392	490,939
			5,221	350,000	1,756,462	3,066
			215,054	100,000	303,814	0
			0	13,000	0	0
			27,595	2,472	3,777	6,319
			0	0	0	0
			138,655	237,839	208,004	132,500
			270,229	100,000	2,534	0
			0	0	3,403,091	0
			496,108	196,399	1,059,637	881,342
			9	8.2584	8.20	9.168
			12			
			15.2%	41.25%	43.00%	42.29%
			13.4%			
			38.9%	42.05%	43.0%	44.5%
			USD 493,320	USD 1,369,691	USD 1,894,106	USD 1,186,723
			EUR 325,584			
				100,000	9,926,569	2,798,120
			10.3773	10.3773	10.3773	10.3773
			13.9086			
			1.377	2.119	2.177	1.209
			1.909			
			1,300,844	2,902,170	4,123,787	1,435,045
			Note 10	-	-	-
			30,455,335	30,320,728	40,244,313	27,159,485
			48,841,026	36,524,063	note 3.7	29,921,386

Notes:

- CNR - provided a split of the currency compnonts as per the calrification request based on the BOM. However this BOM excluded labour, thus we used the import

1.1 declaration % for the calcuation of the December price evaluation (refer 1.7 below)

1.2 CNR - The currency split between 1st & 2nd exchange rate per the BOM was used.

1.3 CNR - even after clarification CNR did not provide a cost of hedging.

1.4 CNR - have confirmed after clarification that the price quoted excludes escalation and hedging costs

1.5 CNR quoted R442 830 under cell E9 i.r.o. capital spares. They did not include price for turbocharger assembly on capital spares list of TCO model. This was added.See notes on TCO model.

1.6 CNR - SCS have confirmed based on information from the SD files that CNR have initially quoted excluding TE. Thus a clarification was not sent to CNR.

CNR - post clarification in January 14 - the foreign portion of the price was not confirmed. The bidder referred us back to the 30 April 13 tender documents. The

1.7 30 April 13 tender documents referred to an Annexure E for the imported content, we used the import content based on this Annexure E.
- 2.1 CSR quoted for forex hedging costs based on \$8.2584 at 16 July 2012

2.2 CSR Price is based on the fixed pricing option and no escalation is referred to. This was confirmed during clarification

2.3 CSR - no hedging strategy provided even after clarification. R 100 000 per loc for forex hedging seems unrealistic however we have removed from the normalisation of the price for all bidders.

2.4 CSR - has not stipulated the forex portion that they will hedge

2.5 CSR quoted R532 721 under capital spares, cell F9. This was changed to R406 687 to only reflect the value of of secton A spares as reflected on TCO model (capital spares). They by mistake include both section A and section B spares.

CSR - We assumed that the Import content remained as prior to clarifications (whereby TE was removed) as CSR did not specify a value that import content would change to. CSR said

2.6 that they would endeavour to keep local content the same.

2.7 R 31251512 is the capital acquisition cost before options. CSR quote R 32986534 as their new price excluding TE. The difference was added to the capital acquisition cost.

2.8 CSR quote a price of R 30929353 whereas the annexure F price is R 31477546. By removing capital spares, spares holding and spares holding cost you reconcile the numbers.
- 3.1 EMD have quoted different levels of pricing for different quantities (break points) per clause 3.1 of RFP. We are evaluating on the assumption of contracting for the full 465 loco's

3.2 This must be considered as part of the negotiations

3.3 EMD have provided pricing using TE and pricing without TE (own plant). We have used the price based on using TE for the evaluation.

EMD's pricing offer = R 36.49 million whereas the Annexure F schedule has amount as above. We have used the annexure F schedule for this evaluation. R 36.49 m is made up of base

3.4 price + engineering +Set up + customs + other.

3.5 EMD quoted R74 399 under spares holding cell G13. This was reflected on annexure F. t was changed to R3 777 as was calculated on TCO model "sheet spares holding"

3.6 EMD have added an amount of R 3403091 to the price of their loco for localisation expenses.

3.7 EMD have not provided a fixed price quotation even after clarification (explained in their clarification letter due to the extended period of time and substantial contract amount)

3.8 EMD quoted a price of R407 915 in cell G9. This was changed to R505 392 as they did not include all the spares listed under schedule A. See notes in TCO model capital spares.
- 4.1 GE's quoted price specifically states that the price quoted is subject to escalation. We have used a price excluding escalation above.

4.2 GE has not included the cost of Capital spares and spares holding - we have added these costs based on numbers as supplied in annexure F. (TCO model R 193495355/465 = R 416119)

4.3 GE quoted a price of R 416 119 in cell H9. This was changed to R490 939 as they did not include all the capital spares listed under schedule A. Also see notes in TCO model (capital spares)

4.4 GE have confirmed post clarificaion that set up costs is included in the base price and that the US portion is negligible as they already have a production line in place.

4.5 GE have confirmed post clarificaion that they have not quoted for insurance costs seperately as they carry blanket insurance and that this transaction would not increase their insurance costs as a company.

4.6 GE - the cost of hedging was provided based on rates on 19 November 2013 when R:\$ was 10.1237

4.7 GE have used a rate of 8.2584 for the local content declaration however their price offer is based on a rate of 9.168.

4.8 GE have indicated that the impact of spot exchange rate on their price would be R 1187340 per loco at 11 November 2013, we could not calculate how they got to this number but should they become the preferred bidder then this must be clarified.

4.9 Note that point 4.8 above does not impact the price evaluation however needs to be considered during a negotiation phase if GE becomes the preferred bidder.

4.10 GE have not supplied the quantities of the spares to hold, we have assumed 1 of each item for purposes of including in the evaluation to be consistent with other bidders.

4.11 We assumed that the Import content remained as prior to clarifications (whereby TE was removed) as GE did not mention anything in their clarification letter.
- 5 Generally where dollar rates were quoted we assumed that the import portion would be in dollars

6 Per clause 3.1 of RFP break point pricing was provided by bidders. For purposes of evaluation pricing based on contracting for the full 465 loco's was used.

7.1 The date to convert foreign exchange to to rands was omitted from the RFP. As such tenderers utilised their own dates. Tenderers should have been told at which date to convert forex and thereby quote on forex hedging costs

7.2 We have stripped the forex hedging costs portion out of the price for evaluation purposes, and through clarification confirmed the exchange rates used.

8 We assumed that the Import content remained as prior to clarifications (whereby TE was removed).

9 Refer payment terms file for an additional calculation reconciling annexure F to price offered

The Price evaluation has been done on the basis of excluding the cost of using TE as the main subcontractor. Bidders 2 & 4 were requested to quoted as if another private sector subcontractor is used (this was requested via clarification from bidder 2 & 4). SCS only issued the clarifications to those bidders that indicated that they had used TE as the main 10 subcontractor per the SD files. Bidder 3 already quoted a price including and excluding TE per their 1st tender response.

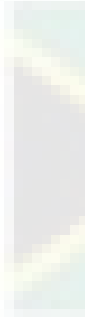
## ANNEXURE FC 75



Base Cost in yr zero per locomotive		
		Per loco
Capital acquisition cost(separated into:		
1	Base price - as per technical specification	0
2	Engineering support cost	
3	Special tooling and test equipment requirements	
Capital spares (detail must be provided on attached		
4	"Capital Spares" sheet)	
5	Consumables	
6	Set up costs	
7	Spares holding costs	
Spares holding (detail must be provided on attached		
8	"Spares holding" sheet)	
9	Forex Hedging Costs	
10	Customs & excise duties	
11	Insurance costs	
12	Other (please detail)	
13	Options re-alignment (see options sheet)	
14	1st Exchange rate used by bidder - USD	
15	2nd Exchange rate used by bidder - EUR	
16	Import Content % 1st exchange rate	
17	Import Content % 2nd exchange rate	
18	Total import content % (per declaration)	
19	Import content foreign value - 1st rate	9,812,671
20	Import content foreign value - 2nd rate	11,510,332
21	Indicated Forex hedging cost	21,323,004
22	Forex rate @ 10 March 2014 - 1st exchange rate	55%
23	Forex rate @ 10 March 2014 - 2nd exchange rate	
24	Difference in currency - 1st exchange rate	
25	Difference in currency - 2nd exchange rate	
26	Additional cost to add to base price	0
27	Impact of TE	
Capital Acquisition cost excluding forex and escalations		
28	rebaselined to 11 November 2013 rates and roptions re-aligned	
Latest Offers		
1	BAFO	
2	Exchange rate impact on Loco	
3	Escalation up to signature date	
4	Warranty/SD bond cost removal	
5	Fixed cost FX adjustment on other items	
6	Batch pricing adjustment	
New Price		
Add cost of new TE scope		
Further discount 23 Feb 2014/12 March 2014		
Price including TE scope excluding forward escalation and hedging		
Cost to fix escalation going forward		
Cost of Hedging		

Bidder 1	Bidder 4
CNR	GE
no escalations	no escalations
Per Loco	Per Loco
29,154,491	25,724,440
27,360,000	24,109,200
135,000	70,000
22,787	31,075
483,842	490,939
5,221	3,066
215,054	0
0	0
27,595	6,319
0	0
138,655	132,500
270,229	0
	0
496,108	881,342
9	9.168
12	
15.2%	41.33%
13.4%	
38.9%	44.5%
USD 918,789	USD 1,159,774
EUR 774,064	
10.6800	2,798,120
14.8700	10.7225
1.680	1.555
2.870	
3,765,130	1,802,868
Note 10	-
32,919,621	27,527,308
CNR	GE
27,360,000	24,311,700
3,765,130	2,000,745
3,498,038	484,640
-88,400	-110,000
-385,717	3,133,715
269,975	
7,059,026	5,509,100
34,419,026	29,820,800
189,617	444,600
-608,643	
34,000,000	30,265,400
4,836,526	3,946,138
38,836,526	34,211,538
4,038,494	1,963,112
42,875,020	36,174,650
42,875,020	36,174,650
14%	
12.3%	
13.0%	
13.5%	
18.5%	
15.4%	
228,771	
36403421	
134.73	
34.73	
11.58	

4,029,353.00



2046914  
1963112

83802

36403421  
34356507  
36170899

36254701  
1212062  
0.12271

CNR Calculated fx impact for 233  
assuming the Foreign content  
remains regardless of batch size  
1,750,785,474.44  
7,514,100.75

148732.128  
12,435,674  
2,897,512,155.51

36%

GE Calculated fx impact for 233  
assuming the Foreign content  
remains regardless of batch size  
838,333,787.41  
3,597,999.09

-197,877

460,530,000.00

1,976,523.61

15.4%

12.3%  
13.0%  
13.5%

228,771  
36403421

134.73  
34.73  
11.58

465 Diesels - Negotiation Statistics based on latest offers @ 5 March 2014

		CNR	GE	Total
50/50	Base price excluding TE excl escalation excl hedging	34,419,026	29,820,800	
	per loco	232	233	
	no of loco's	7,985,214,032	6,948,246,400	14,933,460,432
Total				
Note: GE have offered the Trip Optimiser Freebee as part of the latest pricing proposal provided a minimum of 100 Lococontrol systems are ordered				
GE have offered a further reduction in price by R 600000 per loco based on a reduced SD plan				
50/50	Base price including TE excl escalation excl hedging	34,000,000	30,265,400.00	
	per loco	232	233	
	no of loco's	7,888,000,000	7,051,838,200	14,939,838,200
Total				
50/50	Base price including TE including escalation and hedging	42,875,020	36,174,650	
	per loco	232	233	
	no of loco's	9,947,004,640	8,428,693,450	18,375,698,090
Total				
Transnet Board Mandate (ETC) for 1064 locomotives excluding hedging and excluding escalations				
Total for 1064 locomotives including TE excluding hedging and excluding escalations				

Propose a cap of 15 % of the remaining contract

		price CNR	GE
6 Break Pricing	after 200 loco's	1,286,250,600	1,085,239,500
	after 100 loco's	643,125,300	542,619,750
7 Deferral of delivery schedule cost	Benchmarking exercise has indicated that this will cost around 10 % of loco price p.a.		
8 Revised Options pricing	ECP with WDP	644,515	-154,197
	RDP	921,019	300,629
	Both ECP with WDP & RDP	1,365,772	96,817
		previous price	saving
			saving for fleet

GE

1,286,250,600  
643,125,300

1,085,239,500  
542,619,750

price  
CNR

previous price

saving

saving for fleet

644,515  
921,019  
1,365,772

-154,197  
300,629  
96,817

-35,927,901  
70,046,557  
22,558,361

39270600

39352217



## ANNEXURE FC 76



Award of 465 Diesel Locomotive Contract

CNR	GE
232 (50%)	233 (50%)

Best and Final Offer per Board submission	27,360,000	24,312,000	12.5%
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Adjusted for changes to:

Escalation up to signature date (from close of tender to Mar 14)  
Longer delivery schedule impact due to production rate tempo of 12 per month  
Forex adjustment to spot rate at 17 March 2014  
Batch pricing adjustment for reduction of batch size to 50 %

Best and Final Offer updated to 17 March 2014	34,419,026	29,820,800	15.4%
---	------------	------------	-------

Adjustments for:  
Additional TE Scope  
Negotiated discounts  
New Price including TE scope

34,000,000	30,265,400	12.3%
------------	------------	-------

Cost to fix escalation to end of contract	4,836,526	3,946,138
Cost of Hedging	4,038,494	1,963,112

Final Locomotive cost	42,875,020	36,174,650	18.5%
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Estimated Total Cost excluding Hedging and Escalation	14,939,838,200	7,888,000,000	7,051,838,200
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Estimated Total Cost including Hedging and Escalation	18,375,698,090	9,947,004,640	8,428,693,450
---	----------------	---------------	---------------

Delivery Schedule	CNR 1st 20 from China	GE 1st 6 from USA
by March 2015	0	0
by March 2016	20	34
by March 2017	87	126
by Oct 2017	84	73
by February 2018	42	

Payment terms			
	Deposit	10%	10%
	Design review	5%	
	Acceptance	75%	87%
	Retention	10%	3%

Delay penalties	Capped @ 10 % of total contract price	Capped @ 10 % of total contract price
SD penalties	Capped @ 2.5 % of SD value	Capped @ 2.5 % of SD value
FRC penalties	Capped @ 7.5 % of SD value	Capped @ 7.5 % of SD value

## ANNEXURE FC 77



## Print Negotiations Diesels 17 Mar 14.xlsx

**Reconciliation of Negotiated prices**

BAFO

CNR	GE
28,207,060	24,312,000

Calculated exchange rate impact

7,514,101	3,597,999
-----------	-----------

Premium/Discount on exchange rate impact

-2,459,815	-1,470,999
------------	------------

Net Exchange rate impact

5,054,286	2,127,000
-----------	-----------

Escalation up to signature date

3,020,341	479,000
-----------	---------

Longer delivery schedule impact

	23,000
--	--------

Batch pricing adjustment

295,367	3,134,000
---------	-----------

Set up cost adjustment

-215,054	-1,200
----------	--------

8,154,940	5,761,800
-----------	-----------

New Price

-	36,362,000	30,073,800
---	------------	------------

Add cost of new TE scope

649,000	444,600
---------	---------

Price including TE scope excluding forward escalation and hedging @ 21 Feb 2014

37,011,000	30,518,400
------------	------------

Cost to fix escalation going forward

8,716,000	3,946,138
-----------	-----------

Price including TE scope including forward escalation @ 21 Feb 2014

45,727,000	34,464,538
------------	------------

Negotiated reduction in FX impact @ 26 Feb 2014

-773,464	
----------	--

Negotiated further discount on base price @ 26 Feb 2014

-2,244,285	
------------	--

Negotiated further discount on escalation @ 26 Feb 2014

-2,809,251	
------------	--

39,900,000	34,464,538
------------	------------

Cost of Hedging

	1,963,112
--	-----------

39,900,000	36,427,650
------------	------------

## ANNEXURE FC 78



Base Cost in yr zero per locomotive

	Capital acquisition cost(separated into:
1	Base price - as per technical specification
2	Engineering support cost
3	Special tooling and test equipment requirements
	Capital spares (detail must be provided on attached
4	"Capital Spares" sheet)
5	Consumables
6	Set up costs
7	Spares holding costs
	Spares holding (detail must be provided on attached
8	"Spares holding" sheet)
9	Forex Hedging Costs
10	Customs & excise duties
11	Insurance costs
12	Other (please detail)
13	Options re-alignment (see options sheet)

14	1st Exchange rate used by bidder - USD
15	2nd Exchange rate used by bidder - EUR
16	Import Content % 1st exchange rate
17	Import Content % 2nd exchange rate
18	Total import content % (per declaration)
19	Import content foreign value - 1st rate
20	Import content foreign value - 2nd rate
21	Indicated Forex hedging cost
22	Forex rate @ 11 November 2013 - 1st exchange rate
23	Forex rate @ 11 November 2013 - 2nd exchange rate
24	Difference in currency - 1st exchange rate
25	Difference in currency - 2nd exchange rate
26	Additional cost to add to base price
	Impact of TE

	Capital Acquisition cost excluding forex and escalations rebaselined to 11 November 2013 rates
27	and options re-aligned

Base Price			Base cost Excl TE			Negotiations			Base Price		
Bidder 1			Bidder 1			Bidder 1			Bidder 4		
CNR			CNR			CNR			GE		
no escalations			no escalations			no escalations			no escalations		
Per Loco			Per Loco			Per Loco			Per Loco		
41,530,322			29,154,491			29,154,491			25,724,440		
39,735,831	-12,375,831		27,360,000			27,360,000			24,109,200		
135,000			135,000			135,000			70,000		
22,787			22,787			22,787			31,075		
483,842			483,842			483,842			490,939		
5,221			5,221			5,221			3,066		
215,054			215,054			215,054			0		
0			0			0			0		
27,595			27,595			27,595			6,319		
0			0			0			0		
138,655			138,655			138,655			132,500		
270,229			270,229			270,229			0		
									0		
496,108			496,108			496,108			881,342		

9	9		9			9			9.168		
11.86			12			12					
27.0%			15.2%			15.2%		Calc	41.33%		
73.0%			13.4%			13.4%		Import Content			
38.9%			38.9%			38.9%		64.2%	44.5%		
USD 484,285	USD 9,035	USD 425,470	USD 493,320	USD 425,470		USD 918,789	8,269,105		USD 1,159,774		
EUR 993,615	EUR -668,031	EUR 448,480	EUR 325,584	EUR 448,480		EUR 774,064	9,288,768				
							17,557,873				
10.3773			10.3773			10.6800			2,798,120		
13.9086			13.9086			14.8700			10.7225		
1.377			1.377			1.680			1.555		
2.049			1.909			2.870					
2,702,531			1,300,844			3,765,130			1,802,868		

	Note 10		Note 10		
--	---------	--	---------	--	--

44,232,853			30,455,335			32,919,621			27,527,308		
------------	--	--	------------	--	--	------------	--	--	------------	--	--

Base cost Excl TE		
Bidder 4		
GE		
no escalations		
Per Loco		
25,724,440		
24,109,200		
70,000		
31,075		
490,939		
3,066		
0		
0		
6,319		
0		
132,500		
0		
0		
881,342		

9.168			9.168		
			42.29%		
			44.5%		
			USD 1,186,723		
			2,798,120		
			10.3773		
			1.209		
			1,435,045		

	-		-		
--	---	--	---	--	--

			27,159,485		
--	--	--	------------	--	--



Latest Offers	
1 BAFO	
2 Exchange rate impact on Loco	
3 Escalation up to signature date	
4 Warranty/SD bond cost removal	
5 Fixed cost FX adjustment on other items	
6 Batch pricing adjustment	
New Price	
Add cost of new TE scope	
Further discount 23 Feb 2014/12 March 2014	
Price including TE scope excluding forward escalation and hedging	
Cost to fix escalation going forward	
Cost of Hedging	
Total	

	CNR
	27,360,000
% of BAFO	
13.8%	3,765,130
12.8%	3,498,038
	-88,400
	-385,717
1.0%	269,975
25.8%	7,059,026
	34,419,026
	189,617
	-608,643
% of Price	34,000,000
14%	4,836,526
	38,836,526
11.88%	4,038,494
	42,875,020
	42,875,020

The wide variation in % increases on the BAFO prices is unusual.

There is no "Impact of TE" per the electric locomotives even though : GE had an established assembly line in TE.

CR was manufactured / assembled at TE.

CNR does with a calculated 64% imported content does not meet DTI requirements of 55% local content.

GE	
	24,311,700
% of BAFO	
8.23%	2,000,745
1.99%	484,640
	-110,000
12.89%	3,133,715
22.66%	5,509,100
	29,820,800
	444,600
% of Price	30,265,400
13.0%	3,946,138
	34,211,538
6.5%	1,963,112
	36,174,650
	36,174,650

## ANNEXURE FC 79





BAFO	CSR		28,890,000
	1 Add back original TE scope		3,480,000
	2 Exchange rate impact		2,595,537
	3 Escalation up to date of signature		3,156,976
	4 Batch pricing adjustment		1,618,500
			10,851,013
	New Price @ 18 Feb 14		39,741,013
	Cost of change in payment terms change		1,113,732
	Further discount 23 Feb 2014		40,854,745
	Price excluding TE scope excluding forward escalation and hedging		7,936,367
	Cost to fix escalation going forward		48,791,112
	19%		1,688,888
	Cost of hedging going forward		50,480,000
	Add cost of new TE scope		50,480,000
	Cost after TE scope		50,480,000
			50,480,000
			40,854,745
	Bidder 2		-3,480,000
	Impact of TE		

## ANNEXURE FC 80



Base Cost in yr zero per locomotive

Capital acquisition cost(separated into:
Base price - as per technical specification
Engineering support cost
Special tooling and test equipment requirements
Capital spares (detail must be provided on attached "Capital Spares" sheet)
Consumables
Set up costs
Spares holding costs
Spares holding (detail must be provided on attached "Spares holding" sheet)
Forex Hedging Costs
Customs & excise duties
Insurance costs
Other (please detail)
Options re-alignment (see options sheet)

BASE Cost  
11 Nov 2013

Bidder 1
Bombardier
Unescalated
100 % Co-co
Per Loco
32,772,350
28,788,150
619,100
3,762
474,880
45,302
1,238,200
0
27,405
0
309,550
0
0
1,266,001

Base Cost  
Excl Options  
11 Nov 2013

Bidder 1
Bombardier
Unescalated
100 % Co-co
Per loco
31,506,349
639,513
28,788,150
1,905,514
619,100
3,762
0
474,880
45,302
1,238,200
0
0
27,405
0
309,550
0
0
0
-1,266,001
1,266,001

Base cost (Exc TE)  
13 Jan 2014

Bidder 1
Bombardier
Unescalated
100 % Co-co
Per Loco
30,866,836
26,882,636
619,100
3,762
474,880
45,302
1,238,200
0
27,405
0
309,550
0
0
1,266,001

Negotiations  
17 March 2014

Bidder 1
Bombardier
Unescalated
100 % Co-co
Per Loco
30,866,836
26,882,636
619,100
3,762
474,880
45,302
1,238,200
0
27,405
0
309,550
0
0
1,266,001

The reduction in the Base Price by R1,905,514 from R28,788,150 to R26,882,636 reflects the impact of TE. This impacts the Capital Acquisition cost reported per the CFET team on 15 Jan 2014. The play field for comparing bidders is not a level one and the reported Capital acquisition cost is not a true starting point for evaluating the final price of the locomotives.

The change in the Import foreign content value over time is most unusual.  
For the Base Cost of 11 Nov 2013, the declared 30.2% "Import content foreign value agrees with the calculated value . From note 1.3 Bombardier confirmed a rate of 11.9 EURO was used for pricing.

In the Base cost (Exc TE) Jan 13 2014, the 29% is used to derive the Import foreign content value. This is incorrect as the "percent import content" should be derived from the "Import content value"

1st Exchange rate used by bidder USD & JPY
2nd Exchange rate used by bidder EUR
Import Content % 1st exchange rate
Import Content % 2nd exchange rate
Total import content % (per declaration)
Import content foreign value - 1st rate
Import content foreign value - 2nd rate
Indicated Forex hedging cost
Forex rate @ 11 November 2013 - 1st exchange rate USD & JPY
Forex rate @ 11 November 2013 - 2nd exchange rate - EUR
Difference in currency - 1st exchange rate
Difference in currency - 2nd exchange rate
Additional cost to add to base price

11.9000
30.2%
30.2%
EUR 979,069
2,448,500
13.9086
2.01
1,966,587

11.9000
30.2%
30.2%
EUR 941,247
2,448,500
13.9086
2.01
1,890,617

11.9000
29.0%
30.2%
EUR 752,217
2,448,500
13.9086
2.01
1,510,926

11.9000
24.6%
29.0%
30.2%
EUR 1,328,080
2,448,500
14.8680
2.97
3,941,741

Calculated
51.20%
43.5%
11.9000
10.0988

The calculated foreign content per 17 MArch negotiations is 51.2% (using EURO 11.900) or 43.5% (using EURO 10.0988). Irrespective, the locl content does not meet DTI requirements of 60% for electric locomotives.

The increased EURO amount in "Negotiations 17 March" inflates the the "Additional cost to add to the base price" to 3,941,741

This is close to the as the "Exchange rate impact" in the negotiations spreadsheet of R3,536,104

Analysing the formula in the cell, the exchange rate impact of R3,536,104 has been derived from the values:

3711411  
minus 230330  
plus 55023  
3536104

The R3,711,411 exchange rate impact can also

BASE Cost  
11 Nov 2013

34,738,937
------------

BASE Cost  
11 Nov 2013

Base Cost  
Excl Options  
11 Nov 2013

33,396,966
------------

Base Cost  
Excl Options  
11 Nov 2013

Base cost (Exc TE)  
13 Jan 2014

32,377,762
------------

Base cost (Exc TE)  
13 Jan 2014

Negotiations  
17 March 2014

34,808,577
------------

Negotiations  
17 March 2014

Capital Acquisition cost excluding forex and escalations rebaselined to 11 November 2013 rates and options re-aligned



8/8/8/73/3		240	
BAFO		29,049,486	<<
1	Add back original TE scope	1,905,514	<<
2	Exchange rate impact	3,536,104	<<
3	Escalation up to date of signature	1,941,299	<<
4	Batch pricing adjustment	5,859,171	<<
		13,242,088	
New Price @ 18 Feb 14		42,291,574	<<
Cost of change in payment terms change		1,399,000	<<
Further discount 23 Feb 2014		43,690,574	<<
Price excluding TE scope excluding forward escalation and hedging		7,646,119	<<
Cost to fix escalation going forward		51,336,693	<<
Cost of hedging going forward		3,035,000	<<
Agreed with Bombardier 15 March 14		54,371,693	
Add cost of new TE scope		54,371,693	<<
Cost after TE scope		54,371,693	
		43,690,574	
Impact of TE		Bidder 1	
		-1,905,514	

## ANNEXURE FC 81



**TRANSNET****PART 2****TRANSNET FREIGHT RAIL**an Operating Division of **TRANSNET SOC LTD**

(Registration No. 1990/000900/30)

**REQUEST FOR PROPOSAL [RFP]****FOR THE SUPPLY OF 465 NEW DIESEL LOCOMOTIVES FOR THE GENERAL FREIGHT BUSINESS (GFB)**

RFP NUMBER:	TFRAC-HO-8609
CLOSING DATE:	26 February 2013
CLOSING TIME:	10:00 am
BID VALIDITY PERIOD:	30 September 2013

**COMPULSORY BRIEFING SESSION:**

A compulsory briefing session will be held at the following venue:

Time	:	10:00 am
Date	:	14 December 2012
Venue	:	Transnet Freight Rail, School of Rail Campus Esselenpark Campus Main Hall No.1 P91 Road (Modderfontein Road off R25) Kaalfontein Kempton Park Johannesburg

**PLEASE NOTE CHANGE IN VENUE**

**RFP FOR THE SUPPLY OF  
465 NEW DIESEL LOCOMOTIVES FOR THE GENERAL FREIGHT BUSINESS (GFB)  
NOTICE TO BIDDERS**

**1. INTRODUCTION**

This RFP is being issued in parts. This document constitutes Part 2 and will address aspects such as evaluation criteria, evaluation methodology, weightings, TCO models and designated components/ activities.

Responses to this RFP [hereinafter referred to as a **Proposal** or **Proposals** or **Bid**] are requested from companies, close corporations or enterprises [hereinafter referred to as an **Entity** or **Respondent** or **Bidder**] to supply the aforementioned requirement(s) to Transnet.

Should a conflict arise between information submitted under Part 1 and Part 2, Part 2 information will supersede any information communicated previously.

**2. TRE SUB-CONTRACTING**

Participation of TRE in this locomotive procurement process will be prescribed and further details will follow after the issuance of Part 2 of RFP.

**3. SUPPLIER DEVELOPMENT**

Supplier Development Proposal/ initiative as referred to in Section 1 clause 6 of Part 1 means a binding commitment to supplier development deliverables including a detailed narrative thereof made by Respondents which will be incorporated as a term of the contract.

**3.1. BILL OF MATERIALS**

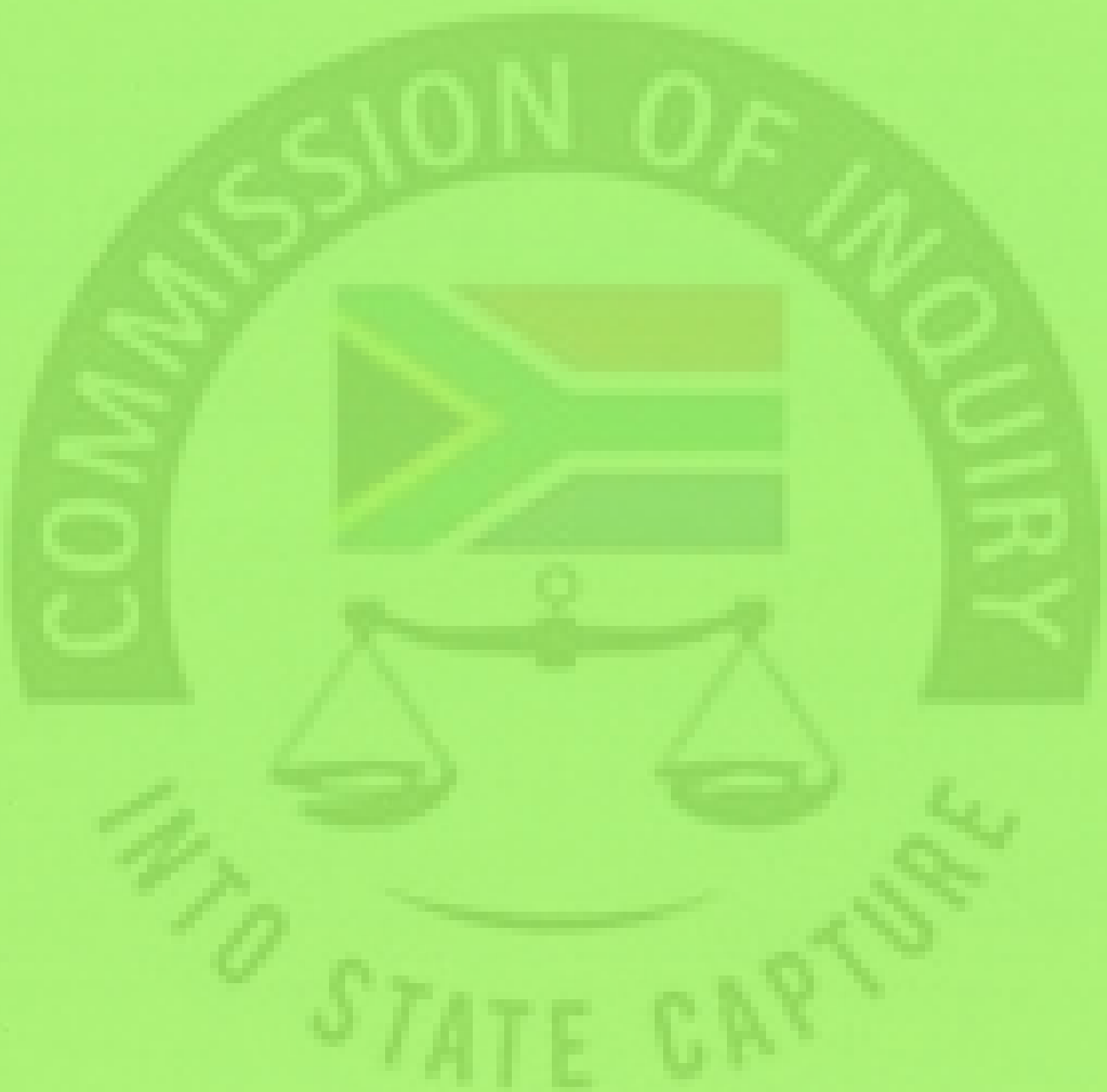
The Respondents are further required to complete the Bill of Materials [BOM], Annexure O, as part of the Supplier Development Bid document submission. Respondents should clearly indicate areas of opportunity where there is a potential for local component purchase or local supplier development as part of their Supplier Development Bid Document in the areas of local purchase, fabrication, assembly and repair and maintenance. Respondents must indicate Yes ["Y"] or No ["N"] in the appropriate box indicating whether a potential opportunity exists or not. The Respondent must indicate the corresponding "National Value Add" [expressed in ZAR] and a detailed description of the localisation potential in the comment box.

**4. FURTHER RECOGNITION CRITERIA (FRC)**

Transnet encourages its suppliers to constantly strive to improve their B-BBEE rating. Whereas Respondents will be allocated points in terms of a preference point system based on its B-BBEE scorecard to be assessed as detailed in Section 1, Clause 7, in addition to such scoring, further points will be allocated to Respondents score based on "Further Recognition Criteria" on an ascending scale. Points for FRC (Current) will be allocated based on the extent to which the Respondent's current ownership, management control and employment equity meets or exceeds certain targets. FRC (Future) will be calculated based on the extent to which the Respondent commits to meet, sustain and/or exceed the minimum compliance targets with its proposed compliance target to be achieved during the contract period.

**All the respondents must complete and return the FRC claim forms for FRC (Current) and FRC (Future) attached hereto as Annexure N & N (i) respectively.**

## ANNEXURE FC 82





**MINISTRY  
PUBLIC ENTERPRISES  
REPUBLIC OF SOUTH AFRICA**

Private Bag X15, Hatfield, 0028 Tel: (012) 431 1118/1150 Fax: (012) 431 1036  
Private Bag X9079, CAPE TOWN, 8000 Tel: (021) 461 6376/7/469 6760 Fax: (021) 465 2381/461 1741

**Mr. Mafika Mkwanazi**  
Chairman  
Transnet SOC limited  
P.O. Box 72501  
Parkview  
Johannesburg  
2122

Tel: 011 308 2309  
Fax: 011 308 2312

Dear Mr. Mkwanazi

**Transnet PFMA Application for the Acquisition of 1064 Locomotives**

I refer to the PFMA Section 54 application dated the 2<sup>nd</sup> of May 2013 regarding the acquisition of 1064 locomotives.

I note Transnet's commitment to the National Growth Path and the National Development Plan objectives.

I also appreciate that this acquisition will go a long way to provide the much needed capacity to realise the Market Demand Strategy volumes, and thereby contribute to the road to rail migration objective. I also expect that we will see significant improvements in operational efficiencies resulting from this procurement. In addition, due to the scale and duration of locomotive fleet procurement, it is critical that we maximise the localisation impact in the process.

I see Transnet Engineering (TE) playing a critical role in developing strategic and industrial capabilities relevant to the rail supply chain. In so doing, TE is expected to systematically support the development of a broader rail industrial cluster involving the private sector and position South Africa as a rail equipment manufacturing hub for Africa. In order to achieve this, the current locomotive procurement programme should be used to ensure that a world class enterprise and rail cluster is built.

Approval is hereby granted to Transnet for the procurement of the 1064 locomotives, subject to the following conditions being met:



1. A clear statement by Transnet with regard to TE's vision in the locomotive supply chain and what capabilities will need to be developed to make this vision a reality.
2. Transnet to provide TE's seven year locomotive supply chain strategy illustrating what is being imported, what TE produces, what is being outsourced to the private sector and the broad conditions associated with outsourcing that will result in the building of a competitive national industry. Such conditions may include industry competitiveness benchmarking, investment in plant and skills and the requirement that industry masters quality and learn manufacturing disciplines in exchange for long term contracts.
3. Transnet to provide a clear plan to the strategic fit of this locomotive procurement to the broader road to rail migration to objective.
4. Transnet provides the Department with a view of the localisation strategy for the following strategic components:
  - 4.1 Traction convertor;
  - 4.2 Traction motor;
    - Diesel engine;
    - Bogies;
    - Electrical system;
    - Management system;
    - Control system.

Transnet's continued commitment to the economic development of our country is recognised and appreciated; and the Department is committed to providing the necessary support to ensure that the MDS' objectives are achieved.

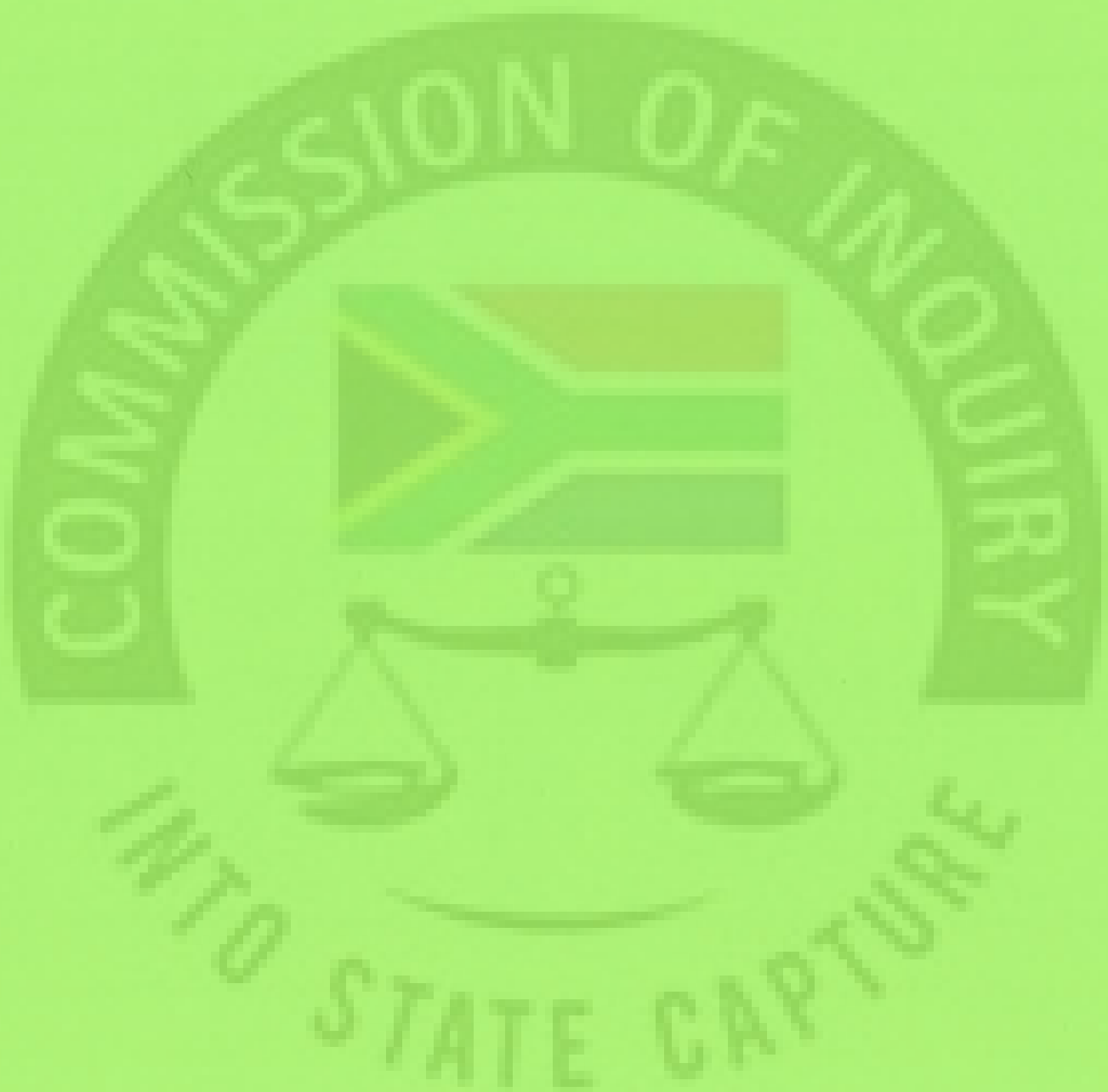
I trust that you will find the above in order.

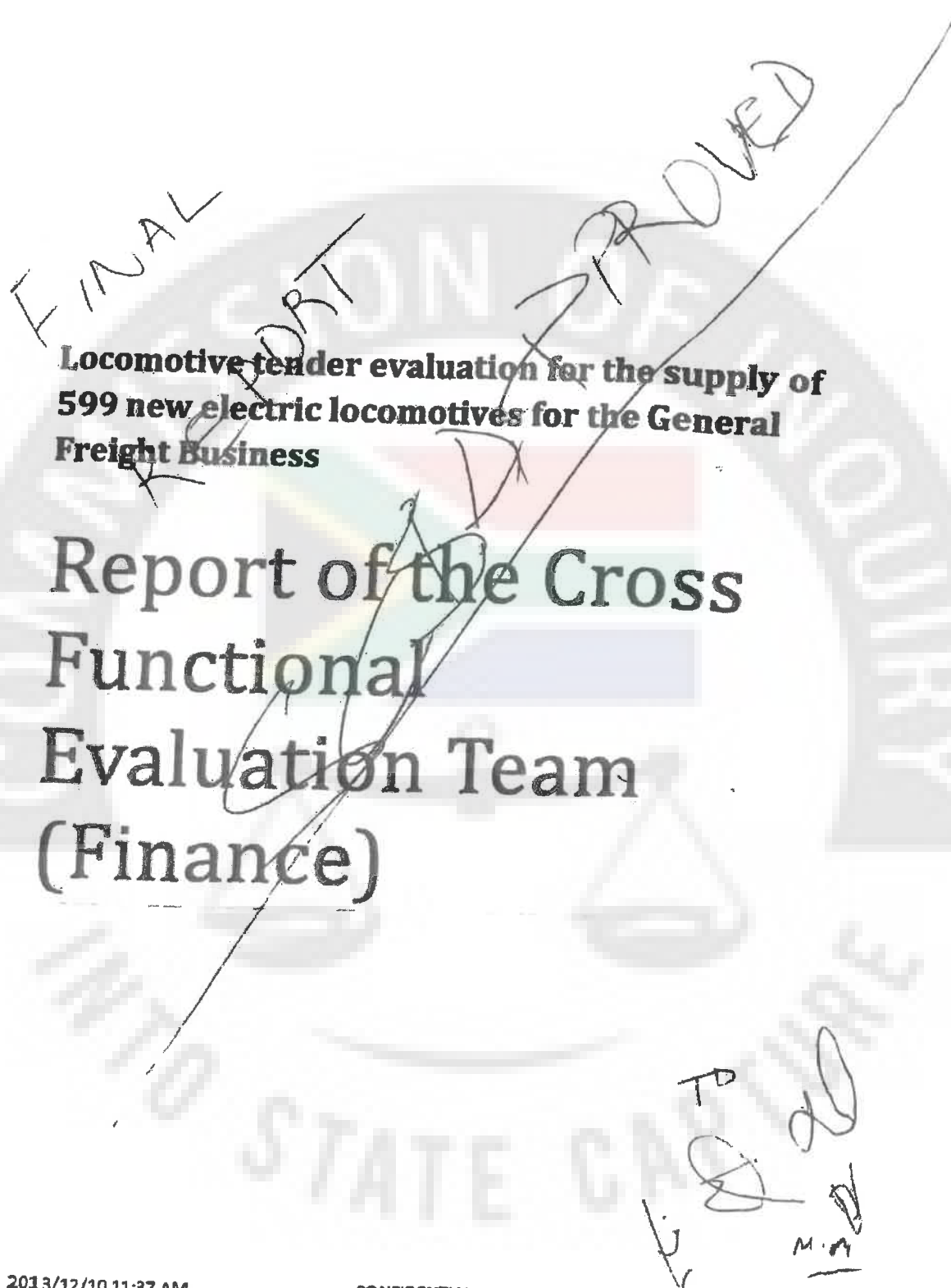
Yours sincerely



**MR. MALUSI GIGABA, MP**  
**MINISTER OF PUBLIC ENTERPRISES**  
DATE: 2013/08/23

## ANNEXURE FC 83





**Locomotive tender evaluation for the supply of  
599 new electric locomotives for the General  
Freight Business**

# Report of the Cross Functional Evaluation Team (Finance)

TO  
[Signature]  
[Signature]  
[Signature]  
[Signature]

10 December 2013

Mr Thamsanqa Jiyane

General Manager (CPO - TFR)

Locomotive tender evaluation for the supply of 599 new electric locomotives for the General Freight Business

## Report of the Cross Functional Evaluation Team (Finance)

### Purpose of Report

The purpose of this report is to detail the finance team's objectives, scope, assumptions, risks and findings from the stage 6 evaluation for the 599 electric Locomotive tender.

Our understanding is that the contents of this report will be used as a basis for communication to the 1064 locomotive steering committee and the TFR Chief Executive.

### Objective

The objective of the stage 6 evaluation was to determine the scoring that each bidder would obtain based upon the approved evaluation criteria for this stage.

2013/12/10 11:37 AM

CONFIDENTIAL

Page 2 of 40

## Background

Transnet issued an RFP for the acquisition of 599 electric locomotives as was outlined in the locomotive deployment plan to ensure that TFR would be in a position to provide the required capacity in support of the MDS. TFR also has a need to modernise and upgrade its current fleet of locomotives as part of the fleet is in need of replacement. As a result of the above, TFR has a requirement to procure new locomotives in the short, medium and long term.

The aim of the RFP was to elicit bids from locomotive suppliers for the proposal to supply electric locomotives (the Locomotives) in such a way so as to contribute sufficient tractive effort to support TFR's growing General Freight traffic projections in the most cost effective manner.

A Cross Function Evaluation Team (Finance) "(CFET (Finance))" was requested to assist in the evaluation of the financial and related elements of the tender submissions. Predetermined criteria, scoring and associated weightings (which were approved by the relevant authority – Transnet Board) was provided to the members of the finance team as the basis for the stage 6 financial evaluation.

## Finance team

The following finance personnel were appointed by the TFR Chief Executive as the CFET (Finance) and were involved in the evaluation:

Yousuf Laher – Executive Manager, TFR Finance

Danie Smit – Deputy Treasurer Middle Office - Transnet Group Treasury

Zunaid Vally – Executive Manager, TFR Finance

Thabo Seapi – Senior Manager, TFR Finance

Mohammed Moola – Senior Manager, TFR Finance

Tsletsli Tlaletsli – Debt Manager, Transnet Group Treasury

### **Briefing session and bidders included in stage 6**

The Supply Chain Services (TFR) ("SCS") team in the presence of Transnet Internal Audit ("TIA") briefed certain members of the team on the first day of the evaluation. The following aspects were mentioned to the CFET (Finance) in this briefing:

- The technical team required the base price to be normalised based on various options that were requested to be included as part of the locomotive technical specification;
- Six of the seven bidders made it to stage 6 and as such these six had to be evaluated as part of this stage of the evaluation. After subsequent discussions at the steering committee we were advised by SCS that as bidder 6 did not provide any technical information around a Co-co locomotive and TFR's requirement was for 599 Co-co locomotives, bidder 6 should be excluded from stage 6 of the evaluation. As such we did not conclude our evaluation of bidder 6 as there was no need to further evaluate.

The finance team were not provided with any information relating to the other bidders excluded from the 1<sup>st</sup> five rounds of the evaluation.

### **Bidder files, Laptop computers and CD's made available**

SCS ensured that all relevant bidder files were made available to the CFET (Finance) each day. Only the relevant files were made available to the CFET (Finance).

These files remained in the control of SCS for the duration of the tender evaluation. At no point during the evaluation period were any files, documents or notes removed from the boardrooms where the evaluations were being performed. All notes, documents or spread sheets generated by the CFET (Finance) during evaluation sessions remained in the boardroom where the evaluation was conducted.

Certain technical files which contained financial information relative to the option pricing were reviewed for further information and clarity on the pricing evaluation. The reason for reviewing the technical files was as a result of bidders providing the detailed explanations and submissions for certain aspects of the price in the technical files. These files were again only reviewed in the presence of the SCS and TIA personnel.

SCS provided laptop computers with which to conduct the evaluation. All workings were conducted on these laptop computers. These laptop computers were never removed by the finance team from the boardrooms where the evaluation took place. These laptop computers remained in the possession of SCS when not in use by the finance team. CD's returned by bidders with the relevant financial information required for the evaluation was loaded onto some of these laptop computers. These laptop computers were used in the presence of the SCS and TIA personnel.

All backups of files on these laptops were kept by SCS on hard disks in a safe location.



### Declarations of interest /conflicts

All CFET (Finance) members completed and signed their declarations of interest as required by SCS before the commencement of the evaluations on a regular basis. No CFET (Finance) member declared any interest in the bidders or declared any conflict of interest throughout the evaluation period.

### Scope

The scope of our review was limited to evaluating the following in terms of stage 6 of the RFP and the approved evaluation criteria for this stage. As advised by SCS, the percentages and criteria listed below are the predetermined criteria as specified by the Transnet Board.

	WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT
		100.00%	60.00%
1	Price	30.00%	18.00%
2	Total Cost Of Ownership (TCO)	20.00%	12.00%
3	Delivery Schedule (DS)	25.00%	15.00%
4	Payment Terms (PT)	10.00%	6.00%
5	RFP & Contractual Compliance (CC)	10.00%	6.00%
6	Financial Stability (FS)	5.00%	3.00%
	TOTAL SCORES	100.00%	60.00%

There were no changes to the predetermined criteria apart from the following which requires approval of the Steering Committee and the Transnet Board:

- The "Price" evaluation criteria required hedging costs and escalations to be included. This was changed to evaluate on the basis of price excluding hedging costs and escalations (refer to the detailed explanations in the report below).

The detailed scoring criteria and scoring results are included as part of Annexure A.

- Based on a Steering Committee decision we were informed by SCS that our scope should be limited to the evaluation of 599 Co-co locomotives only.
- With regard to the pricing of options we were provided a list of options from CFET (Technical) for the purpose of including these items into the base price. Our scope was limited to including the prices as provided by the bidders for these technical options into the base price. We did not have access to technical files to verify that the responded technical scope included these options or not.

## Technical team involvement

At certain stages during the evaluation the CFET (Finance) requested, through SCS, assistance from the technical team around aspects of:

1. The request to "normalise" the base price;
2. Conducting an evaluation of the energy models submitted as part of the TCO evaluation;
3. Reviewing the scheduled and unscheduled maintenance elements of the TCO model for reasonability.

Details of this assistance are summarised below:

### 1. Request to normalise the base price

As part of the request to normalise the base price, a schedule was provided to the CFET (Finance) of items that the CFET (Technical) advised were required. In these instances, the CFET (Finance) were advised:

- That certain bidders had provided these items as "options" in their submissions and;
- Other bidders had indicated availability of the "options", however, the CFET (Technical) were not clear as to whether these items were appropriately costed, quoted and included in the price.

The schedule submitted gave indications of what the CFET (Technical) expected to be done by the CFET (Finance). The detailed schedule is included as "Annexure B" of this report. In summary the following process was followed:

- Adjust the price of the relevant bidders where bidders were not consistent in including the cost of the item in their base price;
- Obtain pricing, for those "items" included in the schedule, from bidders who had not submitted quotes and
- Effectively the CFET (Finance) were required to "normalise" the base price submissions for appropriate comparison between the bidders for those options that the CFET (Technical) believed must be included in the price.

Two members of the technical team (Chris Uys and Elvis Tshivlinge) were made available to discuss and clarify the base price "normalisation" issues. These discussions took place in the presence of SCS and TIA.

Subsequent to the initial phase of the evaluation, clarity questions were submitted to the bidders regarding the requirements of the detailed schedule (Annexure B) from the CFET (Technical).

The CFET (Finance) used the responses received from bidders on clarification questions to conclude on the final 'Normalised Base Price'.

## 2. Evaluation of energy models

Five members of the technical team (Devendran Govender, Winfried Mors, Trevor Downing, Justice Ngwenyama and Chris Uys) were made available to conduct the energy model evaluation. The energy model was designed by CFET (Technical) and was fully evaluated by CFET (Technical) without the involvement of CFET (Finance). CFET (Finance) incorporated the results of the energy model evaluation into the stage 6 TCO model financial evaluation.

## 3. Review of the scheduled and unscheduled maintenance regimes within the TCO models as submitted by bidders

The CFET (Finance) found numerous inconsistencies in the manner in which bidders chose to complete the scheduled and unscheduled maintenance portions of the TCO model. The CFET (Finance) recommended that the CFET (Technical) review the models for reasonability with the purpose of allowing the CFET (Technical) to guide the CFET (Finance) in making decisions to score the TCO models submitted as well as to guide the CFET (Finance) in their deliberations as to whether the models submitted would actually meet the requirements to be scored fairly amongst bidders.

Four members of the technical team (Devendran Govender, Frikkie Harris, Eugene Russouw, Chris Uys) were made available to conduct a review of the scheduled and unscheduled maintenance regimes as supplied by bidders for reasonability.

## Transnet Internal Audit involvement

TIA was present at evaluations sessions as requested by SCS to ensure good corporate governance. KPMG, Sekela Xabiso and Nkonki Incorporated are the outsourced service provider of the Internal Audit function for Transnet.

We noted during our evaluation that KPMG were the auditors of one of the bidders.

This matter was reported to the SCS representatives present. We were advised that the process of evaluation must continue with TIA continuing to perform the oversight role for good governance.

### Methodology of scoring

Scoring of points was completed using the set predetermined criteria and weightings for each section of the financial evaluation.

The process for scoring, checking and evaluating the short-listed bidders was done jointly by all members of the CFET (Finance) in the presence of SCS and TIA. All results submitted were based on consensus agreement amongst all the CFET (Finance). Yousuf Laher was a key person in the development of the evaluation model and RFP requirements, in conjunction with SCS. He outlined to all members of the CFET (Finance) the processes, procedures and methodology of scoring.

### Meetings held

During the course of the evaluation, all meetings were held in the presence of SCS and TIA. These included meetings with the following parties:

- Technical (the purpose of these was to clarify issues that pertained to the technical options that required normalisation of the base price, to brief the technical team in preparation of their review of the TCO model and to receive input from the technical team around the energy model);
- Legal (the purpose of these was to advise and assist the legal representative during the contractual compliance evaluation);
- Meetings with CPO (the purpose of these meetings was mainly to provide the CPO with an update on the progress of the financial evaluation process and to obtain guidance on certain matters that required interpretation or clarification related to the RFP or other sections (Technical/SD of the evaluation).

## Results of scoring

### 1. Price

The result of the "Price" evaluation is reflected below:

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	1	2	3	4	5	6	7

#### Price Evaluation Criteria (Escalations and hedging costs)

- The Board approved evaluation criteria supplied to the CFET (Finance) indicated that the price evaluation must be done on the basis of the price including foreign exchange hedging costs and escalations;
- The CFET (Finance) was unable to evaluate on the basis of a fixed price including escalations and hedging costs (refer explanations in the sections below);
- The price evaluation was therefore done based on the price excluding hedging and escalation costs for all bidders. The risk impact of this is outlined in the "Overall Risks" section of this report;

#### Escalations

- The RFP requested bidders to submit a price in line with the following options:
  - Fixed pricing;
  - Escalation based pricing;
  - Indexation formula's used in pricing calculations;

Most bidders chose the option of providing prices based on either escalation or indexation based pricing. Most of the bidders did not offer a fixed price as was required by the Board approved evaluation criteria in order to conduct the evaluation;

- It was noted that bidders provided various differing escalation regimes that were not comparable to normalise a 'Base' price over the period of the locomotive supply contract;
- Some bidders were not willing to provide fixed pricing (including escalation) over the delivery period due to the risks involved for them in this type of a pricing mechanism;

### Hedging Costs

- The wording of the RFP with regard to foreign exchange hedging costs was subject to interpretation in that bidders were recommended (but not required) to provide a price including hedging costs;
- The RFP stipulated that TFR would prefer a Rand based contract and that the bidders must submit the cost of hedging and a hedging strategy. Although some bidders did provide the cost of hedging, they stated clearly that appropriate hedging strategies will be discussed and agreed upon at the contract award stage. In addition as part of their RFP response some bidders provided the cost of hedging whereas other bidders did not submit the cost of hedging;
- Through a process of clarification and in order to ensure that hedging costs were excluded from their 'Base' price, all bidders were requested to confirm whether their 'Base' prices quoted excluded foreign exchange hedging costs and if these were included to then provide the quantum thereof. Bidders were also requested to provide us with an estimated cost of hedging whether included in the Base price or not;
- As the cost of hedging will most likely change due to exchange rates fluctuating between evaluation and final contract signature date, and because the cost of hedging will in any case be base-lined, checked for reasonability by Transnet Treasury, and agreed to on the date of contract signature, it would be more appropriate to exclude the cost of hedging from the evaluation at this point;
- An important point to note is that none of the bidders indicated that they were unwilling to enter into a foreign exchange hedging arrangement with TFR at the time of contract signature;

### Final agreed evaluation methodology (escalation & hedging costs)

- In order to proceed with the price evaluation on a consistent and fair basis, the CFET (Finance) agreed, after consultation with SCS, that it would be more appropriate to exclude escalations and hedging costs from the price evaluation and thereby attain a more normalised price for evaluation purposes. This was agreed to with SCS on the proviso that this change to the evaluation methodology be brought to the attention of the Steering Committee and Transnet Board for approval prior to the award of the contract;



Normalising the "Base" Price for evaluation

Technical Options

- The 'Base' price, as submitted by all bidders was normalised for the "technical option" items as requested by the technical evaluation team. Refer "Annexure B" which contains a list of all option items that were normalised;
- The provisioning of ECP/WDP and RDP was a mandatory requirement per the technical specifications. Based on our discussions with CFET (Technical), all bidders have confirmed, in the technical response that they fully complied with this requirement. It was therefore concluded that all bidders had included the cost of provisioning in their base price and no adjustment to this item was required for evaluation purposes;
- The cost of either ECP/WDP or RDP was included in the base price, as the CFET (Technical) have advised that it is probable that this option would be exercised. We were advised by the GM Logistics Integrator (Pragasen Pillay) as to the number of ECP/WDP, RDP or ECP/WDP/RDP combination that must be applied over the fleet. (refer Annexure B for allocation and associated cost of this split);
- All bidders included the provisioning of ECP/WDP or RDP into their price. None of the bidders included the equipment cost in their base price. Based on the advice from CFET (Technical) we therefore included the equipment cost of ECP/WDP and RDP for all the bidders onto their base price for the purpose of normalising the base price;

Rebasing the price for foreign exchange differences

- The RFP did not indicate the date that bidders should use to convert foreign exchange as part of the imported content of their price. As such bidders made their own assumptions and each used a rate and date of their choice. The result of this is that a comparison of base prices with different dates and rates would be inconsistent. In order to normalise the price for changes due to foreign exchange differences and movements since RFP closing date, the CFET (Finance) normalised the prices based on exchange rates as at 11<sup>th</sup> November 2013 (USD/ZAR 10.37, EUR/ZAR 13.91, JPY/ZAR 0.10457). As a consequence bidders were requested in a clarity question to confirm their foreign currency components included in their 'Base' price. These foreign currency components were converted at spot rates on the 11<sup>th</sup> of November 2013 for the purpose of comparing prices between bidders;

Using TE as a main subcontractor

- The RFP part 2 dictates as follows "participation of TRE in this locomotive procurement process will be prescribed". In terms of the evaluation governance process CFET (Finance) does not have access to 'Supplier Development' files. As such CFET (Finance) assumed that all bidders have provided pricing based on the utilisation of TE as the main subcontractor;
- SCS however advised CFET (Finance) that the Supplier Development files submitted by Bidders indicated that Bidder 3 & Bidder 7 did not specify the use of TE as the main subcontractor and that this could have a potential price adjustment implication. SCS also mentioned that bidders were likely to make different assumptions in the use of TE as a main subcontractor including the percentage that would be subcontracted. These assumptions which were not specified by TFR in the RFP process could differ significantly between bidders. Accordingly SCS subsequently decided to obtain clarity from bidders on this matter;
- SCS in conjunction with the TFR CE and Transnet GCE and GCFO decided that clarity should only be obtained from those bidders who included TE as a main subcontractor. The clarity request was to establish what proportion of the bidder's price related to the use of TE;
- Accordingly the methodology provided to the CFET (Finance) was that all bidders should be evaluated excluding the use of TE as a main subcontractor in order to normalise the base on which to evaluate price;
- Based on this decision clarity responses were only issued to Bidder 1, Bidder 2 and Bidder 5 (those bidders who indicated the use of TE as a subcontractor);
- Clarity responses were received from these bidders who indicated the impact on price and the new bid price for 599 COCO locomotives if TE was not used as a subcontractor. The summary of these responses is as follows:
  - Bidder 1 provided the required information as requested and indicated that the impact of not using TE as a subcontractor would be a decrease in price of R 1 905 514;
  - Bidder 5 provided the required information and indicated that there would be no impact on the bid price per locomotive if TE was not used as a subcontractor;
  - Bidder 2 provided the required information, however we noted that their new submitted bid price excluding TE as a subcontractor did not reconcile to their original bid price. The difference noted was R. 2 010 000 per

locomotive. This posed a risk to the evaluation of the price and the CFET (Finance) subsequently consulted with SCS to explain the concern as the impact of this difference was significant in relation to the final scoring on price;

- It was subsequently decided by SCS that further clarity from Bidder 2 was required to understand this difference. SCS together with a representative of the finance team and in the presence of TIA engaged Bidder 2 telephonically on the evening of the 4 December 2013 to discuss this unreconciled difference;
- Bidder 2 indicated that the difference related to a 'Discount' offered on the original price. It was then mentioned to Bidder 2 that this was not what the clarity had sought and that their new bid price should not reflect in anyway further discounts offered by them at this stage. Subsequent to this telephonic conversation Bidder 2 submitted a new clarity. It was however noted that this clarity seemed to have reflected the 'Discount' into the TE portion of the new bid price. Bidder 2 originally submitted a reduction in price due to TE portion of R 3 480 000 per locomotive and the subsequent submission from them indicated it to be R 5 490 000 per locomotive;
- CFET (Finance) then further engaged SCS to provide guidance on this issue as we were unable to determine the appropriate way forward. The main concern from the CFET (Finance) was the uncertainty of whether or not Bidder 2 may have subsequently included this 'Discount' portion of R 2 010 000 into their price thereby having the potential impact of unfairly prejudicing other bidders in the evaluation process;
- The CFET (Finance) was advised by SCS that based on discussions with the GCE and the GCFO that the evaluation should proceed on the basis excluding this potential discount and as such the CFET (Finance) utilised a reduction in price of R 3 480 000 for the evaluation;
- The CFET (Finance) subsequently completed the evaluation on this basis;
- In summary the impact of excluding TE from the normalised base price is as follows:

Bidder 1	Bidder 2	Bidder 3	Bidder 4	Bidder 5	Bidder 6	Bidder 7
-1 905 514	-3 480 000	0	n/a	0	n/a	0

- The normalised pricing used for evaluation purposes of all bidders (capital acquisition cost) excluding TE as the main subcontractor i.e. using private sector as the main subcontractor is summarised as per the table below;

Bidder 1	Bidder 2	Bidder 3	Bidder 4	Bidder 5	Bidder 6	Bidder 7
32 833 423	34 716 188	46 301 906	n/a	38 091 755	n/a	33 695 001

#### Assumptions used for pricing

Other than as noted above the following additional assumptions were used by the CFET (Finance) in the price evaluation:

- Where the import content percentage was not supplied by bidders as part of their pricing proposal and or clarification then the local content declaration form as supplied by bidders was used to obtain the Imported content;
- The RFP requested break point pricing for batches of locomotives. As the TFR requirement is for 599 locomotives, the CFET (Finance) used the pricing provided by bidders for 599 locomotives to conduct the evaluation;
- The price of a standard list of capital spares and spare parts was requested as part of the RFP, to be included in the acquisition cost of the locomotive. Where bidders added additional items to this list of capital spares and spare parts then these items were excluded for evaluation purposes in order to ensure that the bidders were evaluated on the standard list thereby ensuring the evaluation was performed on an "like for like" basis. In instances where a bidder did not provide a price for a capital spare or spare part as per the standard list, then an average price of the remaining bidders was used to ensure that a realistic comparison was achieved;
- The Bonus points for Value Added services were not assessed. The main factor for this decision is that this item was not clearly defined in the RFP and the technical team had no view of the requirement of "value add" aspects and the technical team was not allowed to have access to the financial files. Therefore the finance team could not assess value added services.

## 2. Total Cost of Ownership (TCO)

### TCO evaluation criteria

The evaluation of TCO is conducted based on the following five elements (maximum of 20 points in total excluding the bonus point allocation):

- i. scheduled maintenance (8 points);
- ii. lost revenue (4 points);
- iii. unscheduled maintenance (4 points);
- iv. energy utilisation (4 points);
- v. overall TCO result bonus points (2 points);

Points are allocated individually for each of the five elements above.

- Whilst reviewing the submissions received from bidders on the TCO model, we noticed that the results of the scheduled and unscheduled maintenance varied considerably. The CFET (Finance) was unable to ascertain whether these varied results were as a result of bidders' interpretations of the TCO model or as a result of the different maintenance regimes of their respective locomotives. The result of this is that the evaluation of the scheduled and unscheduled maintenance could be subjective. The items that contribute to the subjectivity are as follows:
  - i. bidders used different labour rates;
  - ii. bidders used different prices for similar components;
  - iii. bidders assumed different types of maintenance regimes and
  - iv. bidders assumed different failure rates for unscheduled maintenance;
- Through discussions with CFET (Technical), we were however advised that the above could be normalised by CFET (Technical), if required;
- The matter was discussed together with SCS and CFET (Technical) and it was decided that due to the subjectivity of this item, and because we did not want to make assumptions to change bidders submissions, different scenarios including and excluding scheduled and unscheduled maintenance should be prepared to provide the Steering Committee with appropriate information to make a final decision;
- As per confirmation from CFET (Technical) all bidders confirmed as part of their technical submission, that they would meet the required reliability regime i.e. that the locomotives offered would achieve less than 15 faults per million kilometres. This contributes to reducing the risk of an unreliable locomotive and as such provide some comfort should the unscheduled maintenance be excluded from the TCO evaluation. The draft supply agreement includes a penalty regime whereby should the stated minimum reliability regime (15 faults per million kilometres) not be reached then the penalty clauses would come into effect;



The results of the "TCO" evaluation scenarios are reflected below:

Scenario 1 - all elements of TCO included:

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER						
			1	2	3	4	5	6	7

Scenario 2 - (TCO) excluding unscheduled maintenance and excluding bonus point allocation

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER						
			1	2	3	4	5	6	7

Scenario 3 - (TCO) excluding unscheduled and excluding scheduled maintenance and excluding bonus point allocation

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER						
			1	2	3	4	5	6	7

*[Handwritten signature and initials]*



Assumptions used for TCO model evaluation

- The TCO model as submitted by all bidders was used as the basis for the evaluation;
- Escalation was normalised for all bidders for purposes of appropriate comparison. CPI + 2 % was used as escalation for all bidders. CPI was obtained from the current year's budget guidelines;
- The WACC rate (12.56%) was obtained from the latest Group Financial Planning Policy issued on the 1<sup>st</sup> of August 2012, and was used for the present value calculations;
- The submissions by bidders in respect of failure rates, maintenance strategies, optional components requiring unscheduled replacement and the timing of maintenance interventions varied significantly, however, as a finance team we assumed that these submissions are relative to their locomotive/product type as well as their maintenance regime and strategies. Accordingly we used the TCO models as submitted by bidders to conduct the evaluation;
- For the purposes of evaluating lost revenue as part of the TCO evaluation we assumed that TFR's expected delivery schedule would be an equal number of locomotives per month, as per the delivery batches stipulated within the relevant years within the RFP (see delivery schedule notes below). The current average TFR leasing rates per day was used to determine the lost revenue value for all bidders. The lease revenue rate per day used for all bidders was R 24 632 per locomotive;
- The energy model was designed by CFET (Technical) and was fully evaluated by CFET (Technical) without the involvement of CFET (Finance). CFET (Finance) incorporated the results of the energy model evaluation into the stage 6 evaluation of TCO;
- Some bidders included extra optional components for unscheduled maintenance which other bidders have not included in their TCO model. We have not removed this from the TCO model as suppliers would know the unscheduled maintenance costs of their loco's best;
- The cost of major components and materials as submitted in the TCO models of bidders 5 & 7 looked abnormally low; this was clarified as part of the clarification request submitted to these bidders. Both bidders confirmed post clarification that the amounts quoted were correct.

### 3. Delivery schedule

The result of the "Delivery" evaluation is reflected below:

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER						
			1	2	3	4	5	6	7

#### Assumptions used for delivery schedule evaluation

- The effective date of contract signature was normalised to 1 September 2013 for all bidders in order to ensure consistent scoring;
- The RFP closing date was extended by about 7 months from 16 October 2012 to 30 April 2013. As such, for the purpose of evaluation, the expected start date for delivery (previously March 2014) was aligned accordingly and was moved forward by 7 months for all bidders (October 2014);
- Where bidders provided an accelerated delivery schedule whereby they would deliver earlier than indicated in the RFP, and would complete delivery of all 599 locomotives earlier than expected in the RFP, then these bidders were allocated the full points applicable for delivery for each subsequent year (where points were allocated) after their delivery is fully completed;
- TFR would conduct acceptance tests prior to accepting locomotives. The length of time taken to conduct acceptance testing is completely under the control of TFR. Bidders were not advised how long this acceptance testing would take within the RFP. As such bidders made their own assumptions regarding the time taken to conduct acceptance testing. In order to ensure consistency, the delivery date as stipulated by bidders was used to conduct the evaluation instead of the acceptance date;
- Some bidders provided an alternative delivery schedule based on more "imported content" This option was not considered in any of the team's evaluations as the preferred position is to maximise local content;

- The delivery schedules of all bidders is summarised as per the table below:

	<u>Oct 15</u>	<u>Oct 16</u>	<u>Oct 17</u>	<u>Oct 18</u>	<u>Oct 19</u>	<u>Beyond</u>	<u>Total</u>
Per RFP	65	130	130	130	144	0	599
Bidder 1	73	159	164	164	39	0	599
Bidder 2	166	142	146	145	0	0	599
Bidder 3	0	81	151	155	153	59	599
Bidder 5	20	133	130	130	138	48	599
Bidder 7	9	103	135	135	135	82	599

The above delivery schedule assumes a contract effectiveness date of 1 September 2013. The delivery schedule above would move out by an equal number of months from 1 September 2013 to the actual date the contract is signed.

#### 4. Payment terms

The result of the "Payment Terms" evaluation is reflected below:

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER						
			1	2	3	4	5	6	7

#### Assumptions used in payment term evaluation

- The approved evaluation criteria required the evaluation of payment terms on a Net Present Value (NPV) basis. Therefore cash flows needed to be constructed for all bidders using their declared payment terms. Cash flows are generally a factor of payment terms, delivery dates, discount rate and a price. As "price" and "delivery" are evaluated separately as part of this stage 6 evaluation, the CFET (Finance) standardised the price per loco (R 31 million) and the delivery schedule (as per the RFP) for all bidders for the "payment terms" portion of the stage 6 evaluation. This would have the effect of isolating the payment terms offered by bidders on the cash flows for evaluation purposes. The primary reason for this is to ensure that bidders who provide higher/lower prices and/or faster/slower delivery schedules are not benefited or penalised twice in the evaluation process;
- The draft supply agreement issued as annexure 1 of the RFP stipulated a different % preferred payment terms for TFR as compared to the preferred payment terms stipulated in the RFP. After discussion with SCS we were advised

that bidders were advised through a clarification that the preferred payment terms of TFR is as stipulated in the RFP. Where payments terms conflicted between the RFP response and the supply agreement response the payment terms as offered by bidders in response to the RFP was used for the evaluation purposes;

- Where bidders provided a percentage for the deposit payment, we applied that percentage to the standardised price to determine the deposit payment, whereas where bidders provided a fixed Rand amount we utilised that fixed Rand amount as a deposit payment on the standardised price;
- The WACC rate (12.56%) was obtained from the latest Group Financial Planning Policy issued on the 1<sup>st</sup> of August 2012, and was used for the present value calculations;
- We used a standardised retention period of 6 months from acceptance date for all bidders. The reason for this is that some bidders had indicated retention period to be when availability and reliability targets are achieved which could vary and can depend on various factors;
- The payment terms of all bidders is summarised as per the table below:

Deposit on effective date	8%	1.62%	1.62%	1.62%	1.62%
Milestone 2	8%		9.00%		
Milestone 3	8%		3.00%	0.00%	
Milestone 4			3.00%		
Milestone 5			5.00%		
Milestone 6			3.00%		
Total payments before acceptance	24.00%	1.62%	24.62%	1.62%	1.62%
On at locomotive acceptance	88%	88.38%	85.38%	88.38%	88.38%
Retention	10%	10.00%	10.00%	0.00%	
Total	100.00%	100.00%	100.00%	100.00%	100.00%

- A detailed explanation as to how the scoring was arrived at is attached as Annexure D of this report.

## 5. RFP & Contractual Compliance

The result of the "RFP & Contractual Compliance" evaluation is reflected below:

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER						
			1	2	3	4	5	6	7

- Evaluation of the contractual compliance matters related to the responses to the draft supply agreement by bidders was completely evaluated by Mr Kenneth Diedricks (TFR General Counsel) from the TFR legal department. CFET (Finance) incorporated the results of the contractual compliance evaluation into the stage 6 evaluation of RFP & Contractual Compliance;
- Evaluation of the RFP compliance matters related to the administrative responsiveness to the RFP by bidders was evaluated by Ms Lindiwe Mdietshe from the TFR SCS department. CFET (Finance) incorporated the results of the RFP compliance evaluation into the stage 6 evaluation of RFP & Contractual Compliance;
- References were provided by all bidders and therefore SCS assumed these to be adequate and scored full marks for all bidders. We were advised by SCS that they would contact references provided once a preferred bidder is chosen.

## 6. Financial Stability

The result of the "Financial Stability" evaluation is reflected below:

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER						
			1	2	3	4	5	6	7

- The financial stability of the bidders was assessed as part of stage 2 of the evaluation process. Please refer to the CFET (Finance) report relating to stage 2 issued on 31<sup>st</sup> July 2013. The scoring from stage 2 was carried forward to stage 6 of the evaluation.



## OVERALL RISKS

The following risks must be communicated to the steering committee and considered prior to final contract award:

### Price

#### Hedging and Escalations

- The evaluation and scoring for pricing has been determined and explained above. The CFET (Finance) would like to bring to the attention of the steering committee that as a result of the evaluation of price on the basis of excluding hedging costs and escalation costs, that the following additional aspects be considered prior to awarding the contract. These factors when considered either individually or in combination could have a significant impact on the final negotiated price:

- i. Hedging;
- ii. Escalation and;
- iii. Break pricing;

A summary of the potential impact of the items above on the evaluated price is summarised below in order to provide the steering committee with a better understanding:

#### Hedging

Item	Price	Escalation	Break Point	Price	Escalation	Break Point
1	\$ 448 500	\$ 587 500	\$ 562 500	n/a	\$ 562 500	n/a
2						
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#### Escalation

Item	Price	Escalation	Break Point	Price	Escalation	Break Point
1	\$ 704 150	\$ 819 500	\$ 879 150	n/a	\$ 879 150	n/a
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#### Break Point Pricing

- As the TFR requirement is for 599 locomotives, the CFET (finance) used the pricing provided by bidders for 599 locomotives to conduct the evaluation. Break point pricing was provided by all bidders and the price per locomotive varies dependant on the batch size of the order placed. This must be considered should TFR decide to place an order for a smaller batch as the evaluation was not conducted based on smaller batches. A decision regarding whether smaller batches will be purchased has not yet been made and therefore was unknown at the time of the evaluation. The table below indicates the break point pricing offered by bidders (based on their original tender responses where bidders used the main subcontractor of their choice):



Bidder 1	49 860 694	37 247 559	34 555 142	33 246 507	30 955 000
Bidder 2	42 500 732	36 462 977	35 255 426	34 737 905	34 380 000
Bidder 3	81 168 577	51 030 239	45 006 189	42 355 684	39 908 949
Bidder 5	51 359 000	37 338 000	34 175 000	32 575 000	31 386 000
Bidder 7	51 284 417	42 438 403	39 742 836	37 201 313	29 880 000
Locos per year	65	130	130	130	144
Locos cumulative	65	195	325	455	599

TE as a subcontractor

- With reference to the section of the report above dealing with TE as the main subcontractor and the impact on price, the following matters need to be considered by the steering committee:
  - Although the price has been normalised to exclude TE for evaluation purposes, the use of TE as a main subcontractor is highly probable as this is a requirement as per the PFMA approval letter from the DPE. As such prices will have to be negotiated with the preferred bidder/s including TE and thus needs to be considered by the steering committee prior to the conclusion of the evaluation process as this could have an impact on the final price;
  - The price that bidders provided based on their choice of sub-contractor is significantly different from the price used for evaluation purposes (where the incremental cost of TE was excluded). This could change the evaluation result and the final price contracted;
  - Bidder 3 and Bidder 7 have not quoted using TE as the main subcontractor. No clarity was obtained from these bidders as mentioned in the report above. If clarity was obtained from these two bidders and they indicated that there is no change to their price whether TE will be used or not (as was the response from Bidder 5) then the impact on the evaluation scoring result could be significant;
  - In addition it should be noted that should Bidder 3 or 7 become the preferred bidder then there is a risk of a potential price adjustment and possible protracted negotiations. The finance team was unable to reasonably quantify the quantum of this potential price adjustment. It should be further noted that the use of TE as the sub-contractor could be an incremental adjustment to Bidder 3 or 7's price based on the differential between using TE as a subcontractor versus the subcontractor costs already included in the price of Bidder 3 or 7's submission;
  - The delivery regime that bidders provided was based on their choice of sub-contractor (some with TE and some using private sector

subcontractors). This could change should bidders be required to use TE as a sub-contractor. A different delivery schedule could have an impact on the evaluation result and the final delivery schedule contracted.

#### Impact of capital and maintenance spares on price

- Standardised quantities of capital spares required were provided to all bidders as part of the RFP. All bidders quoted for these capital spares based on the quantities provided and this has been included in the price of the locomotive used for evaluation purposes. Following discussions with CFET (Technical) we were advised that as failure rates of these capital spares is not yet known, the quantities requested may not be completely accurate at this point and may change once the locomotives are placed into production;
- Quantities of maintenance spares required were provided by bidders as part of the RFP. All bidders quoted for these maintenance spares based on their knowledge of historical failure rates and this has been included in the price of the locomotive used for evaluation purposes. Following discussions with CFET (Technical) we were advised that as failure rates of these spares is not yet known by TFR, the quantities provided may not be completely accurate at this point and may change once the locomotives are placed into production.

#### TCO Model

The maintenance and intervention regimes of the selected preferred bidder must receive significant scrutiny during the negotiation phase. The CFET (Technical) will be required to have a detailed understanding of the related submissions and should conduct the necessary reviews and assessments of the maintenance and intervention regimes of the selected bidder.

We would recommend that a clause be inserted into the supply contract whereby a penalty is imposed upon the supplier for higher actual TCO costs as compared to their tender submission. This penalty clause can be built in on the basis of a periodic review (possibly every 5 years) of the actual energy usage, scheduled and unscheduled maintenance costs of the locomotives as compared to their tender submissions.

### Delivery schedule

Some bidders' delivery schedules differed significantly from the requirements of Transnet. Although these bidders would score relatively low points in this area of scoring, the overall scoring may still be high due to other scoring criteria being taken into account like price, TCO, payments terms etc. Should any of these bidders be awarded a preferred bidder status it would be critically important for TFR to understand the committed delivery schedule based on their bid response. This could significantly impact the outcome of negotiations with these bidders. The delivery schedule reflected in this report assumes a contract effectiveness date of 1 September 2013. This delivery schedule would move out by an equal number of months from 1 September 2013 to the actual date the contract is signed.

## MATTERS FOR APPROVAL OF THE STEERING COMMITTEE

The CFET (Finance) requests as part of this evaluation and based on the contents of the report above the:

1. Approval of the price evaluation criteria on the basis of excluding hedging and escalation costs;
2. Approval of all assumptions used for scoring as outlined in this report;
3. Approval of the TCO scenario to be used for final evaluation;
4. Approval of the price methodology provided to the CFET (Finance) for evaluation purposes to exclude the impact of TE on price.

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## CONCLUSION

Based on the scoring by the CFET (Finance) using the assumptions mentioned above, the following is a summary of the results of our evaluation:

Scenario 1 - all elements of TCO included

FINANCIAL EVALUATION - FINANCIAL SUMMARY									
WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	RATER						
			1	2	3	4	5	6	7
1 Price	30.00%	18.00%	30.00	10.00	0.00	N/A	0.00	N/A	20.00
2 Total Cost Of Ownership (TCO)	30.00%	12.00%	1.00	4.00	4.00	N/A	0.00	N/A	14.00
3 Delivery Schedule (DS)	25.00%	15.00%	25.00	25.00	0.00	N/A	0.00	N/A	4.00
4 Payment Terms (PT)	10.00%	6.00%	0.00	10.00	1.00	N/A	0.00	N/A	10.00
5 RFP & Contractual Compliance (CC)	10.00%	6.00%	0.75	0.00	0.25	N/A	0.00	N/A	0.25
6 Financial Stability (FS)	5.00%	3.00%	3.00	3.00	2.00	N/A	2.00	N/A	2.00
TOTAL WEIGHTED SCORE	100.00%	60.00%							50.00

Scenario 2 - (TCO) excluding unscheduled maintenance and excluding bonus point allocation

FINANCIAL EVALUATION - FINANCIAL SUMMARY									
WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	RATER						
			1	2	3	4	5	6	7
1 Price	30.00%	18.00%	30.00	10.00	0.00	N/A	0.00	N/A	20.00
2 Total Cost Of Ownership (TCO)	20.00%	12.00%	1.00	4.00	4.00	N/A	0.00	N/A	0.00
3 Delivery Schedule (DS)	25.00%	15.00%	25.00	25.00	0.00	N/A	0.00	N/A	4.00
4 Payment Terms (PT)	10.00%	6.00%	0.00	10.00	1.00	N/A	0.00	N/A	10.00
5 RFP & Contractual Compliance (CC)	10.00%	6.00%	0.75	0.00	0.25	N/A	0.00	N/A	0.25
6 Financial Stability (FS)	5.00%	3.00%	3.00	3.00	2.00	N/A	2.00	N/A	2.00
TOTAL WEIGHTED SCORE	100.00%	60.00%							50.00





## Annexure A

### Detailed Scoring Criteria and Allocated Points

Price:

PRICE EVALUATION									
WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER						
			1	2	3	4	5	6	7

**Lowest Technically Acceptable Cost/Lowest Acquisition Cost (LTACAC) (under TCO model) (includes duties or customs, excise duties, insurance, maintenance support, needs testing and first equipment costs, capital assets costs, consumables, fuel or gas costs, spare parts and spares holding cost, lower technical costs per hour)**

1.1	Bidder with lowest price & or any bidder within 0.50% of LTACAC	30	32 033 423	34 710 100	40 301 000	n/a	30 001 700	n/a	33 000 801
	any bidder within 1% to 1.50% of LTACAC	25							
	any bidder within 2% to 2.50% of LTACAC	20							
	any bidder within 3% to 4.00% of LTACAC	15							
	any bidder within 5% to 7.00% of LTACAC	10							
	any bidder within 8% to 12.00% of LTACAC	5							
	>12% of LTACAC	0							
	% result								
	Final Score								

#### 1.2 Value added - 1 extra bonus point

Value Added Services included in LTACAC to the value of > R 200 k per hour eg:  
Free Software & upgrades to software  
Free fitting & replacement of parts  
etc.

% result

Final Score

Note that the maximum points available is 30 including the bonus point

#### Notes:

The Score points for Value Added services was not assessed. The main factor for this assumption is that these items are not clearly defined in RFP and the technical team had no view of the requirement of "value add" aspects. Therefore the finance team did not have the relevant expertise to assess value added services

2 Note: excise duties and form holding costs were excluded from the price evaluation - refer notes in detailed evaluation sheet.

The Price evaluation has been done on the basis of excluding the cost of using TE as the main subcontractor but other bidders were requested to quote as if another private sector subcontractor is used (per the GCE request after this was requested via clarification from bidder 1,2 & 5). SCS found the clarifications to those bidders that indicated that they had used TE as the main subcontractor per the SD Rec.

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# Annexure A (continued) - Detailed scoring criteria and allocated points - TCO

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	1	2	3	4	5	6	7

## 1.1 Lowest Total cost of Ownership (LTCO) - NPV - for preventive/scheduled maintenance only (excluding corrective maintenance, lost revenue & energy)

Lowest LTCO & any bidder within 0.99% of LTCO	8	4 221 721	30 304 305	7 590 130	n/a	3 707 400	n/a	2 020 020
any bidder within 1% to 1.99% of LTCO	6							
any bidder within 2% to 2.99% of LTCO	4							
any bidder within 3% to 7.99% of LTCO	2							
any bidder within 8% to 12.99% of LTCO	1							
>13% of LTCO	0							
% result								
Final Score								

## 1.2 Lost Revenue - Opportunity cost

Lowest LLR & any bidder within 0.99% of LLR	4	-1 102 880 019	-2 794 014 801	2 129 457 890	n/a	1 025 162 807 21	n/a	1 801 302 599
any bidder within 1% to 1.99% of LLR	3							
any bidder within 2% to 2.99% of LLR	2							
any bidder within 3% to 12.99% of LLR	1							
>13% of LLR	0							
% result								
Final Score								

## 1.3 Corrective/scheduled maintenance plan

Lowest technically acceptable corrective maintenance cost of Ownership (LTACMO) - NPV - corrective maintenance (including energy and preventive maintenance)

Lowest LTACMO & within 1.99% of LTACMO	4	1 918 910	531 852	2 202 801	n/a	2 148 485	n/a	8 820
within 2% to 4.99% of LTACMO	3							
within 5% to 7.99% of LTACMO	2							
within 8% to 12.99% of LTACMO	1							
>13% of LTACMO	0							
% result								
Final Score								

## 1.4 Energy

Lowest technically acceptable energy cost (LTEC) - NPV - (excluding corrective and preventive maintenance)

Lowest LTEC & within 0.99% of LTEC	4	5 020 482	9 912 060	7 180 695	n/a	8 480 083	n/a	11 302 230
within 1% to 1.99% of LTEC	3							
within 2% to 3.99% of LTEC	2							
within 4% to 12.99% of LTEC	1							
>13% of LTEC	0							
% result								
Final Score								

## 1.5 Bonus Points - overall lowest NPV for TCO (excluding lost revenue)

Lowest overall NPV & within 0.99% of lowest overall NPV	2	14 050 100	40 239 275	18 912 408	n/a	14 983 570	n/a	15 230 770
within 1% to 2.99% of lowest overall NPV	1							
>2.99% of lowest overall NPV	0							
% result								
Final Score								

Note that the maximum points available is 20 (excluding the bonus point points).

We used the TCO calculations as provided by bidders. Bidders could (not that they have) miscalculate and select a low lifecycle cost. This could expose TFR to risk of higher life cycle costs than that which was used for evaluation. We recommend that a penalty clause be built into the contract to mitigate the risk of exposure of changes in the TCO over the life of the asset.

Some bidders included extra optional components for unscheduled maintenance which other bidders have not included. We have not included these in the TCO model as bidders would know the unscheduled maintenance costs of their loco's best.

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## Annexure A (continued)

## Detailed Scoring Criteria and Allocated Points

## Delivery:

FINANCIAL EVALUATION - FINANCIAL CRITERIA									
WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	RUBRIC						
			1	2	3	4	5	6	7

## New GFB Electric Locomotive Plan

## Delivery Period

## Quantity of Locomotive

2014/15

65

2015/16

130

2016/17

130

2017/18

130

2018/19

144

Total

599

## Final Score

Cumulative Number of loco's delivered	
3.1 on time each year	Points
65 loco's by March 2015	3
195 loco's by March 2016	3
325 loco's by March 2017	3
455 loco's by March 2018	3
599 loco's by March 2019	3
Total points	15
Number of loco's delivered on time each	
3.2 year	
65 loco's during Financial Year March 2015	2
130 loco's during Financial Year March 2016	2
130 loco's during Financial Year March 2017	2
130 loco's during Financial Year March 2018	2
144 loco's during Financial Year March 2019	2
Total points	10
Total scoring is out of 25	

## Annexure A (continued)

### Detailed Scoring Criteria and Allocated Points

#### Payment Terms:

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER						
			1	2	3	4	5	6	7

#### Final Score

Payment terms are usually based on:

- Pre-payment (%)
- Retention
- Acceptance of Locos
- Retention

#### 4.1 Cash Flow - Time Value of money

Best payment terms from a time value of money perspective & within 0.99 % of best payment terms	10
Within 1 to 1.99 % of the best payment terms	9
Within 2 to 2.99 % of the best payment terms	8
Within 3 to 3.99 % of the best payment terms	7
Within 4 % - 4.99 % of the best payment terms	6
Within 5 % - 5.99 % of the best payment terms	5
Within 6 % - 7.99 % of the best payment terms	4
Within 8 % - 9.99 % of the best payment terms	3
Within 10 % - 11.99 % of the best payment terms	2
Within 12 % - 12.99 % of the best payment terms	1
> 13 % of best payment terms	0

# Annexure A - Detailed Scoring Criteria and Allocated Points - Contractual Compliance

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	SCORE						
			1	2	3	4	5	6	
General information duly completed (RFP section 5A)									
5.1 Provided AUDITED financial statements for the past 3 years	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.2 Provided AUDITED financial statements for the past 3 quarters (whether or not audited)	0	0	0	0	0	0	0	0	
5.3 Provided latest Rating report from current rating agency (Fitch or equivalent) & adequacy thereof	0	0	0	0	0	0	0	0	
5.4 Provided strength of approvals (RFP section 3B - c) & adequacy thereof	0.25	0.25	0	0.25	0.25	0.25	0.25	0.25	
5.5 Provided a complete breakdown on proposed financing structure on buy option (RFP section 3B - b) & adequacy thereof	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.6 Provided company equity structure (holding company and subsidiaries) (RFP section 3B - d) & adequacy thereof	0.25	0.25	0.25	0.25	0.25	0.25	0	0.25	
5.7 Provided company debt structure (holding company and subsidiaries) (RFP section 3B - e) & adequacy thereof	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.8 Provided hedging strategy (RFP section 3B - f) & adequacy thereof	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.9 Provided insurance strategy (RFP section 3B - g) & adequacy thereof	0.25	0	0	0.25	0.25	0.25	0.25	0.25	
5.10 Provided tax strategy (RFP section 3B - h) & adequacy thereof	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.11 Cash flow model adequately provided (RFP section 3 C)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.12 Provided "Sensitivity Analysis" (RFP section 3 C)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.13 Provided Manual	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	
5.14 Provided Mock Ups	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.15 Provided Maintenance Plan	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.16 Provided Training & Training Manuals	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.17 Provided SD proposal/obligations	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.18 Rand based pricing offered	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.19 Fixed pricing excluding escalations offered	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.20 Risk provisions adequately completed (section 2 "clause 13" of RFP)	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.21 References adequate	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.22 Design file parameters offered adequate (not less than 30 years)	0.25	0.25	0	0.25	0.25	0.25	0.25	0.25	
5.23 Fixed Availability target accepted	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.24 Fixed Reliability target accepted	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.25 Testing & commissioning terms accepted	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.26 Handover & testing terms accepted	0.25	0.25	0	0.25	0.25	0.25	0.25	0.25	
5.27 Risk, Title & payment process accepted	0.25	0.25	0	0.25	0.25	0.25	0.25	0	
5.28 Delay & early delivery regime accepted	0.25	0.25	0	0.25	0.25	0.25	0.25	0	
5.29 Proposed warranty regime accepted	0.25	0.25	0	0.25	0.25	0.25	0.25	0.25	
5.30 Lawful & safe operation clauses accepted	0.25	0.25	0	0.25	0.25	0.25	0.25	0.25	
5.31 IP clauses accepted	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.32 Contractor covenant clauses accepted	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.33 Spares, change out spares & tools clauses accepted	0.25	0.25	0	0.25	0.25	0.25	0.25	0.25	
5.34 Insurance clauses accepted	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.35 Breach & termination clauses accepted	0	0.25	0	0.25	0.25	0.25	0.25	0.25	
5.36 Limitation of liability clauses accepted	0	0.25	0	0	0.25	0.25	0.25	0	
5.37 Indemnity clauses accepted	0.25	0.25	0	0.25	0.25	0.25	0.25	0	
5.38 Force majeure clauses accepted	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.39 Dispute resolution & confidentiality clauses accepted	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	
5.40	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25	

## Notes

1. Tenderers are evaluated based on their initial response to the tender
2. If there was clarification sent to the tenderer to request any of the above, the tenderer would have failed to comply first time then they are rated zero.
3. The intention of this evaluation is to credit those tenderers who give TFR a chance for smooth evaluation by proving adequate, complete information right the first time

## Annexure A (continued)

## Detailed Scoring Criteria and Allocated Points

## Financial Stability:

FINANCIAL EVALUATION CRITERIA									
WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	RIDER						
			1	2	3	4	5	6	7

## 7.1 Total Liabilities/(Total Equity+Total Liabilities)

## Scoring Ratio

		ultimate	ultimate	immediate	ultimate	ultimate	ultimate	ultimate
<20%	5							
21% to 30%	4							
31% to 40%	3							
41% to 50%	2							
>70%	0							
Score:		0	1	0	0	0	1	0

## 7.2 Capacity

## Current Assets vs Current Liabilities

≥1	5							
2:1	4							
2:1	3							
1:1	1							
<1:1	0							
Score:		1	1	0	1	1	0	1

## 7.3 NPAT/Revenue

## Profitability

## Net profit to turnover

>10%	5							
7 - 8.99%	4							
5% - 6.99%	3							
3 - 4.99%	1							
<1%	0							
Score:		2	5	2	1	3	2	1

## 7.4 Credit ratings of the bidder (Banker issuing guarantee)

B rating	4							
C rating	3							
D rating	2							
E rating	1							
F rating	0							
Score:		5	5	5	5	5	5	5



**Annexure A (continued)**

### Detailed Scoring Criteria and Allocated Points

### Financial Stability:

### 7.5 NPAT/Total Equity ROE

Greater than 40%	8										
Between 30% & 39.99%	4										
Between 20% & 29.99%	3										
Between 5% & 9.99%	1										
Less than 5%	-6										
Score:		.6	3	3	3	2					

**7.6 EDIT/Total Antibody**  
**EDA**

Greater than 20%	5								
Between 15% & 19.99%	4								
Between 10% & 14.99%	3								
Between 5% & 9.99%	2								
Less than 5%	0					4%			
Score:		1	2	1	1	3	1		

#### 7.7 EBIT/Net Finance Charges

> 8 Times	5
> 4 Times	4
> 3 Times	3
> 1 Times	1
0	0
Score:	

**7.8 CASH FLOW**  
Cash generated by operations

Minimum R 600m cash generated from Operations	5	11 002 073 080	2 000 000 000	12 002 073 080	14 000 000 000	2 000 000 000	16 000 000 000
Minimum R 400m cash generated from Operations	4						
Minimum R 200m cash generated from Operations	3						
Minimum R 100m cash generated from Operations	2						
Minimum R 50m cash generated from Operations	1						
< R 50m as compared to the best bidder	0						
Score:		6	5	6	3	5	5
Total score		24.00	24.00	20.00	18.00	23.00	19.00
Final Score		3.00	3.00	2.50	2.25	2.88	2.38

Final score would be determined by following formula: (total score/40)\*5

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## ANNEXURE B

The table below indicates the items that were added or deducted to the base price as submitted by the bidders in order to normalise the price of the locomotive for evaluation purposes.

System Item	Bidder 1	Bidder 2	Bidder 3	Bidder 4	Bidder 5	Comments
Provisional to Ground Communication System						No adjustment, as it is included in the base price for all locomotives and locomotive 1 is not a base item.
Provisional for Maintenance Personnel						No adjustment, as it is included in the base price for all locomotives.
WEP Hardware and Software					91 878	All locomotives included this item in their base price except for locomotive 1, therefore add to the base price of locomotive 1.
Hardware Access to Control System			2 747			All locomotives included this item in their base price except for locomotive 1, therefore add to the base price of locomotive 1.
Emergency Management System	302 308		325 085		427 318	Only locomotive 1 and 5 included this item in their base price. Therefore add to the base price of 1, 3 and 5.
Accessories of Software Algorithms and High level						All locomotives included this item in their base price except for locomotive 1, therefore add to the base price of locomotive 1.
Redundant Control (Vehicle) Control Unit	17 182		221 143		185 019	All locomotives included this item in their base price except for locomotive 1, therefore add to the base price of locomotive 1.
Supply of 3 Drive Display Units			85 786			All locomotives included this item in their base price except for locomotive 1, therefore add to the base price of locomotive 1.
Installation of ECR/WEP and cabling						As per discussion with the locomotive team (Pratik Herry), the provisioning of ECR/WEP was a mandatory requirement per the specifications and all locomotives have included in the base price. However, bidder 1 has not included this item in their base price. It was concluded that all locomotives had included this item in their base price and no adjustment is required for locomotive 1. With regard to the ECR/WEP, the bidder 1 has not included this item in their base price. It was concluded that all locomotives had included this item in their base price and no adjustment is required for locomotive 1. With regard to the ECR/WEP, the bidder 1 has not included this item in their base price. It was concluded that all locomotives had included this item in their base price and no adjustment is required for locomotive 1.
Installation of ROP and cabling						As per discussion with the locomotive team (Pratik Herry), the provisioning of ROP/WEP was a mandatory requirement per the specifications and all locomotives have included in the base price. However, bidder 1 has not included this item in their base price. It was concluded that all locomotives had included this item in their base price and no adjustment is required for locomotive 1. With regard to the ROP/WEP, the bidder 1 has not included this item in their base price. It was concluded that all locomotives had included this item in their base price and no adjustment is required for locomotive 1.
Installation of a combination of ROP/WEP and cabling						As per discussion with the locomotive team (Pratik Herry), the provisioning of ROP/WEP was a mandatory requirement per the specifications and all locomotives have included in the base price. However, bidder 1 has not included this item in their base price. It was concluded that all locomotives had included this item in their base price and no adjustment is required for locomotive 1. With regard to the ROP/WEP, the bidder 1 has not included this item in their base price. It was concluded that all locomotives had included this item in their base price and no adjustment is required for locomotive 1.
Fire detection system			20 243			All locomotives included this item in their base price except for locomotive 1, therefore add to the base price of locomotive 1.
Supply of the POCV to the locomotive	121 850		114 722			All locomotives included this item in their base price except for locomotive 1 and 5, therefore add to the base price of locomotive 1 and 5.
Shut-Down			23 750		15 800	All locomotives included this item in their base price except for locomotive 1 and 5, therefore add to the base price of locomotive 1 and 5.
Wheel and tread brake system			53 033		91 878	All locomotives included this item in their base price except for locomotive 1 and 5, therefore add to the base price of locomotive 1 and 5.
Transformer Short circuit test	2 051				2 080	All locomotives included this item in their base price except for locomotive 1, 3 and 5, therefore add to the base price of locomotive 1, 3 and 5.
Transformer Cage			157 864			All locomotives included this item in their base price except for locomotive 1, 3 and 5, therefore add to the base price of locomotive 1, 3 and 5.
Admission requirements			62 425			All locomotives included this item in their base price except for locomotive 1, therefore add to the base price of locomotive 1.
Wheels			-118 447			Locomotive 1 has a wheel requirement which is different from the other locomotives. Therefore add to the base price of locomotive 1.
Roll Equipment Design			102 184			All locomotives included this item in their base price except for locomotive 1, therefore add to the base price of locomotive 1.
MU Rectifiers with Olval Inverter	85 185		194 593			All locomotives included this item in their base price except for locomotive 1 and 5, therefore add to the base price of locomotive 1 and 5.
Additional tests on traction motors	5 130					All locomotives included this item in their base price except for locomotive 1, therefore add to the base price of locomotive 1.
Full Transformer Basic Insulation Level			53 411		364 137	All locomotives included this item in their base price except for locomotive 1, therefore add to the base price of locomotive 1.
Carrier Design			278			All locomotives included this item in their base price except for locomotive 1, therefore add to the base price of locomotive 1.
Equipment cost of WEP/ECR combination and ROP in a ratio of 340:255 over the fleet of 899 locomotives	742 948	1 362 187	1 048 637	1 012 258	1 310 344	As per the technical team, this option will probably be required. On the 2nd Dec 2013, JD provided the split which we used to calculate the unit price per loco for this option.
Total adjustment to base price	1 280 081	1 362 187	1 048 637	1 012 258	1 310 344	
Base Price						
Cost of WEP/ECR equipment	305 050	550 600	746 200	690 010	593 990	
Cost of ROP equipment	552 980	939 000	1 483 898	621 167	573 750	
Cost of WEP/ECR and ROP combination	857 700	1 500 000	2 149 370	1 310 177	1 167 740	
Equipment cost of WEP/ECR and ROP combination and ROP only in a ratio of 340:255 over the fleet of 899 locomotives	742 948	1 362 187	1 048 637	1 012 258	1 310 344	

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### Annexure C

The table below indicates the standard delivery schedule used for the payment terms evaluation.

	2011	2012	2013	2014	2015
April	5	10	10	10	12
May	5	10	10	10	12
June	5	11	11	11	12
July	5	11	11	11	12
August	5	11	11	11	12
September	5	11	11	11	12
October	5	11	11	11	12
November	6	11	11	11	12
December	6	11	11	11	12
January	6	11	11	11	12
February	6	11	11	11	12
March	6	11	11	11	12
Total locos delivered per year	65	130	130	130	144
Cumulative total locos delivered	65	195	325	455	599

## Annexure D

### Summary and analysis of payment terms results

#### Deposit amount

The RFP and the clarity responses to the RFP stipulated the deposit amount to be R 300 m for batch 1 (65 locomotives).

Bidder 5 indicated based on their clarity response received that the R 300m upfront deposit is applicable for the full fleet of 599 locomotives.

Bidder 1 did not specify the R 300 m deposit amount as an initial upfront payment and provided deposit percentages according to their own requirements (refer to payment terms summary).

The other 3 bidders indicated that the R 300 m deposit upfront is applicable for batch 1 only (which is what was required based on the RFP and the clarity responses to the RFP).

The upfront deposit percentage (1.62%) is applicable for all bidders except Bidder 1 and is computed based on the R 300 m deposit divided by the contract price (standard price).

At face value it would appear that the impact on NPV would be the same for all bidders who stipulated the 'R 300 m deposit amount', however the allocation of the upfront deposit for the full fleet of 599 locomotives as opposed to the first batch of 65 locomotives changes the cash flow configuration when the locomotives are accepted.

Where the R 300m paid is spread over the entire fleet the amount payable for each acceptance of locomotives will be equal over the full fleet. Whereas, if the R 300m paid is spread over the first batch, the remaining amount payable for each acceptance of locomotives will be significantly lower for year 1, thereby impacting positively on the NPV.

Deposit amount Batch1 v Fleet Deposit per loco:

Batch	Deposit amount	No of locomotives	Deposit amount per loco
First	R 300 000 000	65	R 4 615 385
Full fleet	R 300 000 000	599	R 500 835
Difference			R 4 114 550

Difference in cash flow for loco acceptance in year 1

R 267 445 742.90

Therefore TFR would pay this additional portion above in year 1 with the resulting effect equalising over the period of 599 delivery.

The differential is therefore a discounting impact for year 1 (higher NPV for TFR) compared to the payment of the differential over the 599 period.

Accordingly although bidder 5 and bidder 7 have the same percentage payment terms bidder 5 would have a higher NPV due to the impact of the deposit of R 300m being relevant for the entire fleet compared to bidder 7 whose R 300m deposit is payable for batch 1 only.

Bidder 1 and Bidder 3 have the highest NPV's which is reflective of their payment terms. These bidders have requested significantly high deposit amounts (Bidder 1 -24% and Bidder 3 -24.62%).

Based on the scoring criteria set these bidders are significantly penalised (Bidder 1 - 0 points and Bidder 3 - 1 point).

# Annexure E

## Reconciliation of price

The following table provides a reconciliation between the submitted bid prices to the final evaluated prices, highlighting the impact of each change to the final price used for evaluation:

Price per loco as submitted by bidder	30 955 000	34 380 000	39 906 949	31 358 000	29 880 000
Add: Additional items to balance back to annexure F	1 821 465	636 007	1 165 646	688 720	809 401
Special tooling	3 762	31 789	39 997	136 998	37 080
Engineering support					
Capital Spares	491 240	402 918	855 648	538 547	507 558
Consumables	45 302		7 817		
Spares holding	27 405	198 300	253 334	8 150	264 762
Setup cost			8 799	15 025	
Insurance			51		
Rounding					
Forex Hedging	1 253 756				1
Price per loco submitted as per annex F (capital acquisition cost)	32 776 465	35 016 007	41 072 595	32 056 720	30 689 399
Adjustments to normalise:					
Deduct Schedule B capital spares	-16 360	-122 648	-19 114	-	-23 996
Deduct Forex hedging	-1 253 756				
Sub Total 1 (Price excluding impact of hedging and escalations)	31 506 349	34 893 359	41 053 481	32 056 720	30 665 403
Add Options	1 266 001	1 262 187	3 165 748	1 303 041	2 122 546
Sub Total 2 (Price with Options Included)	32 772 350	36 155 546	44 219 229	33 359 761	32 787 949
Impact of Re-basing (foreign exchange movements)	1 966 587	2 040 643	2 082 677	4 731 994	907 051
Sub Total 3 (Total price before TE adjustment)	34 738 937	38 196 188	46 301 906	38 091 755	33 695 000
Impact of not using TE as the main sub-contractor	-1 905 514	-3 480 000			
Price used for evaluation	32 833 423	34 716 188	46 301 906	38 091 755	33 695 000



## ANNEXURE FC 84



10 December 2013

Mr Thamsanqa Jiyane

General Manager (CPO - TFR)

Locomotive tender evaluation for the supply of 465 new diesel locomotives for the General Freight Business

## Report of the Cross Functional Evaluation Team (Finance)

### Purpose of Report

The purpose of this report is to detail the finance team's objectives, scope, assumptions, risks and findings from the stage 6 evaluation for the 465 Diesel Locomotive tender.

Our understanding is that the contents of this report will be used as a basis for communication to the 1064 locomotive steering committee and the TFR Chief Executive.

### Objective

The objective of the stage 6 evaluation was to determine the scoring that each bidder would obtain based upon the approved evaluation criteria for this stage.

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## Background

Transnet issued an RFP for the acquisition of 465 diesel locomotives as was outlined in the locomotive deployment plan to ensure that TFR would be in a position to provide the required capacity in support of the MDS. TFR also has a need to modernise and upgrade its current fleet of diesel locomotives as part of the fleet is in need of replacement. As a result of the above, TFR has a requirement to procure new locomotives in the short, medium and long term.

The aim of the RFP was to elicit bids from locomotive suppliers for the proposal to supply diesel locomotives (the Locomotives) in such a way so as to contribute sufficient tractive effort to support TFR's growing General Freight traffic projections in the most cost effective manner.

A Cross Function Evaluation Team (Finance) "(CFET (Finance))" was requested to assist in the evaluation of the financial and related elements of the tender submissions. Predetermined criteria, scoring and associated weightings (which were approved by the relevant authority – Transnet Board) was provided to the members of the finance team as the basis for the stage 6 financial evaluation.

## Finance team

The following finance personnel were appointed by the TFR Chief Executive as the CFET (Finance) and were involved in the evaluation:

Yousuf Laher – Executive Manager, TFR Finance

Danie Smit – Deputy Treasurer Middle Office - Transnet Group Treasury

Zunaid Vally – Executive Manager, TFR Finance

Thabo Seapl – Senior Manager, TFR Finance

Mohammed Moola – Senior Manager, TFR Finance

Tsiletsi Tialetsi – Debt Manager, Transnet Group Treasury

### **Briefing session and bidders included in stage 6**

The Supply Chain Services (TFR) ("SCS") team in the presence of Transnet Internal Audit ("TIA") briefed certain members of the team on the first day of the evaluation. The following aspects were mentioned to the CFET (Finance) in this briefing:

- The technical team required the base price to be normalised based on various options that were requested to be included as part of the locomotive technical specification;
- All four bidders have made it to stage 6 and as such they all have to be evaluated as part of this stage of the evaluation;

### **Bidder files, Laptop computers and CD's made available**

SCS ensured that all relevant bidder files were made available to the CFET (Finance) each day. Only the relevant files were made available to the CFET (Finance).

These files remained in the control of SCS for the duration of the tender evaluation. At no point during the evaluation period were any files, documents or notes removed from the boardrooms where the evaluations were being performed. All notes, documents or spread sheets generated by the CFET (Finance) during evaluation sessions remained in the boardroom where the evaluation was conducted.

Certain technical files which contained financial information relative to the option pricing were reviewed for further information and clarity on the pricing evaluation. The reason for reviewing the technical files was as a result of bidders providing the detailed explanations and submissions for certain aspects of the price in the technical files. These files were again only reviewed in the presence of the SCS and TIA personnel.

SCS provided laptop computers with which to conduct the evaluation. All workings were conducted on these laptop computers. These laptop computers were never removed by the finance team from the boardrooms where the evaluation took place. These laptop computers remained in the possession of SCS when not in use by the finance team. CD's returned by bidders with the relevant financial information required for the evaluation was loaded onto some of these laptop computers. These laptop computers were used in the presence of the SCS and TIA personnel.

All backups of files on these laptops were kept by SCS on hard disks in a safe location.

### Declarations of Interest /conflicts

All CFET (Finance) members completed and signed their declarations of interest as required by SCS before the commencement of the evaluations on a regular basis. No CFET (Finance) member declared any interest in the bidders or declared any conflict of interest throughout the evaluation period.

### Scope

The scope of our review was limited to evaluating the following in terms of stage 6 of the RFP and the approved evaluation criteria for this stage. As advised by SCS, the percentages and criteria listed below are the predetermined criteria as specified by the Transnet Board.

	WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT
		100.00%	60.00%
1	Price	30.00%	18.00%
2	Total Cost Of Ownership (TCO)	20.00%	12.00%
3	Delivery Schedule (DS)	25.00%	15.00%
4	Payment Terms (PT)	10.00%	6.00%
5	RFP & Contractual Compliance (CC)	10.00%	6.00%
6	Financial Stability (FS)	5.00%	3.00%

There were no changes to the predetermined criteria apart from the following which requires approval of the Steering Committee and the Transnet Board:

- The "Price" evaluation criteria required hedging costs and escalations to be included. This was changed to evaluate on the basis of price excluding hedging costs and escalations (refer to the detailed explanations in the report below).

The detailed scoring criteria and scoring results are included as part of Annexure A.

With regard to the pricing of options we were provided a list of options from CFET (Technical) for the purpose of including these items into the base price. Our scope was limited to including the prices as provided by the bidders for these technical options into the base price. We did not have access to technical files to verify that the responded technical scope included these options or not.

### Technical team involvement

At certain stages during the evaluation the CFET (Finance) requested, through SCS, assistance from the technical team around aspects of:

1. The request to "normalise" the base price;
2. Conducting an evaluation of the energy models submitted as part of the TCO evaluation;
3. Reviewing the scheduled and unscheduled maintenance elements of the TCO model for reasonability.

Details of this assistance are summarised below:

#### 1. Request to normalise the base price

As part of the request to normalise the base price, a schedule was provided to the CFET (Finance) of items that the CFET (Technical) advised were required. In these instances, the CFET (Finance) were advised:

- that certain bidders had provided these items as "options" in their submissions and;
- Other bidders had indicated availability of the "options", however, the CFET (Technical) were not clear as to whether these items were appropriately costed, quoted and included in the price.

The schedule submitted gave indications of what the CFET (Technical) expected to be done by the CFET (Finance). The detailed schedule is included as "Annexure B" of this report. In summary the following process was followed:

- Adjust the price of the relevant bidders where bidders were not consistent in including the cost of the item in their base price;
- Obtain pricing, for those "items" included in the schedule, from bidders who had not submitted quotes and
- Effectively the CFET (Finance) were required to "normalise" the base price submissions for appropriate comparison between the bidders for those options that the CFET (Technical) believed must be included in the price.

Two members of the technical team (Chris Uys and Elvis Tshivilinge) were made available to discuss and clarify the base price "normalisation" issues. These discussions took place in the presence of SCS and TIA.

Subsequent to the initial phase of the evaluation, clarity questions were submitted to the bidders regarding the requirements of the detailed schedule (Annexure B) from the CFET (Technical).



The CFET (Finance) used the responses received from bidders on clarification questions to conclude on the final 'Normalised Base Price'.

## 2. Evaluation of energy models

Five members of the technical team (Devendran Govender, Winfried Mors, Trevor Downing, Justice Ngwenyama and Chris Uys) were made available to conduct the energy model evaluation. The energy model was designed by CFET (Technical) and was fully evaluated by CFET (Technical) without the involvement of CFET (Finance). CFET (Finance) incorporated the results of the energy model evaluation into the stage 6 TCO model financial evaluation.

## 3. Review of the scheduled and unscheduled maintenance regimes within the TCO models as submitted by bidders

The CFET (Finance) found numerous inconsistencies in the manner in which bidders chose to complete the scheduled and unscheduled maintenance portions of the TCO model. The CFET (Finance) recommended that the CFET (Technical) review the models for reasonability with the purpose of allowing the CFET (Technical) to guide the CFET (Finance) in making decisions to score the TCO models submitted as well as to guide the CFET (Finance) in their deliberations as to whether the models submitted would actually meet the requirements to be scored fairly amongst bidders.

Four members of the technical team (Devendran Govender, Frikkie Harris, Eugene Russouw, Chris Uys) were made available to conduct a review of the scheduled and unscheduled maintenance regimes as supplied by bidders for reasonability.

## **Transnet Internal Audit involvement**

TIA was present at evaluations sessions as requested by SCS to ensure good corporate governance. KPMG, Sekela Xabiso and Nkonki Incorporated are the outsourced service provider of the Internal Audit function for Transnet.

We noted during our evaluation that KPMG were the auditors of two of the bidders.

This matter was reported to the SCS representatives present. We were advised that the process of evaluation must continue with TIA continuing to perform the oversight role for good governance.

### Methodology of scoring

Scoring of points was completed using the set predetermined criteria and weightings for each section of the financial evaluation.

The process for scoring, checking and evaluating the short-listed bidders was done jointly by all members of the CFET (Finance) in the presence of SCS and TIA. All results submitted were based on consensus agreement amongst all the CFET (Finance). Yousuf Laher was a key person in the development of the evaluation model and RFP requirements, in conjunction with SCS. He outlined to all members of the CFET (Finance) the processes, procedures and methodology of scoring.

### Meetings held

During the course of the evaluation, all meetings were held in the presence of SCS and TIA. These included meetings with the following parties:

- Technical (the purpose of these was to clarify issues that pertained to the technical options that required normalisation of the base price, to brief the technical team in preparation of their review of the TCO model and to receive input from the technical team around the energy model);
- Legal (the purpose of these was to advise and assist the legal representative during the contractual compliance evaluation);
- Meetings with CPO (the purpose of these meetings was mainly to provide the CPO with an update on the progress of the financial evaluation process and to obtain guidance on certain matters that required interpretation or clarification related to the RFP or others sections (Technical/SD of the evaluation).

## Results of scoring

### 1. Price

The result of the "Price" evaluation is reflected below:

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	RANKING

#### Price Evaluation Criteria (Escalations and hedging costs)

- The Board approved evaluation criteria supplied to the CFET (Finance) indicated that the price evaluation must be done on the basis of the price including foreign exchange hedging costs and escalations;
- The CFET (Finance) was unable to evaluate on the basis of a fixed price including escalations and hedging costs (refer explanations in the sections below);
- The price evaluation was therefore done based on the price excluding hedging and escalation costs for all bidders. The risk impact of this is outlined in the "Overall Risks" section of this report;

#### Escalations

- The RFP requested bidders to submit a price in line with the following options:
  - Fixed pricing;
  - Escalation based pricing;
  - Indexation formula's used in pricing calculations;

Most bidders chose the option of providing prices based on either escalation or indexation based pricing. Most of the bidders did not offer a fixed price as was required by the Board approved evaluation criteria in order to conduct the evaluation;

- It was noted that bidders provided various differing escalation regimes that were not comparable to normalise a 'Base' price over the period of the locomotive supply contract;
- Some bidders were not willing to provide fixed pricing (including escalation) over the delivery period due to the risks involved for them in this type of a pricing mechanism;

### Hedging Costs

- The wording of the RFP with regard to foreign exchange hedging costs was subject to interpretation in that bidders were recommended (but not required) to provide a price including hedging costs;
- The RFP stipulated that TFR would prefer a Rand based contract and that the bidders must submit the cost of hedging and a hedging strategy. Although some bidders did provide the cost of hedging, they stated clearly that appropriate hedging strategies will be discussed and agreed upon at the contract award stage. In addition as part of their RFP response some bidders provided the cost of hedging whereas other bidders did not submit the cost of hedging;
- Through a process of clarification and in order to ensure that hedging costs were excluded from their 'Base' price, all bidders were requested to confirm whether their 'Base' prices quoted excluded foreign exchange hedging costs and if these were included to then provide the quantum thereof. Bidders were also requested to provide us with an estimated cost of hedging whether included in the Base price or not;
- As the cost of hedging will most likely change due to exchange rates fluctuating between evaluation and final contract signature date, and because the cost of hedging will in any case be base-lined, checked for reasonability by Transnet Treasury, and agreed to on the date of contract signature, it would be more appropriate to exclude the cost of hedging from the evaluation at this point;
- Post these clarifications we noted that one bidder (bidder 1) did not provide TFR with the estimated cost of hedging;
- An important point to note is that none of the bidders indicated that they were unwilling to enter into a foreign exchange hedging arrangement with TFR at the time of contract signature;

### Final agreed evaluation methodology (escalation & hedging costs)

- In order to proceed with the price evaluation on a consistent and fair basis, the CFET (Finance) agreed, after consultation with SCS, that it would be more appropriate to exclude escalations and hedging costs from the price evaluation and thereby attain a more normalised price for evaluation purposes. This was agreed to with SCS on the proviso that this change to the evaluation methodology be brought to the attention of the Steering Committee and Transnet Board for approval prior to the award of the contract;

#### Normalising the "Base" Price for evaluation

##### Technical Options

- The 'Base' price, as submitted by all bidders was normalised for the "technical option" items as requested by the technical evaluation team. Refer "Annexure B" which contains a list of all option items that were normalised;
- The provisioning of ECP/WDP and RDP was a mandatory requirement per the technical specifications. Based on our discussions with CFET (Technical), all bidders have confirmed, in the technical response that they fully complied with this requirement. It was therefore concluded that all bidders had included the cost of provisioning in their base price and no adjustment to this item was required for evaluation purposes.
- The cost of either ECP/WDP or RDP was included in the base price, as the CFET (Technical) have advised that it is probable that this option would be exercised. We were advised by the GM Logistics Integrator (Pragasen Pillay) as to the number of ECP/WDP, RDP or ECP/WDP/RDP combination that must be applied over the fleet. (refer Annexure B for allocation and associated cost of this split);
- All bidders included the provisioning of ECP/WDP or RDP into in their price; however only bidder 2 included the equipment cost in their base price. Based on the advice from CFET (Technical) we therefore included the equipment cost of ECP/WDP and RDP for all other bidders onto their base price for the purpose of normalising the base price;

##### Rebasing the price for foreign exchange differences

- The RFP did not indicate the date that bidders should use to convert foreign exchange as part of the imported content of their price. As such bidders made their own assumptions and each used a rate and date of their choice. The result of this is that a comparison of base prices with different dates and rates would be inconsistent. In order to normalise the price for changes due to foreign exchange differences and movements since RFP closing date, the CFET (Finance) normalised the prices based on exchange rates as at 11<sup>th</sup> November 2013 (USD/ZAR 10.37, EUR/ZAR 13.91). As a consequence bidders were requested in a clarity question to confirm their foreign currency components included in their 'Base' price. These foreign currency components were converted at spot rates on the 11<sup>th</sup> of November 2013 for the purpose of comparing prices between bidders;



Using TE as a main subcontractor

- The RFP part 2 dictates as follows "participation of TRE in this locomotive procurement process will be prescribed". In terms of the evaluation governance process CFET (Finance) does not have access to 'Supplier Development' files. As such CFET (Finance) assumed that all bidders have provided pricing based on the utilisation of TE as the main subcontractor;
- SCS however advised CFET (Finance) that the Supplier Development files submitted by bidders indicated that Bidder 1 did not specify the use of TE as the main subcontractor and that this could have a potential price adjustment implication. SCS also mentioned that bidders were likely to make different assumptions in the use of TE as a main subcontractor including the percentage that would be subcontracted. These assumptions which were not specified by TFR in the RFP process could differ significantly between bidders. Accordingly SCS subsequently decided to obtain clarity from bidders on this matter;
- SCS in conjunction with the TFR CE and Transnet GCE and GCFO decided that clarity should only be obtained from those bidders who included TE as a main subcontractor. The clarity request was to establish what proportion of the bidder's price related to the use of TE;
- Accordingly the methodology provided to the CFET (Finance) was that all bidders should be evaluated excluding the use of TE as a main subcontractor in order to normalise the base on which to evaluate price;
- Based on this decision clarity responses were only issued to Bidder 2 and Bidder 4 (those bidders who indicated the use of TE as a subcontractor);
- Bidder 3 had already provided pricing with and without the use of TE as a subcontractor and indicated that the impact of not using TE as a subcontractor would be a decrease in price of R 1 640 000 per locomotive;
- Clarity responses were received from these bidders who indicated the impact on price and the new bid price for 465 locomotives if TE was not used as subcontractor. The summary of these responses is as follows:
  - Bidder 4 provided the required information as requested and indicated that the impact of not using TE as a subcontractor would be a decrease in price of R 1 046 060;
  - Bidder 2 provided the required information, however we noted that their new submitted bid price excluding TE as a subcontractor did not reconcile to their original bid price. This posed a risk to the evaluation of the price and the CFET (Finance) subsequently consulted with SCS to explain the



concern as the impact of this difference was significant in relation to the final scoring on price;

- o It was subsequently decided by SCS that further clarity from Bidder 2 was required to understand this difference. SCS together with a representative of the finance team and in the presence of TIA engaged Bidder 2 telephonically on the evening of the 4 December 2013 to discuss this unreconciled difference;
- o Bidder 2 indicated that the difference related to them providing a price based on the quote provided for fixed pricing as per the 1<sup>st</sup> clarification process instead of the price per their original tender submission. Subsequent to this telephonic conversation Bidder 2 submitted a revised clarity and the subsequent submission from them indicated that the impact of not using TE as a subcontractor would be a decrease in price of R 1 530 190;
- o The CFET (Finance) subsequently completed the evaluation on this basis;
- In summary the impact of excluding TE from the normalised base price is as follows:

Bidder 1	Bidder 2	Bidder 3	Bidder 4
n/a	-1 530 190	-1 640 000	-1 048 080

- The normalised pricing used for evaluation purposes of all bidders (capital acquisition cost) excluding TE as the main subcontractor i.e. using private sector as the main subcontractor is summarised as per the table below;

Bidder 1	Bidder 2	Bidder 3	Bidder 4
44 232 853	33 254 876	42 761 272	27 493 481

#### Assumptions used for pricing

Other than as noted above the following additional assumptions were used by the CFET (Finance) in the price evaluation:

- Where the Import content percentage was not supplied by bidders as part of their pricing proposal and or clarification then the local content declaration form as supplied by bidders was used to obtain the imported content;
- The RFP requested break point pricing for batches of locomotives. As the TFR requirement is for 465 locomotives, the CFET (Finance) used the pricing provided by bidders for 465 locomotives to conduct the evaluation;

- Bidder 3 quoted for a price including and excluding utilising TE as the main build subcontractor. A reduced price of R 1 640 000 per locomotive was offered with private sector build instead of TE, coupled with limitations to localisation. The reduced price was taken into account for evaluation purposes as the evaluation was done on the basis of bidders using the private sector as the main subcontractor for the build;
- The price of a standard list of capital spares and spare parts was requested as part of the RFP, to be included in the acquisition cost of the locomotive. Where bidders added additional items to this list of capital spares and spare parts then these items were excluded for evaluation purposes in order to ensure that the bidders were evaluated on the standard list thereby ensuring the evaluation was performed on an "like for like" basis. In instances where a bidder did not provide a price for a capital spare or spare part as per the standard list, then an average price of the remaining bidders was used to ensure that a realistic comparison was achieved;
- The Bonus points for Value Added services were not assessed. The main factor for this decision is that this item was not clearly defined in the RFP and the technical team had no view of the requirement of "value add" aspects and the technical team was not allowed to have access to the financial files. Therefore the finance team could not assess value added services;

## 2. Total Cost of Ownership (TCO)

### TCO evaluation criteria

The evaluation of TCO is conducted based on the following five elements (a maximum of 20 points in total excluding the bonus point allocation):

- i. scheduled maintenance (8 points);
- ii. lost revenue (4 points);
- iii. unscheduled maintenance (4 points);
- iv. energy utilisation (4 points);
- v. overall TCO result bonus points (2 points);

Points are allocated individually for each of the five elements above.

- Whilst reviewing the submissions received from bidders on the TCO model, we noticed that the results of the scheduled and unscheduled maintenance varied considerably. The CFET (Finance) was unable to ascertain whether these varied results were as a result of bidders' interpretations of the TCO model or as a result of the different maintenance regimes of their respective locomotives. The result of this is that the evaluation of the scheduled and unscheduled maintenance could be subjective. The items that contribute to the subjectivity are as follows:
  - i. bidders used different labour rates;
  - ii. bidders used different prices for similar components;
  - iii. bidders assumed different types of maintenance regimes and;
  - iv. bidders assumed different failure rates for unscheduled maintenance;
- Through discussions with CFET (Technical), we were however advised that the above could be normalised by CFET (Technical), if required;
- The matter was discussed together with SCS and CFET (Technical) and it was decided that due to the subjectivity of this item, and because we did not want to make assumptions to change bidders submissions, different scenarios including and excluding scheduled and unscheduled maintenance should be prepared to provide the Steering Committee with appropriate information to make a final decision;
- As per confirmation from CFET (Technical) all bidders confirmed as part of their technical submission, that they would meet the required reliability regime i.e. that the locomotives offered would achieve less than 15 faults per million kilometres. This contributes to reducing the risk of an unreliable locomotive and as such provide some comfort should the unscheduled maintenance be excluded from the TCO evaluation. The draft supply agreement includes a penalty regime whereby should the stated minimum reliability regime (15 faults per

million kilometres) not be reached then the penalty clauses would come into effect;

The results of the "TCO" evaluation scenarios are reflected below:

**Scenario 1 - all elements of TCO included:**

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER			
			1	2	3	4

**Scenario 2 - (TCO) excluding unscheduled maintenance and excluding bonus point allocation**

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER			
			1	2	3	4

**Scenario 3 - (TCO) excluding unscheduled and excluding scheduled maintenance and excluding bonus point allocation**

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER			
			1	2	3	4

Assumptions used for TCO model evaluation

- The TCO model as submitted by all bidders was used as the basis for the evaluation;
- Escalation was normalised for all bidders for purposes of appropriate comparison. CPI + 2 % was used as escalation for all bidders. CPI was obtained from the current year's budget guidelines;
- The WACC rate was obtained from the latest Group Financial Planning Policy issued on the 1<sup>st</sup> of August 2012, and was used for the present value calculations;
- The submissions by bidders in respect of failure rates, maintenance strategies, optional components requiring unscheduled replacement and the timing of maintenance interventions varied significantly, however, as a finance team we assumed that these submissions are relative to their locomotive/product type as well as their maintenance regime and strategies. Accordingly we used the TCO models as submitted by bidders to conduct the evaluation;
- For the purposes of evaluating lost revenue as part of the TCO evaluation we assumed that TFR's expected delivery schedule would be an equal number of locomotives per month, as per the delivery batches stipulated within the relevant years within the RFP (see delivery schedule notes below). The current average TFR leasing rates per day was used to determine the lost revenue value for all bidders. The lease revenue rate per day used for all bidders was R 18 707 per locomotive;
- The energy model was designed by CFET (Technical) and was fully evaluated by CFET (Technical) without the involvement of CFET (Finance). CFET (Finance) incorporated the results of the energy model evaluation into the stage 6 evaluation of TCO;
- Some bidders included extra optional components for unscheduled maintenance which other bidders have not included in their TCO model. We have not removed this from the TCO model as suppliers would know the unscheduled maintenance costs of their loco's best.

### 3. Delivery schedule

The result of the "Delivery" evaluation is reflected below:

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER			
			1	2	3	4

#### Assumptions used for delivery schedule evaluation

- The effective date of contract signature was normalised to 1 September 2013 for all bidders in order to ensure consistent scoring;
- The RFP closing date was extended by about 7 months from 16 October 2012 to 30 April 2013. As such, for the purpose of evaluation, the expected start date for delivery (previously March 2014) was aligned accordingly and was moved forward by 7 months for all bidders (October 2014);
- Where bidders provided an accelerated delivery schedule whereby they would deliver earlier than indicated in the RFP, and would complete delivery of all 465 locomotives earlier than expected in the RFP, then these bidders were allocated the full points applicable for delivery for each subsequent year (where points were allocated) after their delivery is fully completed;
- TFR would conduct acceptance tests prior to accepting locomotives. The length of time taken to conduct acceptance testing is completely under the control of TFR. Bidders were not advised how long this acceptance testing would take within the RFP. As such bidders made their own assumptions regarding the time taken to conduct acceptance testing. In order to ensure consistency, the delivery date as stipulated by bidders was used to conduct the evaluation instead of the acceptance date;
- Some bidders provided an alternative delivery schedule based on more "imported content" This option was not considered in any of the team's evaluations as the preferred position is to maximise local content;



- The delivery schedules of all bidders is summarised as per the table below:

	Oct 14	Oct 15	Oct 16	Oct 17	Oct 18	Beyond	Total
TFR Plan	100	100	100	100	65	0	465
Bidder 1	0	25	98	133	146	62	465
Bidder 2	0	44	107	140	141	33	465
Bidder 3	0	6	82	100	100	177	465
Bidder 4	1	57	165	165	77	0	465

The above delivery schedule assumes a contract effectiveness date of 1 September 2013. The delivery schedule above would move out by an equal number of months from 1 September 2013 to the actual date the contract is signed.

#### 4. Payment terms

The result of the "Payment Terms" evaluation is reflected below:

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER			
			1	2	3	4

#### Assumptions used in payment term evaluation

- The approved evaluation criteria required the evaluation of payment terms on a Net Present Value (NPV) basis. Therefore cash flows needed to be constructed for all bidders using their declared payment terms. NPV cash flows are generally a factor of payment terms, delivery dates, discount rate and a price. As "price" and "delivery" are evaluated separately as part of this stage 6 evaluation, the CFET (Finance) standardised the price per loco (R 30 million) and the delivery schedule (as per the RFP) for all bidders for the "payment terms" portion of the stage 6 evaluation. This would have the effect of isolating the payment terms offered by bidders on the cash flows for evaluation purposes. The primary reason for this is to ensure that bidders who provide higher/lower prices and/or faster/slower delivery schedules are not benefited or penalised twice in the evaluation process;
- The draft supply agreement issued as annexure I of the RFP stipulated a different % preferred payment terms for TFR as compared to the preferred payment terms stipulated in the RFP. After discussion with SCS we were advised that bidders were advised through a clarification that the preferred payment terms of TFR is as stipulated in the RFP. Where payments terms conflicted between the RFP response and the supply agreement response the payment

terms as offered by bidders in response to the RFP was used for the evaluation purposes;

- Where bidders provided a percentage for the deposit payment, we applied that percentage to the standardised price to determine the deposit payment, whereas where bidders provided a fixed Rand amount we utilised that fixed Rand amount as a deposit payment on the standardised price;
- The WACC rate (12.56%) was obtained from the latest Group Financial Planning Policy issued on the 1<sup>st</sup> of August 2012, and was used for the present value calculations;
- We used a standardised retention period of 6 months from acceptance date for all bidders. The reason for this is that some bidders had indicated retention period to be when availability and reliability targets are achieved which could vary and can depend on various factors;
- The payment terms of all bidders is summarised as per the table below:

	Bidder 1	Bidder 2	Bidder 3	Bidder 4
Deposit	1.08%	1.43%	25.00%	10.00%
Acceptance	88.92%	88.57%	75.00%	87.00%
Retention	10.00%	10.00%	0.00%	3.00%

## 5. RFP & Contractual Compliance

The result of the "RFP & Contractual Compliance" evaluation is reflected below:

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER			
			1	2	3	4

- Evaluation of the contractual compliance matters related to the responses to the draft supply agreement by bidders was completely evaluated by Mr Kenneth Diedricks (TFR General Counsel) from the TFR legal department. CFET (Finance) incorporated the results of the contractual compliance evaluation into the stage 6 evaluation of RFP & Contractual Compliance;
- Evaluation of the RFP compliance matters related to the administrative responsiveness to the RFP by bidders was evaluated by Ms Lindiwe Mdietshe from the TFR SCS department. CFET (Finance) incorporated the results of the RFP compliance evaluation into the stage 6 evaluation of RFP & Contractual Compliance;
- References were provided by all bidders and therefore SCS assumed these to be adequate and scored full marks for all bidders. We were advised by SCS that they would contact references provided once a preferred bidder is chosen.

## 6. Financial Stability

The result of the "Financial Stability" evaluation is reflected below:

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER			
			1	2	3	4

- The financial stability of the bidders was assessed as part of stage 2 of the evaluation process. Please refer to the CFET (Finance) report relating to stage 2 issued on 31<sup>st</sup> July 2013. The scoring from stage 2 was carried forward to stage 6 of the evaluation.

## OVERALL RISKS

The following risks must be communicated to the steering committee and considered prior to final contract award:

### Price

#### Hedging and Escalations

- The evaluation and scoring for pricing has been determined and explained above. The CFET (Finance) would like to bring to the attention of the steering committee that as a result of the evaluation of price on the basis of excluding hedging costs and escalation costs, that the following additional aspects be considered prior to awarding the contract. These factors when considered either individually or in combination could have a significant impact on the final negotiated price:

- I. Hedging;
- II. Escalation and;
- III. Break pricing;

A summary of the potential impact of the items above on the evaluated price is summarised below in order to provide the steering committee with a better understanding:

#### Hedging

Note: Bidder 1 did not quote for forex hedging costs

0	100 000	9 926 589	2 798 120
---	---------	-----------	-----------

#### Escalations

Note: Bidder 3 did not quote for escalations

7 868 533	5 145 818	0	5 076 084
-----------	-----------	---	-----------

#### Break Point Pricing

- As the TFR requirement is for 465 locomotives, the CFET (finance) used the pricing provided by bidders for 465 locomotives to conduct the evaluation. Break point pricing was provided by all bidders and the price per locomotive varies dependant on the batch size of the order placed. This must be considered should TFR decide to place an order for a smaller batch as the evaluation was not conducted based on smaller batches. A decision regarding whether smaller batches will be purchased has not yet been made and therefore was unknown at the time of the evaluation. The table below indicates the break point pricing offered by bidders (based on their original tender responses where bidders used the main subcontractor of their choice):

1	42 872 500	41 381 250	40 857 500	40 805 625	40 500 000
2	40 057 313	34 310 215	32 394 515	31 436 665	30 929 353
3	41 072 258	38 108 405	36 880 878	36 490 000	36 490 000
4	30 773 333	29 884 638	28 288 653	28 890 788	28 624 880
Loco's cumulative	100	200	300	400	485
Loco's per year	100	100	100	100	65

#### TE as a subcontractor

- With reference to the section of the report above dealing with TE as the main subcontractor and the impact on price, the following matters need to be considered by the steering committee:
  - Although the price has been normalised to exclude TE for evaluation purposes, the use of TE as a main subcontractor is highly probable as this is a requirement as per the PFMA approval letter from the DPE. As such prices will have to be negotiated with the preferred bidder/s including TE and thus needs to be considered by the steering committee prior to the conclusion of the evaluation process as this could have an impact on the final price;
  - The price that bidders provided based on their choice of sub-contractor is significantly different from the price used for evaluation purposes (where the incremental cost of TE was excluded). This could change the evaluation result and the final price contracted;
  - Bidder 1 has not quoted using TE as the main subcontractor. No clarity was obtained from this bidder as mentioned in the report above. If clarity was obtained from this bidder and they indicated that there is no change to their price whether TE will be used or not then the impact on the evaluation scoring result could be significant;
  - In addition it should be noted that should Bidder 1 become the preferred bidder then there is a risk of a potential price adjustment and possible protracted negotiations. The finance team was unable to reasonably quantify the quantum of this potential price adjustment. It should be further noted that the use of TE as the sub-contractor could be an incremental adjustment to Bidder 1's price based on the differential between using TE as a subcontractor versus the subcontractor costs already included in the price of Bidder 1's submission;
  - The delivery regime that bidders provided was based on their choice of sub-contractor (some with TE and some using private sector subcontractors). This could change should bidders be required to use TE.



as a sub-contractor. A different delivery schedule could have an impact on the evaluation result and the final delivery schedule contracted;

#### Impact of capital and maintenance spares on price

- Standardised quantities of capital spares required were provided to all bidders as part of the RFP. All bidders quoted for these capital spares based on the quantities provided and this has been included in the price of the locomotive used for evaluation purposes. Following discussions with CFET (Technical) we were advised that as failure rates of these capital spares is not yet known, the quantities requested may not be completely accurate at this point and may change once the locomotives are placed into production;
- Quantities of maintenance spares required were provided by bidders as part of the RFP. All bidders quoted for these maintenance spares based on their knowledge of historical failure rates and this has been included in the price of the locomotive used for evaluation purposes. Following discussions with CFET (Technical) we were advised that as failure rates of these spares is not yet known by TFR, the quantities provided may not be completely accurate at this point and may change once the locomotives are placed into production.

#### TCO Model

The maintenance and intervention regimes of the selected preferred bidder must receive significant scrutiny during the negotiation phase. The CFET (Technical) will be required to have a detailed understanding of the related submissions and should conduct the necessary reviews and assessments of the maintenance and intervention regimes of the selected bidder.

We would recommend that a clause be inserted into the supply contract whereby a penalty is imposed upon the supplier for higher actual TCO costs as compared to their tender submission. This penalty clause can be built in on the basis of a periodic review (possibly every 5 years) of the actual energy usage, scheduled and unscheduled maintenance costs of the locomotives as compared to their tender submissions.

#### Delivery

The delivery schedule reflected in this report assumes a contract effectiveness date of 1 September 2013. This delivery schedule would move out by an equal number of months from 1 September 2013 to the actual date the contract is signed.



## MATTERS FOR APPROVAL OF THE STEERING COMMITTEE

The CFET (Finance) requests as part of this evaluation and based on the contents of the report above the:

1. Approval of the price evaluation criteria on the basis of excluding hedging and escalation costs;
2. Approval of all assumptions used for scoring as outlined in this report;
3. Approval of the TCO scenario to be used for final evaluation;
4. Approval of the price methodology provided to the CFET (Finance) for evaluation purposes to exclude the impact of TE on price.

## CONCLUSION

Based on the scoring by the CFET (Finance) using the assumptions mentioned above, the following is a summary of the results of our evaluation:

Scenario 1 - all elements of TCO included

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER			
			1	2	3	4
1 Price	30.00%	18.00%	8.00	8.00	8.00	30.00
2 Total Cost Of Ownership (TCO)	20.00%	12.00%	10.00	8.00	8.00	12.00
3 Delivery Schedule (DS)	25.00%	15.00%	8.00	8.00	4.00	9.00
4 Payment Terms (PT)	10.00%	6.00%	10.00	10.00	8.00	9.00
5 RFP & Contractual Compliance (CC)	10.00%	6.00%	8.75	8.75	7.00	7.50
6 Financial Stability (FS)	5.00%	3.00%	2.50	3.00	3.25	2.50

Scenario 2 - (TCO) excluding unscheduled maintenance and excluding bonus point allocation


WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER			
			1	2	3	4
1 Price	30.00%	18.00%	8.00	8.00	8.00	30.00
2 Total Cost Of Ownership (TCO)	20.00%	12.00%	4.00	8.00	8.00	12.00
3 Delivery Schedule (DS)	25.00%	15.00%	4.00	8.00	4.00	9.00
4 Payment Terms (PT)	10.00%	6.00%	10.00	10.00	8.00	9.00
5 RFP & Contractual Compliance (CC)	10.00%	6.00%	8.75	8.75	7.00	7.50
6 Financial Stability (FS)	5.00%	3.00%	2.50	3.00	3.25	2.50

**Scenario 3 - (TCO) excluding unscheduled and excluding scheduled maintenance and excluding bonus point allocation**

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER			
			1	2	3	4
1 Price	30.00%	18.00%	6.00	6.00	6.00	30.00
2 Total Cost Of Ownership (TCO)	28.00%	12.00%	4.00	6.00	6.00	4.00
3 Delivery Schedule (DS)	20.00%	18.00%	2.00	6.00	4.00	6.00
4 Payment Terms (PT)	10.00%	6.00%	10.00	10.00	6.00	6.00
5 RFP & Contract Compliance (CC)	10.00%	6.00%	8.75	8.75	7.00	7.50
6 Financial Stability (FS)	8.00%	3.00%	2.50	5.00	2.50	2.50

  
 Yousuf Laker  
 Executive Manager, Finance

10/12/13

  
 Danie Smit  
 Deputy Treasurer Middle Office (Group)

2013/12/10

  
 Zinald Vally  
 Executive Manager, Finance


10/12/2013

  
 Thabo Seapi  
 Senior Manager, Finance

10/12/2013

  
 Tsietse Tsietse  
 Debt Manager Group Treasury

10/12/2013

  
 Mohammed Moola  
 Senior Manager, Finance

10/12/2013

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## Annexure A

### Detailed Scoring Criteria and Allocated Points

Price:

WHAT IS BEING MEASURED	WEIGHT	EFFECTIVE WEIGHT	BIDDER			
			1	2	3	4

Lowest Technically Acceptable Capital Acquisition Cost & LTACAC refer TDD noted. Excludes duties or customs, installation, insurance, commission, amount, special loading and test equipment costs, capital source costs, consumables, set up costs, screen costs and spare holding cost. Price includes profit per loco

1.1

Bidder with lowest price & or any bidder within 0.99% of LTACAC  
any bidder within 1% to 1.99% of LTACAC  
any bidder within 2% to 2.99% of LTACAC  
any bidder within 3% to 4.99% of LTACAC  
any bidder within 5% to 7.99% of LTACAC  
any bidder within 8% to 12.99% of LTACAC  
>13% of LTACAC  
% result  
Final score

30  
25  
20  
15  
10  
5  
0

44 232 653 33 254 676 42 761 272 27 493 461

61% 21% 56% 0%

1.2 Value added - 1 extra bonus point

Value Add Services included in LTACAC to the value of > R 200 k per loco eg:  
Free Software & upgrades to software  
Free fitting & replacement of parts  
etc.

1

Note that the maximum points available is 30 including the bonus point

#### Notes:

The Bonus points for Value Added services was not assessed. The main factor for this assumption is that these items are not clearly defined in RFP and the technical team had no view of the requirement of "value add" aspects. Therefore the finance team did not have the relevant expertise to assess value added services.

2 Note: escalations and forex hedging costs were excluded from the price evaluation - refer notes in detailed evaluation sheet.

The Price evaluation has been done on the basis of excluding the cost of using TE as the main subcontractor. Bidders 2 & 4 were requested to quoted as if another private sector subcontractor is used (this was requested via clarification from bidder 2 & 4). SCS only issued the clarifications to those bidders that indicated that they had used TE as the main subcontractor per the SD files. Bidder 3 already quoted a price including and excluding TE 3 per their 1st tender response.

# Annexure A (continued) – Detailed scoring criteria and allocated points - TCO

WHAT IS BEING MEASURED	WEIGHTING OF CRITERIA	POINTS
Lowest Total cost of Ownership (LTCO) - NPV - for preventative/scheduled maintenance only (excluding corrective maintenance, lost revenue & energy)		
Lowest LTCO & any bidder within 0.99% of LTCO	6	13 490 840
any bidder within 1% to 1.99% of LTCO	5	34 370 679
any bidder within 2% to 2.99% of LTCO	4	11 654 600
any bidder within 3% to 7.99% of LTCO	2	7 481 616
any bidder within 8% to 12.99% of LTCO	1	
>13% of LTCO	0	
% Result		
Score		

## 1.1 Lowest Total cost of Ownership (LTCO) - NPV - for preventative/scheduled maintenance only (excluding corrective maintenance, lost revenue & energy)

Lowest LTCO & any bidder within 0.99% of LTCO	6	13 490 840	34 370 679	11 654 600	7 481 616
any bidder within 1% to 1.99% of LTCO	5				
any bidder within 2% to 2.99% of LTCO	4				
any bidder within 3% to 7.99% of LTCO	2				
any bidder within 8% to 12.99% of LTCO	1				
>13% of LTCO	0				
% Result					
Score					

## 1.2 Lost Revenue - Opportunity cost

### Lowest Lost Revenue (LLR) - NPV

Lowest LLR & any bidder within 0.99% of LLR	4	3 127 352 083	2 098 041 404	4 230 600 951	1 741 511 616
any bidder within 1% to 1.99% of LLR	3				
any bidder within 2% to 3.99% of LLR	2				
any bidder within 4% to 12.99% of LLR	1				
>13% of LLR	0				
% Result					
Score					

## 1.3 Corrective/unscheduled maintenance plan

### Lowest technically acceptable corrective maintenance cost of Ownership (LTACMO) - NPV - corrective maintenance (excluding energy and

Lowest LTACMO & within 1.99% of LTACMO	4	2 624 999	3 067 760	35 515 149	5 422 905
within 2% to 4.99% of LTACMO	3				
within 5% to 7.99% of LTACMO	2				
within 8% to 12.99% of LTACMO	1				
>13% of LTACMO	0				
% Result					
Score					

## 1.4 Energy

### Lowest technically acceptable energy cost (LTEC) - NPV - (excluding corrective and preventative maintenance)

Lowest LTEC & within 0.99% of LTCO	4	73 600 187	100 291 268	95 507 982	100 683 246
within 1% to 1.99% of LTEC	3				
within 2% to 3.99% of LTEC	2				
within 4% to 12.99% of LTEC	1				
>13% of LTEC	0				
% Result					
Score					

## 1.5 Bonus Points - overall lowest NPV for TCO (excluding lost revenue)

Lowest overall NPV & within 0.99% of lowest overall NPV	2	69 916 120	137 788 694	142 877 631	113 987 069
within 1% to 2.99% of lowest overall NPV	1				
>2.99% of lowest overall NPV	0				
% Result					
Score					

Note that the maximum points available is 20 including the bonus point

### Notes:

1 We used the TCO calculations as provided by bidders. Bidders could (not that they have) miscalculate and reflect a low lifecycle cost. This could expose TFR to risk of higher life cycle costs than that which was used for evaluation. We recommend that a penalty clause is built into the contract to mitigate the risk of exposure of changes in the TCO over the life of the asset.



## Annexure A (continued)

## Detailed Scoring Criteria and Allocated Points

## Financial Stability:

7.5 NPAT/Total Equity  
ROE

Greater than 40%	5				
Between 30% & 39.99%	4				
Between 20% & 29.99%	3			32.3%	
Between 5% & 19.99%	1		12.3%		10.0%
Less than 5%	0		9.7%		
Score:					

7.6 EBIT/Total Assets  
ROA

Greater than 20%	5				
Between 15% & 19.99%	4				
Between 10% & 14.99%	3				
Between 5% & 9.99%	2		4.86%	6.0%	6.6%
Less than 5%	0				4.4%
Score:					

7.7 EBIT/Net Finance Charges  
INTEREST COVER

> 5 Times	5				
> 4 Times	4				
> 3 Times	3		4.91	18.56	
> 1 Times	1				2.39
0	0				
Score:					

7.8 CASH FLOW  
Cash generated by operations

Minimum R 600m cash generated from Operations	5		2 591 637 100	3 429 195 194	44 325 757 500	264 961 652 500
Minimum R 400m cash generated from Operations	4					
Minimum R 100m cash generated from Operations	2					
Minimum R 50m cash generated from Operations	1					
< R 50 m as compared to the best bidder	0					
Score:						

Total score  
Final Score

19.00	24.00	26.00	19.00
2.39	1.00	3.28	2.38

Final score would be determined by following formula: (total score/40)\*5



## ANNEXURE B

The table below indicates the items that were added or deducted to the base price as submitted by the bidders in order to normalise the price of the locomotive for evaluation purposes.

ADU for the driver assistant				37 726	To be included to the base price of Tenderer 4 as all other bidders have included the item in their base price
Real time signal analysis					
Access of any information on locomotives should be accessible via any other locomotives in the system	-18 200	-31 250			Deduct from the base price of Tenderer 1 and 2 as tenderers 3 and 4 included the item in their base price
Installation of ECP/WDP cabling			16 400	115 875	Add to the base price of Tenderer 3 and 4 as tenderer 1 and 2 included the item in their base price
Installation of RDP cabling		-348 874			All tenderers have included the provisioning in their price, however Tenderer 2 has also included the equipment cost in their base price and therefore we have excluded the equipment cost from their base price
Installation of combination of RDP/WDP and cabling					All tenderers have included the provisioning in their price but have excluded the equipment cost in their base price and therefore no adjustment to the base price is required for evaluation purposes.
Supply of dummy train line power supplies and ECP junction boxes			7 191		Add to the base price of Tenderer 3 as tenderer 1, 2 and 4 have included the item in their price
It is an essential requirement that solid multi-wear wheels with the option of tying the wheel be offered and that the wheels shall conform to AAR Specification M-307 for class 8 wheels or an equivalent international standard to be agreed upon by Transport Freight Rail	29 222				Add to base price of tenderer 1, as all other tenderers have the option included.
Traction inhibit when park brakes are applied	-12 500		-9 988		Deduct from Tenderer 1 and 3 as tenderers 2 and 4 have excluded the item in their base price or not provided a price for this item.
Fire Detection				70 135	Add to the base price of Tenderer 4 as tenderer 1, 2 and 3 have included the item in their price
ADU Operation (Inter locomotive communication)		32 880			Add to the base price of Tenderer 2 as tenderer 1, 3 and 4 have included the item in their price
Equipment cost of WDP/ECP and RDP combination and RDP in a ratio of 379:89 the fleet of 463 locos	498 086	944 523	1 046 894	657 406	As per the technical team, this option will probably be awarded. On the 2nd Dec 2013, JD provided the split which we used to calculate the unit price per loco for this option
<b>Total adjustment to base price</b>	<b>498 286</b>	<b>106 399</b>	<b>1 009 637</b>	<b>891 342</b>	

<b>Locomotives</b>					
Cost of WDP/ECP equipment	430 000	348 874	1 090 100	267 325	
Cost of RDP equipment	450 000	480 000	957 500	944 841	
Combination Price (WDP/ECP and RDP)	710 000	828 874	1 435 779	1 254 557	
Equipment cost of WDP/ECP and RDP combination and RDP only in a ratio of 379:89 the fleet of 463 locos	498 086	944 523	1 046 894	657 406	As per the technical team, this option will probably be awarded. On the 2nd Dec 2013, JD provided the split which we used to calculate the unit price per loco for this option

### Annexure C

The table below indicates the standard delivery schedule used for the payment terms evaluation.

#### Diesels

Standard delivery schedule used for evaluating payment terms of bidders

	Year1	Year2	Year3	Year4	Year5	
April	9	9	9	9	6	
May	9	9	9	9	6	
June	9	9	9	9	6	
July	9	9	9	9	6	
August	8	8	8	8	6	
September	8	8	8	8	5	
October	8	8	8	8	5	
November	8	8	8	8	5	
December	8	8	8	8	5	
January	8	8	8	8	5	
February	8	8	8	8	5	
March	8	8	8	8	5	
Total	100	100	100	100	65	465

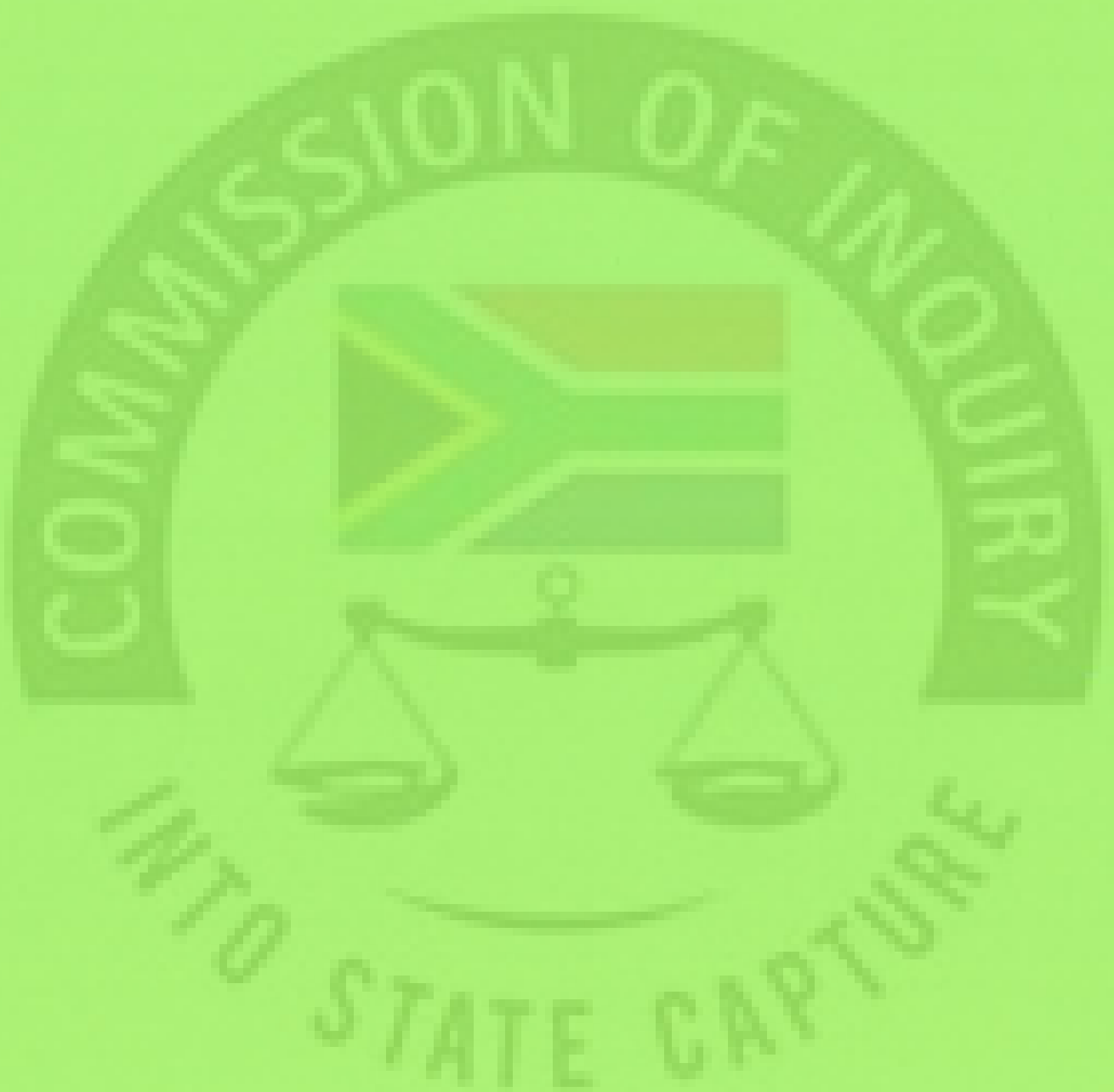
## Annexure D

### Reconciliation of price

The following table provides a reconciliation between the submitted bid prices to the final evaluated prices, highlighting the impact of each change to the final price used for evaluation:

Price per loco submitted	40 500 000	30 929 353	36 490 000	25 624 560
Add adjustments for items to reconcile to price per Annexure F:	493 892	548 193	2 275 033	34 141
Special tooling	22 787		33 724	31 075
Engineering support				
Capital Spares	442 830	532 721	407 915	
Consumables			1 756 462	3 066
Spares holding	27 595	15 472	74 399	
Setup cost				
Insurance			2 534	
Rounding	-10		-1	
Customs				
Forex Hedging				
Price per loco submitted as per annex F (capital acquisition cost)	40 993 202	31 477 546	38 765 033	25 658 701
Adjustments to normalise:				
Deduct Schedule B capital spares	-	-126 034	-	-
Add spares not included	41 012	-	26 855	497 257
Deduct Forex hedging	-	-100 000	-	-
Sub Total 1 - Price excluding impact of hedging and escalations	41 034 214	31 251 512	38 791 888	26 155 958
Add Options	496 108	196 399	1 059 637	881 342
Sub Total 2 - Price with options included	41 530 322	31 447 911	39 851 526	27 037 300
Impact of Re-basing for foreign exchange movements	2 702 531	3 337 155	4 549 746	1 502 241
Sub Total 3 - Total price before TE adjustment	44 232 853	34 785 066	44 401 272	28 539 541
Impact of not using TE as the main sub-contractor	-	-1 530 190	-1 640 000	-1 046 060
Price used for evaluation	44 232 853	33 254 876	42 761 272	27 493 481

## ANNEXURE FC 85



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TRANSNET



## MEMORANDUM

www.transnet.net

**To:** Board Acquisitions and Disposals Committee (BADC)

**From:** Brian Molefe, Group Chief Executive

**SUBJECT: INCREASE IN ESTIMATED TOTAL COST (ETC) OF THE ACQUISITION OF 1064 LOCOMOTIVES FOR TRANSNET FREIGHT RAIL'S GENERAL FREIGHT BUSINESS (GFB)**

**PURPOSE:**

1. The purpose of this memo is:
  - a) for the BADC to note the reasons for the increase in ETC.
  - b) to request that the BADC recommend an increase in the estimated total cost (ETC) for the acquisition of 1064 Locomotives for the General Freight Business of Transnet Freight Rail from R 38.6 billion to R 54.5 billion, to the Board of Directors for approval.

**EXECUTIVE SUMMARY:**

2. In summary the increase in ETC of R 15.9 billion can be attributed to the following:

Update of business case for updated economic factors	R 5.4 bn	34 %
Risk Mitigation - Forex and Escalation	R 9.5 bn	59 %
TE Scope	R 2.6 bn	16 %
Contingencies	R 4.9 bn	31 %
Lower capital acquisition cost of the locomotive obtained through the competitive tender and negotiation process less the batch pricing adjustment of R 2.7 billion.	R - 6.5 bn	- 41 %

3. 93 % of the ETC increase relates to changes in market conditions and the risk tolerance level of the company. Whilst 16 % of the ETC increase relates to strategic factors such as localisation and competition. These increases have been offset by a competitive tender and negotiation process that realised a benefit of 41 %.
4. On a like for like comparison the new price including TE scope of R 40.09 billion (excluding hedging and escalation) is only 3.89 % higher than the approved ETC of R



38.6 billion. The balance of the ETC increase relates to risk mitigation and strategic concessions such as batch pricing.

5. Regiments Capital (using an International expert) benchmarked the Capital Acquisition Cost of the locomotives at the "best and final offer" stage of this transaction and the results indicate that the price being offered by the bidders is reasonable. Given that forex, escalation, economic factors and batch pricing impact is subject to market conditions it can be deduced that the final contract price is also reasonable.
6. The need to incur these costs has been justified and the associated costs are reasonable in the circumstances.
7. The NPV of the business case remains positive at R 11.68 billion.
8. Impacts on the 2014/15 corporate plan has been assessed and mitigated. Consequently the R 54.5 billion is affordable and reasonable.
9. Risk mitigation measures have been developed and are being implemented to ensure benefits are realised.
10. Significant socio economic benefits such as localisation and job creation will be realised.
11. Significant benefit will be achieved by the company including additional volumes earlier, additional cash flows, a stronger balance sheet, which should enable greater capital expansion in future.
12. This acquisition in conjunction with other locomotive acquisitions will significantly contribute towards the company achieving its original MDS targets of 350 mt by 2018/19 and consequently is fully aligned with the MDS of the company.
13. The strategic, commercial and socio economic benefits associated with this acquisition will significantly outweigh the capital cost.

#### **BACKGROUND:**

14. The acquisition of 1064 Locomotives was approved by the Board of Directors in April 2013 at a cost of R 38.6 billion. This excluded the following costs:
  - a. The cost of changes in economic conditions (forex and inflation) between approval of the business case and award of the contracts
  - b. The cost of hedging for foreign exchange movements;
  - c. The cost for future inflationary escalations;
  - d. The cost of additional scope for Transnet Engineering (TE);
15. The rationale for the investment is to increase the capacity of TFR's GFB from 80mt to 180mt in terms of the Market demand Strategy (MDS).
16. The acquisition of 1064 Locomotives for GFB was approved by the Shareholder Minister (Department of Public Enterprises) on 3 August 2013.
17. Although the approval from the Minister was not subject to a final cost of R 38.6 billion,



for good governance and for information purposes a letter will be sent to the DPE advising of the final ETC.

18. Four contracts to acquire 1064 locomotives were concluded on 17 March 2014 at a cost of R 49.5 billion including the cost of future escalations, including additional scope for TE and including foreign exchange hedging costs thus resulting in an increase in ETC of approximately R 15.9 billion (including a 10 % contingency).
19. As per the DTI codes for local content, the tender process required that bidders exceed a minimum Supplier Development (SD) threshold of 40 %. All bidders exceeded this threshold. All the bidders met the minimum thresholds for local content of 55 % for diesel locomotives and 60% for electric locomotives.
20. The locomotives will be delivered at a rate of 12 locomotives per month per bidder at peak production as per the summarised delivery schedule below (refer Table 1). In order to mitigate against late delivery risk, a penalty regime capped at 10 % of the contract price has been agreed to with all bidders.

**Table 1**

Delivery Schedule - Diesel Locomotives		CNR	GE
		232 (50%)	233 (50%)
		CNR 1st 20 from China	GE 1st 6 from USA
by March 2015		0	0
by March 2016		20	34
by March 2017		87	126
by Oct 2017		84	73
by February 2018		42	
Locomotives will be manufactured at a peak tempo of 12 per month.			
Delivery Schedule - Electric locomotives		Bombardier	CSR
		240 (40%)	359 (60%)
		BT produce all loco's locally	CSR 1st 40 from China
by March 2016		6	88
by March 2017		137	142
by December 2017		97	
by January 2018			129
Locomotives will be manufactured at a peak tempo of 12 per month.			

## DISCUSSION

21. In order to analyse the increase in ETC two factors need to be considered:
- i. Updated economic data from business case date to current (backward looking);
  - ii. Future financial risks emanating from the transaction and costs associated to mitigate these risks (forward looking).
22. This document has been prepared to explain the Increase in ETC on this basis, concentrating on why these costs needed to be incurred and were these costs reasonable in the circumstances.
23. The increase in ETC of R 15.9 billion is due to the following reasons (refer Table 2 below):
- a) Escalations from the approved business case to award date (backward looking) (Item A of Table 2)
  - b) Forex from the approved business case to award date (backward looking) (Item C of Table 2)
  - c) Additional scope of work allocated to Transnet Engineering (TE) for the strategy to enable TE to eventually transform to an Original Equipment Manufacturer (OEM) of locomotives (strategic) (Item B of Table 2).
  - d) The cost of reducing the batch size (strategic and risk mitigation) (Item D of Table 2)
  - e) The cost of future escalations over the life of the contract (forward looking and risk mitigation) (Item E of Table 2)
  - f) The cost of fixing forex exposure over the life of the contract (forward looking and risk mitigation) (Item F of Table 2)
  - g) Contingencies related to variation orders, options (such as electronically controlled pneumatic braking and wire distributed power etc.) and capital spares (Item G of Table 2)

**Table 2****Best and Final Offer per Board submission excluding Hedging & Escalation**

Adjusted for changes to:

Escalation up to signature date (from close of tender to Mar 14)  
 Add back original TE scope removed for BAFO purposes  
 Forex adjustment to spot rate at 17 March 2014  
 Batch pricing adjustment for reduction of batch size to 40 % / 60 %

**Best and Final Offer updated for economic and other factors**

Adjustments for:  
 Additional TE Scope

**New Price Including TE scope**

Cost to fix escalation to end of contract  
 Cost of Hedging

**Estimated Total Cost including Hedging and Escalation**

The ETC above excludes the cost of any options, variations capital spares, initial spares, tools and test equipment.  
 Add approximately a further 10 % at least to cover this cost.

**Proposed Estimated Total Cost including Hedging, Escalation, options, spares, tools and test equipment**

Diesel + Electric	
Grand Total	
1 064	9%

**29 355 832 740**

9 994 929 119

A	2 362 018 104	8.0%
B	1 706 643 360	5.8%
C	3 030 660 144	10.3%
D	2 754 402 335	9.4%

**39 209 256 683**

B	883 172 732	3.0%
---	-------------	------

**40 092 429 415**

E	6 725 748 499	16.0%
F	2 729 046 496	6.8%

**49 547 224 410**

G	4 954 775 590
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**54 502 000 000**



### BACKWARD LOOKING ECONOMIC AND OTHER FACTORS THAT HAVE IMPACTED THE PRICE:

24. The estimates and assumptions on which the 1064 business case was based have changed substantially since approval was obtained from the Transnet Board in April 2013.
25. In addition a number of parameters have materially changed since Issue of the tender, approval of the Investment by the Transnet Board and the contract negotiation process. These are summarised in Table 3 below:

**Table 3**

	Business Case	Tender Stage	Negotiation/ Contracting Stage	% movement
Rand to the US Dollar	9.13	8.98	10.72	19.4%
Rand to the Euro	n/a	11.86	14.87	25.4%
Local CPI	n/a	100%	106.10%	6.1% *
Local Hot rolled Steel plates Index	n/a	100%	112.90%	12.9% *
Local PPI	n/a	100%	107.50%	7.5% *
Chinese Equivalent CPI Index	n/a	100%	102.50%	2.5% **
US Equivalent CPI Index	n/a	100%	101.33%	1.3% **
Euro Equivalent CPI Index	n/a	100%	102.08%	2.1% **

\* Index movements calculated from Dec 12 to Jan 14  
 \*\* Index movements calculated from May 13 to Mar 14

#### Item C of Table 2

- a. Foreign exchange rates. The Rand has depreciated by 19.4 % against the US Dollar since the tender stage. Similarly the Rand has also depreciated by 25.4 % against the Euro over the same period. The spot rate of exchange used in the business case to calculate the base price of the locomotive was 9.13 Rand to the US Dollar, as compared to the spot exchange rate as at contract signature date of 10.72 Rand to the US Dollar, an increase of 17.4 %. This has impacted the expected price of the locomotive as per the business case and ultimately the ETC as approved by the Board.

Consequently the additional 10.3 % per C in Table 2 is reasonable.

#### Item A of Table 2

- b. Labour cost increase. The cost of labour required to build the locomotives has increased locally within South Africa and globally over this period, as indicated within the CPI/PPI indices listed in Table 3 above and as evidenced by the higher than CPI wage settlement that Transnet entered into at 8.5 % for a 2 year period. Due to the tender localisation requirements, Transnet Engineering (TE) will assemble the locomotives and consequently local labour will be utilised for the assembly.
- c. Material cost increase. A significant component of the locomotive is steel. The price of steel is impacted by the steel commodity price of which the trading currency is in

US Dollars and secondly thereby foreign exchange deterioration as well. The local index for hot rolled steel plates has deteriorated by approximately 12.9 % since December 2012, which is indicative of the level of increase in the price of steel.

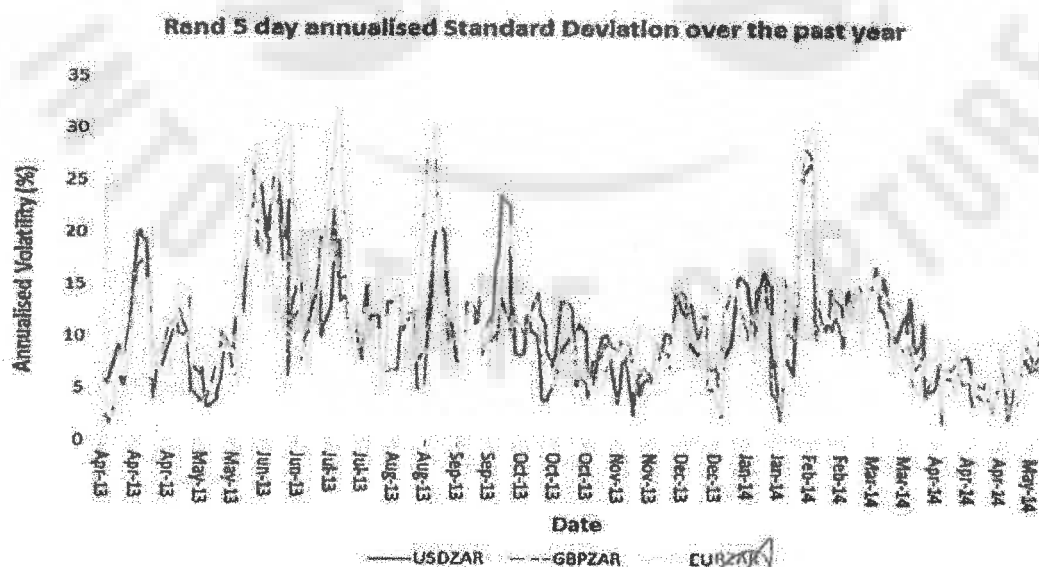
- d. Inflation. Local Producer Price Index (PPI) has increased by over 7.5 % since December 2012 thereby affecting the price of locally sourced products required for the build of the locomotives. Foreign equivalent indices also increased over this period. This together with the foreign exchange deterioration indicated above has resulted in the price of imported components for this project increasing.
- e. Statistics SA report that the headline CPI annual inflation rate in April 2014 was 6.1 %, further explained in the Business Day article "CPI breaches Reserve Bank target" dated 22 May 2014.
- f. Applying the relevant proportion of each of the labour, material and other input costs which make up the basket of items required for the manufacture of the locomotives, would result in the net increase in the locomotive price of 8 %.
- g. Consequently the net impact of 8 % on the locomotive price due to the change in economic conditions as per item A of Table 2 is reasonable.

# **FORWARD LOOKING ECONOMIC FACTORS AND MEASURES TO MITIGATE FINANCIAL RISK THAT HAVE IMPACTED THE PRICE:**

## **Forex (Item F of Table 2)**

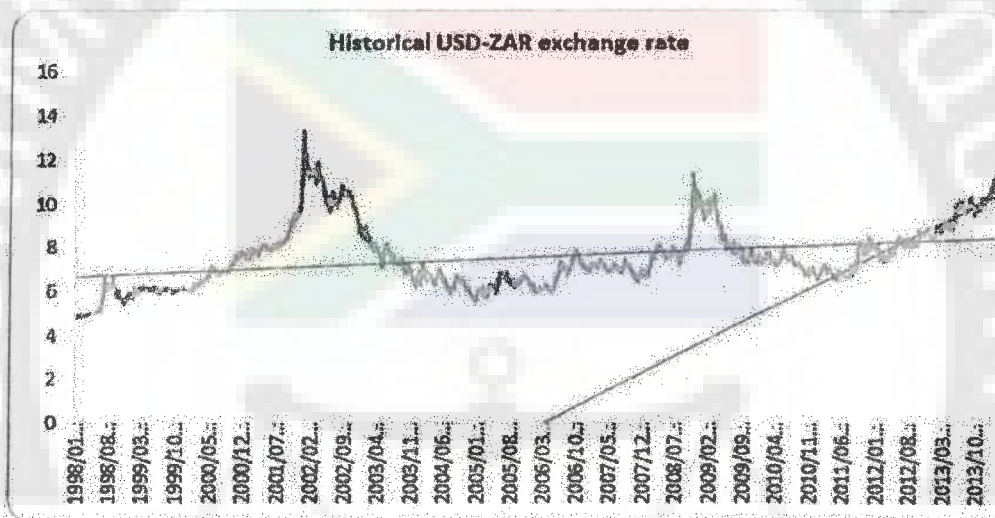
26. The Financial Risk Management Framework (FRMF) approved by the Board of Directors (BOD) does not permit Transnet accepting forex exposure on committed transactions.
27. The South African Reserve Bank (SARB) also does not permit SOC's to accept open exposure on foreign currency contracts.
28. In addition credit rating agencies and bond holders both prefer conservative risk appetites and consequently would also support fixing our forex exposure.
29. Sensitivities indicate that a 5 % devaluation of the Rand could impact the total ETC by approximately R 3.07 billion if left unhedged.
30. Consequently the cost of foreign currency hedging to mitigate and protect the Company against foreign currency devaluation is an inherent cost of the transaction.
31. Costs related to forex are influenced by market forces which are not within managements control and therefore were not included in the ETC for the business case submission. The impact of these forex related costs would only be known once the contract was negotiated and finalised as they are based on market conditions and sentiment at the time.
32. The cost of fixing the forex exposure is impacted by currency volatility and time or duration of the exposure.
33. The recent volatility in the foreign exchange rate of on average up to between 15 & 20 % directly impacts the transaction cost as can be seen in Table 4 below:

**Table 4**



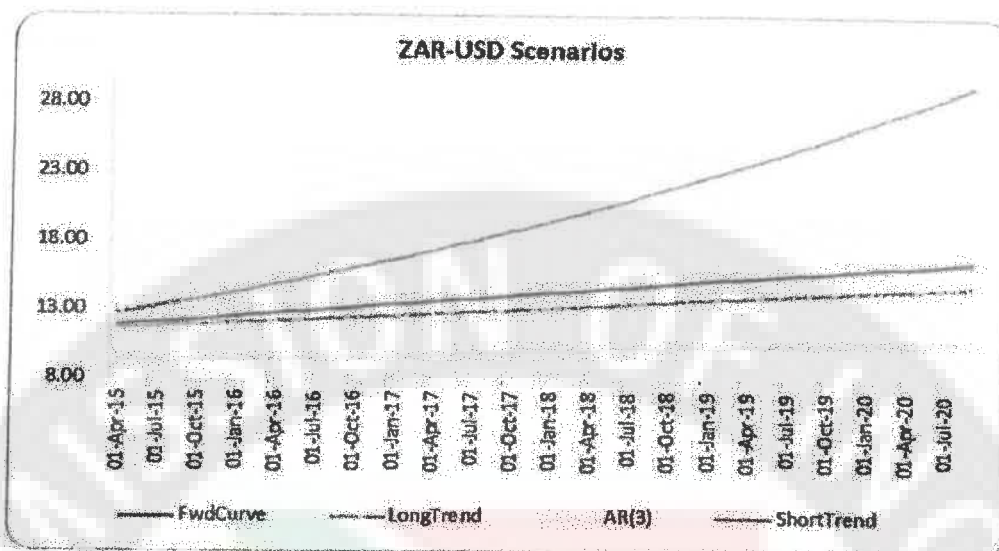


34. In addition the ZAR currency is one of the most volatile and fragile currencies in the world. This view is substantiated by the ZAR currency being termed as one of the "fragile five" by economists and financial markets (refer diagram below).
35. Business Day reported on 18 March 2014 that the Rand is in for a "Rocky ride" for the rest of the year (Refer article "Rocky Ride forecast for 'still to expensive' Rand)
36. The generally held consensus view is that due to the twin deficit of the RSA budget and the current account, and the weak economic outlook supports Rand devaluation in the medium to long term.

**Table 5**

37. A historical regression analysis conducted by Regiments Capital indicates that the ZAR currency is on a trend of devaluation as indicated in Table 5 above.

Table 6



38. In addition Regiments Capital conducted various currency trend scenarios as indicated in Table 5 above. All scenarios indicate a general devaluation in ZAR over the medium term.
39. The imminent risk of the Ukraine crisis and its impact on emerging markets also had an impact on the decision to fix the exchange rate exposure.
40. In addition the delivery schedule of the locomotives, between 31 and 35 months, also impacts the cost of hedging as the length of the exposure impacts the costs. The longer the period the higher the premium paid due to unknown outcomes in the future.
41. Alternative methods, such as call and put option structures, to reduce cost and mitigate against forex exposure risk were explored in conjunction with Regiments Capital including methods in which Transnet would participate in any possible upside in Rand movements. These methods were evaluated from a cost benefit perspective and consequently the FEC route proved most beneficial and practical to mitigate forex risk.
42. In addition the accounting treatment of options was not optimal as per opinion obtained from KPMG as it would result in the creation of an embedded derivative.
43. The cost to hedge this exposure was obtained from banks by the suppliers. This was then vetted by Transnet Treasury and Regiments Capital for reasonability. They both found the rates and cost to be acceptable.
44. Consequently the net 6.8 % per F in Table 2 above is reasonable.

### Escalation of Input Costs (Item E of Table 2)

45. Given the size, magnitude and risk tolerance of the company due to MDS execution, cash flow certainty is of paramount importance when trying to plan over a long term horizon.
46. This ensures that the company is able to manage its key financial metrics such as gearing, cash interest cover and the A/B ratio (required by rating agencies).
47. In addition credit rating agencies and bond holders both prefer conservative risk appetites and consequently would also support fixing our escalation exposure.
48. Careful consideration had to be given to accepting other risks such as labour, steel etc. and being exposed to market conditions.
49. Consequently it was decided to fix escalation for these input costs and gain certainty of cash flows.
50. Costs associated with fixing these input costs are largely driven by market sentiment at the time of contracting such as the items mentioned below.
51. Labour unrest and strikes in the platinum sector has put significant pressure on forward looking labour costs. As indicated earlier Transnet is subject to an 8.5 % wage adjustment for the 2014/15 financial year.
52. The contractor has also built a risk premium into their pricing for forward looking inflation, to cater for the unpredictable nature of the labour environment within South Africa and the risk associated with TE carrying out this additional *new* scope of work.
53. Statistics SA reports that the headline CPI annual inflation rate in April 2014 was 6.1 %, and which is further explained in the Business Day article "CPI Breaches Reserve bank target" dated 22 May 2014.
54. The SARB and National Treasury 2014 Budget Review forecasts CPI at 6.2 %, 5.9 % and 5.5 % for the years 2014, 2015 and 2016 respectively.
55. The MPC also is concerned about upward inflationary pressure on the economy as they have increased the Repo rate by 50 basis points recently in response to managing the upward inflationary pressures. Another imminent increase is highly likely at the next sitting of the MPC on 22 May 2014.
56. The high level of local content (60%) makes local indices more applicable to assess the cost of escalations going forward.
57. Applying the relevant proportion of each of the labour, material and other input costs which make up the basket of items required for the manufacture of the locomotives, would result in the net increase in the locomotive price of 9.2 % for electrics and 6.3 % for diesels increase.
58. Hence a CPI of 6 % escalated for 35 months on a compound basis (excluding a premium for risk) results in a 18.54 % increase, thus the net 16.8 % per E in Table 2 above is reasonable.



59. Escalations of input costs have been verified by Transnet by using publicly available data and by Regiments Capital using their intellectual property methodology and techniques.

**TE Scope (Item B of Table 2)**

60. A strategic decision was taken at a Transnet level that TE should transform to eventually become an OEM of locomotives. This 1064 tender process, together with the 100 equivalent 19E Dual Voltage Electric locomotive process, was used as a catalyst to facilitate this strategy.
61. As such bidders were advised to provide pricing based on providing TE with additional scope for the manufacture of the locomotives.
62. Strategically it was decided that for specific items within the build process where TE were within 10 % of the market price then it would be acceptable to allow TE to retain this scope.
63. The pricing as reflected above in Table 2 is inclusive of this additional scope for TE based on this principle.
64. Bidders have also built a risk premium into their pricing, to cater for the risk associated with Transnet Engineering carrying out this additional *new* scope of work for the 1<sup>st</sup> time.
65. Consequently the net additional 3 % per B in Table 2 is justified and is reasonable.

**Batch Size (Item D of Table 2)**



- 66. As approved by the Transnet Board the preferred bidders were advised that the batch size has been split on a 50/50 basis for the Diesels and a 60/40 basis for the electrics, amongst them.
- 67. This was done to mitigate locomotive delivery risk and reduce the MDS risk related to volumes.
- 68. As a result, the fixed costs related to setting up the production line would have to be recouped over a smaller batch.
- 69. This resulted in an increase in the cost per locomotive.
- 70. Although the cost per locomotive has increased, an overall saving is realised due to splitting the batch, because of the saving made on future escalations and hedging costs as a result of a shorter delivery period. This has been quantified to be R 4.08 billion.
- 71. Consequently the net additional 9.4 % per D in Table 2 is justified and is reasonable.

**Contingencies (Item G of Table 2)**

- 72. The contracted price of R 49.5 billion excludes the cost of any requirements for capital spares beyond the warranty period, variation orders and options (such as electronically controlled pneumatic braking and wire distributed power etc.) and as such an additional 10 % (R 4.9 billion) has been added into the request for additional ETC for this (refer item G of Table 2)
- 73. In order to stimulate development in other parts of South Africa, Transnet have decided that it would be more strategic to have two OEM's manufacture the locomotives in Durban.
- 74. In addition TE production lines in Koedoespoort cannot accommodate four OEM's as validated by the PWC study.
- 75. Bidders have based their contracted prices on manufacturing operations being carried out in Gauteng. Bidders have not yet quantified this cost, however this cost is included in the additional 10 % (refer item G of Table 2).

**FINANCIAL IMPLICATIONS:**

76. The business need and rationale remains as originally indicated in the business case submission.
77. The Business case resulted in a positive NPV (R2.7 billion at the TFR hurdle rate of 18.56 % and R34.1 billion at the TFR WACC of 12.56 %).
78. The Transnet hurdle rate has since been amended to 15.2 % and the NPV at this hurdle rate using the business case assumptions would be R 16.02 billion.
79. The financial models for the Business case have been updated for the following based on the conditions per the signed final contracts:
- a. Final pricing
  - b. Revised cash flow profile for the capital investments
  - c. Commensurate changes to the volume ramp up and tariff increases on commodities that are priced relative to the investment outlay
80. The updated NPV result is a positive NPV of R 11.68 billion at the new hurdle rate of 15.2 % and R 22.71 billion at the TFR WACC of 12.6 %. The NPV would become a negative R 1.67 billion at the original hurdle rate of 18.56%.
81. The WACC and hurdle rates are updated annually for changes in economic conditions and are approved by Transnet Exco and reviewed by External audit during the year end audit process.





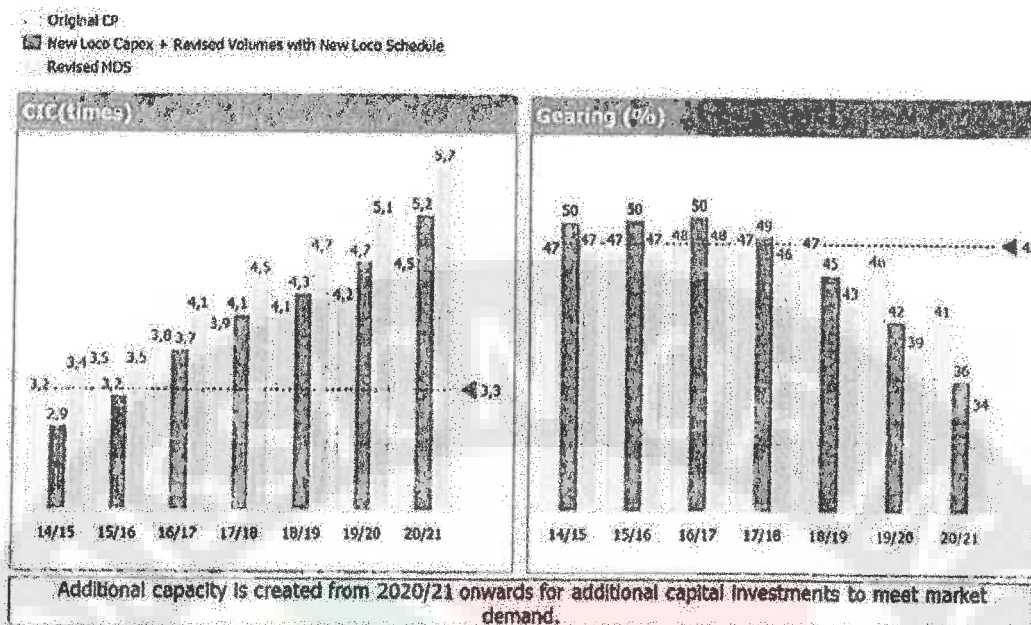
**BUDGET IMPLICATIONS:**

82. The investment is included in the 2014/15 seven year capital investment plan.
83. The contracted delivery schedule and cash flows have changed as compared to the investment included in the 2014/15 seven year capital investment plan.
84. In order to ensure that Transnet's approved key affordability limits (gearing and cash interest cover) are not breached, a capital prioritisation process will be undertaken, such that other investments which do not impact MDS volume targets would be deferred.
85. The difference between the 2014/15 seven year investment plan and the projected cash flows based on the supplier agreements with contractors with an additional 10 % added for options, variation orders, special tooling, test equipment, initial spares and capital spares, is illustrated in Table 7 below:

**Table 7**

		Rand million							
	ETC	13/14	14/15	15/16	16/17	17/18	18/19	19/20	20/21
Budget per Corporate Plan	41 468	-	315	4 188	8 344	9 123	9 420	8 382	1 696
Contracted	49 547								
Add 10 % for options, variations, tools, spares etc.	4 955								
Expected	54 502	4 824	6 308	6 597	18 618	16 970	1 185	-	-
Difference	-13 034	-4 824	-5 993	-2 409	-10 274	-7 847	8 235	8 382	1 696
Corporate Plan alignment to Business Case	-2 868								
Net ETC difference	-15 902								

86. In order to secure accelerated delivery of the locomotives to address the MDS volumes at risk, a larger advance payment (R 4844 million) had to be made to the contractors in the 2013/14 financial year.
87. As confirmed by a letter received from the suppliers this was required by the suppliers in order to cover costs to ensure quicker delivery. The rationale as explained by the supplier was confirmed reasonable by Transnet's external auditors and was capitalised accordingly in the Financial Statement at 31 March 2014.
88. Although the accelerated delivery schedule would have resulted in earlier cash outflows for Transnet, an overall saving is realised because of the saving made on future escalations and hedging costs as a result of a shorter delivery period.
89. The impact from the locomotive acquisition on the 2014/15 corporate plan as well as the impact of the prioritisation process; updating for the change in volumes, revenue, EBITDA and capital due to the combination of the 100 electric locomotives, 1064 locomotives and 60 Diesel locomotives contracts is reflected in the graph below:



90. As can be seen from the graphs the initial two years of the 2014/15 Corporate Plan has been negatively impacted by locomotive acquisitions.

91. However after the planned EBITDA and optimisation initiatives that have been factored into the model the ratios are restored.

92. The Initiatives identified to meet the Corporate Plan targets are detailed in Annexure A.

#### **RISK MANAGEMENT:**

93. In order to manage risks associated with this transaction a risk management framework is in the process of being developed.

94. A Locomotive Steering Committee has been set up to manage the operational issues associated with the locomotive acquisition and will address the following risks:

- Locomotive delivery
- The wagon build program
- Infrastructure requirements
- Operational readiness
- Commercial and Volumes

95. A socio economic monitor will be appointed to ensure socio economic benefits will be realised.

96. In order to mitigate against late delivery risk, a penalty regime capped at 10 % of the contract price has been agreed to with all bidders.

97. Escalation risk has been mitigated by fixing the price of the locomotives.




98. Forex risk has been mitigated by hedging the price of the locomotives by using the suppliers balance sheets.
99. All advance payments are secured by an on demand advance payment guarantee issued by a bank with a minimum long term credit rating of an A- Fitch rating or equivalent.
100. Payment terms have been structured such that the bulk of payments, of between 70 % and 90 %, happens after delivery of the locomotives.
101. In order to manage the total cost of ownership and mitigate against the risk that the locomotives once placed into operation will consume more fuel (diesel locomotives) or energy (electric locomotives) than indicated in bidders responses to the RFP, a penalty clause with a related fuel/energy warranty regime has been included in the supply agreement with bidders.
102. In order to mitigate against default of Supplier Development (SD) commitments, and SD penalty clause has been included in the supply agreements with bidders. An SD bond has also been obtained to cover risk against default.
103. GE have agreed to provide a 30 month warranty on the locomotive as well as a 6 year warranty on the traction motor and a 12 month warranty on spares.
104. CNR, BT and CSR have agreed to provide a 24 month warranty on the locomotive as well as a 6 year warranty on the traction motor and a 12 month warranty on spares.
105. A liability cap of 15 % of the contract price is included in the supply agreement thereby limiting Transnet's exposure in the unlikely event of breach of contract by Transnet.
106. In order to mitigate against the risk of having to accept and pay for locomotives during an economic downturn when volumes from customers may not be forthcoming thereby impacting negatively upon Transnet's loan covenants, bidders agreed to accept a clause in the supply agreement whereby acceptance of locomotives could be deferred for a period of time. Transnet agreed that in return bidders would be reimbursed for reasonable and auditable costs. These costs could include warehousing costs, time value of money costs, costs related to the rolling of hedges etc.

#### **SOURCE OF INFORMATION AND REFERENCES:**

107. Data quoted in the memo above has been sourced from:

- Statistics South Africa – release P0141
- Business Day 22 May 2014 – "CPI Breaches Reserve Bank target"
- Business Day 18 March 2014 – "Rocky Ride forecast for still too expensive Rand
- Reserve Bank and National Treasury 2014 Budget Review
- Regiments Capital (transaction advisory services)
- KMPG (accounting opinions)
- PWC (locomotive localisation opportunities for TE and South African Industry)




**RECOMMENDATION:**

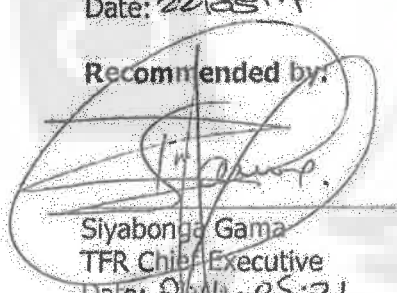
108. It is recommended that:

- a) the BADC take note that the main reasons for the increase in ETC is due to the exclusion of the following costs from the 24 January 2014 submission:
  - i. The cost of hedging for foreign exchange movements;
  - ii. The cost for future inflationary escalations;
  - iii. The cost of additional scope for Transnet Engineering (TE);
  - iv. The cost of changes in economic conditions (forex and inflation) between approval of the business case and award of the contract
- b) the BADC recommends an increase in estimated total cost (ETC) for the acquisition of the 1064 locomotives for Transnet Freight Rail's General Freight Business from R38,6 billion to R54,5 billion to the Board of Directors for approval.


**Recommended by:**

  
 Anoj Singh  
 Group Chief Financial Officer  
 Date: 22/05/14

**Recommended by:**

  
 Siyabonga Gama  
 TFR Chief Executive  
 Date: 22/05/14

**Recommended by:**

  
 Brian Molefe  
 Group Chief Executive  
 Date: 23.5.14

## ANNEXURE FC 86



**fcallard@telkomsa.net**

---

**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 26 February 2018 12:21  
**To:** 'siyabonga.gama@transnet.net'  
**Subject:** FW: 599 Electrics of 1064  
**Attachments:** 1064 Locomotives Ver 1.pdf

**Importance:** High

Hi Siya

Please see the document I prepared following our sms's of Thursday. It only covers the 599 electrics. I am preparing a similar one on the 465 diesels and the 100 Coal Line locomotives

I would appreciate the opportunity to take you through some of the detail.

Best regards

Francis Callard  
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+27 11 678 4193 (Home)  
[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)  
19 Ohlhoff Rd Fairland

*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
Last Stream Poisoned, You Will Realize That You Cannot Eat Money*



## Paper on 1064 Locomotives

### 599 Electric Locomotives.

Version 1

25 February 2018

## 1. Sources

Detailed figures come from two excel workbooks

- 20130418 TRX model validation Final.xlsx
- Negotiations Electrics 17 Mar 2014.xlsx

## 2. Business Case – April 2013

The April 2013 business case proposed:

Business case Original

Treasury FX (R/\$) BC 2013	USD	Foreign	Contract Start	Loco Base Rm	Total Rm	1064
Business Case DIESEL 465	2.6	50%	Apr-13	24.922	12,640	
Business Case Electric 599	3.5	50%	Apr-13	33.549	23,728	36,368
Contingency						2,232
Total Rm						38,600

## 3. Presentation to the Board - Dec 2013

Do not have source documents. Only inferred and data.

## 4. Memo from Cross Functional Evaluation Team (CEFT) to Locomotive Steering Committee – 15 January 2014

In essence: where Bidder 1 is BT and Bidder 2 is CSR.

	<b>Bidder 1</b>	<b>Bidder 2</b>
<b>BAFO Evaluated price</b>	<b>R32 377 762</b>	<b>R32 462 295</b>
<b>Previous Evaluated price</b>	<b>R32 833 423</b>	<b>R34 716 188</b>
<b>Difference</b>	<b>R455 661</b>	<b>R2 253 893</b>

These prices were based on a single order of 599 locomotives

The Rates of Exchange used were:

- USD 10.3773 (CSR)
- EURO 13.9086 (BT)

The reconstructed annexure B is given below showing the price breakdown,

**Reconstruction of Annexure B - Electronics**

Reconciliation between BAFO (Best and Final Offer) submitted in January 2014 and prices used per the December 2013 report

	BT	CSR
<b>BAFO price per loco as submitted by Bidder</b>	<b>Bidder 1</b> <b>29,049,486</b>	<b>Bidder 2</b> <b>28,890,000</b>
<b>Add adjustments for items to reconcile to price per Annexure A</b>	<b>1,821,465</b>	<b>636,007</b>
Special tooling	3,762	34,789
Engineering Support		
Capital spares	491,240	402,918
Consumables	45,302	
Spares holding	27,405	198,300
Setup cost		
Insurance		
Rounding		
Forex Hedging	1,253,756	
<b>Price per loco submitted as per Annexure F, before the Impact adjustments and options</b>	<b>30,870,951</b>	<b>29,526,007</b>
<b>Adjustments to normalise</b>		
Deduct Schedule B Capital Spares	- 16,360	- 122,648
Deduct Forex Hedging	- 1,253,756	
	<b>29,600,835</b>	<b>29,403,359</b>
<b>Add options</b>	<b>1,266,001</b>	<b>1,262,187</b>
<b>Sub Total 2 Amended BAFO price with options included (Capital acquisition cost)</b>	<b>30,866,836</b>	<b>30,665,546</b>
<b>Impact of re-basing (foreign exchange movement)</b>	<b>1,510,926</b>	<b>1,796,749</b>
<b>Sub Total 3 (Amended BAFO Total Price before TE adjustment)</b>	<b>32,377,762</b>	<b>32,462,295</b>
<b>Impact of not using TE as the main sub-contractor</b>		
<b>BAFO - Price used for evaluation</b>	<b>32,377,762</b>	<b>32,462,295</b>
<b>Price used for evaluation before BAFO</b>	<b>32,833,423</b>	<b>34,716,188</b>
<b>Differences</b>	<b>455,661</b>	<b>2,253,893</b>
<b>Made up of:</b>		
Discount on price	-	2,010,000
Forex change due to import content and rate changes	455,661	243,893

**Note**

- 1 The BAFO price requested from bidders was without the use of TE as a subcontractor  
Therefore the Impact of using TE as a main subcontractor is already being factored into the initial BAFO price
2. Bidder 1 did not provide BAFO price but provided the foreign currency component percentage which was used to update the rebasing of the foreign portions of the price.
3. Bidder 2 provided a new BAFO price and a new foreign currency content percentage. These were used to update the price.

## 5. Memos of 17 Jan 2014.

On 17 Jan 2014 BM submitted a memo to the Transnet Board requesting that the electric locomotives be split 40/60 to BT and CSR. The memo was recommended by JT and supported by AS.

The memo was incorrect in the local percentages applied.

The memo recommended:

- that the Group Chief Executive be delegated all necessary powers to sign, approve and conclude all necessary documents to give effect to the above resolutions.
- The above resolutions are subject to the recommendation of BADC committee to be held on 24 January.

This is one of three memos. The second, also dated 17 Jan 2014, recommended splitting the 465 diesel locomotives on a 50/50 basis.

The third memo, dated 21 Jan 2014, and signed by AS and BM recommends, without any technical input or consideration, confining the 100 Coal Line Locomotives to CSR.

## 6. Observation

Between the memo of 17 Jan and 14 March the imported components per electric locomotives increased as follows:

	17 Jan Memo	14 March
BT	EUR 752,217	EUR 1,328,080
CSR	USD 1,465,000	USD 1,591,828

The BT increase is referenced from:

= 'D:\Users\1064 LOCOS\Desktop\Negotiations\OFFERS\BT 05 March\[Bombardier Hedging Cashflows 050314.xls]Bid Cash Flows'!\$H\$90

## 7. Locomotive Price 10 March 2014

Notwithstanding the above change in the foreign component, the locomotive price rebased to 14 March 2014 - on the same basis as previous calculations was:

	BT	CSR
14 March 2104	34 808 577	33 261 803

The Rates of Exchange used were:

- USD 10.7813385 (CSR) (10.732941 – x rates.com)
- EURO 14.868 (BT) (14.938514 – x rates.com)



Negotiated offer	Offer per CSR	Loco's scenario	Simple calculation of expected escalation				Total escalation
			Foreign	Local	Foreign escalation	Local escalation	
32,370,000	32,370,000	480					
33,341,100	33,341,100	420					
33,988,500	34,312,000	360	17,976,087.80	22,878,657	1,438,087.02	7,321,170.30	8,759,257
36,254,400	37,316,136	300	16,419,100	20,897,036	1,149,337	5,851,170	7,000,507

## 9. Extract from Negotiations worksheet

599 Electrics - Negotiation Statistics based on latest offers @ 21 February 2014

			BT	CSR	
40/60	Base price excluding additional TE scope excl escalation excl hedging	per loco	42,291,574	39,741,013	
		no of loco's	240	359	
		Total	10,149,977,760	14,267,023,667	24,417,001,427
40/60	Base price including TE excl escalation excl hedging	per loco	43,690,574	40,854,745	
		no of loco's	240	359	
		Total	10,485,737,760	14,666,853,455	25,152,591,215
40/60	Base price including TE including escalation and hedging	per loco	54,371,693	50,480,000	
		no of loco's	240	359	
		Total	13,049,206,320	18,122,320,000	31,171,526,320
Transnet Board Mandate (ETC) for 1064 locomotives excluding hedging and excluding escalations					38,600,000,000
Total for 1064 locomotives excluding additional TE scope excluding hedging and excluding escalations					39,350,461,859
Total for 1064 locomotives including additional TE scope excluding hedging and excluding escalations					40,092,429,415

There is no apparent rationale for this seemingly reverse calculation

## 10. Further Extracts from Negotiations Worksheet

The extracts talk to locomotive prices of around R60m each. It is reasonable to assume they are either the source or the consequence of the Regimens assertion of R10bn savings by accelerating the loco delivery program.



	24/66/10	20/77/3	
	50/50	50/50	
BAFO	28,788,150	28,890,000	
1 Add back original TE scope	2,166,850	3,480,000	
2 Exchange rate impact	3,711,411	2,784,425	
3 Escalation up to date of signature	1,941,299	3,156,976	
4 Batch pricing adjustment	4,277,290	3,242,416	
	12,096,850	12,663,817	
312,000			
New Price @ 18 Feb 14	40,573,000	41,553,817	2%
Cost of change in payment terms change		-	
Further discount 23 Feb 2014			
Price excluding TE scope excluding	40,573,000	41,553,817	2%
Cost to fix escalation going forward	8,705,000	9,962,422	
	49,278,000	51,516,239	5%
Cost of hedging going forward	3,421,000	3,141,001	
	52,699,000	54,657,240	4%
Add cost of new TE scope	6,486,000	546,573	
Cost after TE scope	59,185,000	55,203,813	-7%

	24/66/10	20/77/3
	Bombardier	CSR
BAFO	28,788,150	28,900,000
1 Add back original TE scope	2,166,850	3,480,000
2 Exchange rate impact	3,711,411	2,562,000
3 Escalation up to date of signature	1,941,299	5,299,417
4 Batch pricing adjustment	4,277,290	2,374,136
	12,096,850	13,715,553
New Price @ 18 Feb 14	40,573,000	42,615,553
Add cost of new TE scope	1,282,000	-
Further discount 25 Feb 2014		-1,061,736
Price excluding TE scope excluding		
forward escalation and hedging	41,855,000	41,553,817
Cost to fix escalation going forward	8,705,000	11,222,585
	50,560,000	52,776,402
Cost of hedging going forward	3,421,000	1,899,647
	53,981,000	54,676,049
Add cost of new TE scope	6,486,000	527,764
Cost after TE scope	60,467,000	55,203,813

## 11. Observation

I find it inconceivable given the locomotive prices as at 15 Jan 2014, and communicated to the Locomotive Steering Committee, that the increased prices would / could be accepted without rigorous interrogation. I can find no reasonable justification for many of the increases.



The formula in the “negotiations” worksheet have many of the hallmarks of reverse engineering to achieve a desired result.

Further, it is an obvious conclusion that the recommendation to split the tender into two suppliers came at significantly increased cost.

I would like to have the opportunity to discuss further observations with you.

Francis Callard

26 Feb 2018



## ANNEXURE FC 87



**fcallard@telkomsa.net**

---

**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 27 February 2018 16:11  
**To:** 'siyabonga.gama@transnet.net'  
**Subject:** RE: 465 Diesels of 1064  
**Attachments:** 465 Diesels Ver 1.pdf

Hi Siya

Please see my observations on the 465 Diesels.

Regards

*Francis*

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[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)

19 Ohlhoff Rd Fairland

*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
 Last Stream Poisoned, You Will Realize That You Cannot Eat Money*

**From:** Francis Callard [mailto:fcallard@telkomsa.net]  
**Sent:** 26 February 2018 12:21  
**To:** 'siyabonga.gama@transnet.net' <siyabonga.gama@transnet.net>  
**Subject:** FW: 599 Electrics of 1064  
**Importance:** High

Hi Siya

Please see the document I prepared following our sms's of Thursday. It only covers the 599 electrics. I am preparing a similar one on the 465 diesels and the 100 Coal Line locomotives

I would appreciate the opportunity to take you through some of the detail.

Best regards

*Francis Callard*

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[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)

19 Ohlhoff Rd Fairland

*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
 Last Stream Poisoned, You Will Realize That You Cannot Eat Money*

## Paper on 1064 Locomotives

### 465 Diesel Locomotives.

Version 1

27 February 2018

## 1. Sources

Detailed figures come from two excel workbooks

- 20130418 TRX model validation Final.xlsx
- Negotiations Diesels 17 Mar 14.xlsx and
- Memo 15 January 2014 from CFET to LSC
- Memo 17 January to Transnet Board

## 2. Business Case – April 2013

The April 2013 business case proposed:

Business case Original

Treasury FX (R/\$) BC 2013	USD	Foreign	Contract Start	Loco Base Rm	Total Rm	1064
Business Case DIESEL 465	2.6	50%	Apr-13	24.922	12,640	
Business Case Electric 599	3.5	50%	Apr-13	33.549	23,728	36,368
Contingency						2,232
Total Rm						38,600

## 3. Presentation to the Board - Dec 2013

Do not have source documents. Only inferred data.

## 4. Memo from Cross Functional Evaluation Team (CEFT) to Locomotive Steering Committee – 15 January 2014

In essence: where Bidder 1 is CNR, Bidder 2 is CSR, Bidder 3 is EMD and Bidder 4 is GE.

The BAFO price is a spot price before escalation, forex and hedging. The Business case was an average price including escalation and forex but excluding hedging.

The prices are above the Business Case estimates. The business case was based on a Class 43 Diesel locomotive whereas the tenders came in with newer, more powerful and environmentally improved 4000hp models.

5) The table below outlines the BAFO prices as provided by the Bidders:

	<b>Bidder 1</b>	<b>Bidder 2</b>	<b>Bidder 3</b>	<b>Bidder 4</b>
<b>BAFO Evaluated price</b>	<b>R30 455 335</b>	<b>R30 320 728</b>	<b>R40 244 313</b>	<b>R27 159 485</b>
<b>Previous Evaluated price</b>	<b>R44 232 853</b>	<b>R33 254 876</b>	<b>R42 761 272</b>	<b>R27 493 481</b>
<b>Difference</b>	<b>R13 777 518</b>	<b>R2 934 148</b>	<b>R2 516 959</b>	<b>R333 996</b>

**Note:** A reconciliation of the BAFO price submitted and the previous price used for evaluation is attached hereto (Annexure B)

*M/NA. 5*

These prices were based on a single order of 465 diesel locomotives

The Rates of Exchange used were 13 January 2014 and were:

- USD 10.377325
- EURO 13.90863

The reconstructed annexure B is given below showing the price breakdown.

There is nothing untoward in the price breakdown.

<b>Reconstruction of Annexure B - Diesel</b>	<b>CNR</b>	<b>CSR</b>	<b>EMD</b>	<b>GE</b>
Reconciliation between BAFO (Best and Final Offer) submitted in January 2014 and prices used for evaluation in our December 2013 report				
	<b>Bidder 1</b>	<b>Bidder 2</b>	<b>Bidder 1</b>	<b>Bidder 2</b>
BAFO price per loco as submitted by Bidder	<b>28,124,169</b>	<b>26,900,000</b>	<b>32,758,999</b>	<b>24,311,700</b>
Add adjustments for items to reconcile to price per Annexure A	493,202	548,193	2,275,033	34,141
Special tooling	22,787		33,724	31,075
Engineering Support				
Capital spares	442,830	522,721	407,915	
Consumables			1,756,462	3,066
Spares holding	27,595	25,472	74,399	
Setup cost				
Insurance			2,534	
Customs			-1	
Rounding	10			
Forex Hedging				
Price per loco submitted as per Annexure F, before the Impact adjustments and options	<b>28,617,371</b>	<b>27,448,193</b>	<b>35,034,032</b>	<b>24,345,841</b>
<b>Adjustments to normalise</b>				
Deduct Schedule B Capital Spares		126,034		
Add Spares not included	41,012		6,375,649	497,257
Deduct Forex Hedging		100,000		
Sub Total 1 (Amended BAFO Price excluding impact of hedging and escalation)	<b>28,658,383</b>	<b>27,222,159</b>	<b>28,658,383</b>	<b>24,843,098</b>
Add options	496,108	196,399	1,059,637	881,342
Sub Total 2 Amended BAFO price with options included (Capital acquisition cost)	<b>29,154,491</b>	<b>27,418,558</b>	<b>36,120,526</b>	<b>25,724,440</b>
Impact of re-basing (foreign exchange movement)	1,300,844	2,902,170	4,123,787	1,435,045
Sub Total 3 (Amended BAFO Total Price before TE adjustment)	<b>30,455,335</b>	<b>30,320,728</b>	<b>40,244,313</b>	<b>27,159,485</b>
Impact of not using TE as the main sub-contractor				
BAFO - Price used for evaluation	<b>30,455,335</b>	<b>30,320,728</b>	<b>40,244,313</b>	<b>27,159,485</b>
Price used for evaluation before BAFO	44,232,853	33,254,876	42,761,272	27,493,481
Differences	<b>13,775,318</b>	<b>2,934,148</b>	<b>2,516,959</b>	<b>333,996</b>
Made up of:				
Discount on price	12,373,431	2,499,183	2,091,000	266,800
Forex change due to import content and rate changes	1,401,887	434,965	425,959	67,196
Note				
1 The BAFO price requested from bidders was without the use of TE as a subcontractor				
before the impact of using TE as a main subcontractor is already being factored into the initial BAFO				
2. Bidder 1 did not provide BAFO price but provided the foreign currency component percentage				
which was used to update the rebasing of the foreign portions of the price.				
3. Bidder 2 provided a new BAFO price and a new foreign currency content percentage. These				
were used to update the price.				

Comment:

1. Note the price differential between Bidder 1 (CNR) and Bidder 2 (GE) is R3,295,850. This is relevant for comparison after the final negotiations.
2. Not also that there is minimal difference between the "Impact of rebasing (foreign exchange movement)". R1,300,844 (CNR) compared to R1,435,045 (GE).

## 5. Memos of 17 Jan 2014.

On 17 Jan 2014 BM submitted a memo to the Transnet Board requesting that the diesel locomotives be split 50/50 between CNR and GE. The memo was recommended by JT and supported by AS.

I believe the memo to be incorrect in the following:

- Para 46.a "Promotes standardisation of the locomotive fleet to ensure TCO is minimized." This is inconsistent with recommending multiple suppliers.
- Para 46.b "Allow for critical mass that would enable successful negotiations on price and other critical commercial terms and conditions." This is inconsistent with reducing the order size and the subsequent price increases.
- Para 46.c "Allow for critical mass that would promote localization and programmatic procurement."

This is inconsistent with reduced batch size and shorter local manufacturing runs because of two suppliers.

Further, programmatic procurement, though recommended in the business case, was not followed.

- Para 48. A "There is a growing risk of a very high dependency on T\$ due to previous locomotive transactions." The risk overstated. Many USA Class 1 railroads have preferred a single locomotive supplier for the benefits of standardisation. Transnet previously standardised on a locally manufactured fleet of close on 1000 16E electric locomotives.

The memo recommended:

- That the Group Chief Executive be delegated all necessary powers to sign, approve and conclude all necessary documents to give effect to the above resolutions.
- The above resolutions are subject to the recommendation of BADC committee to be held on 24 January.

This is one of three memos. The second, also dated 17 Jan 2014, recommended splitting the 599 electric locomotives on a 50/50 basis.

The third memo, dated 21 Jan 2014, and signed by AS and BM recommends, without any technical input or consideration, confining the 100 Coal Line Locomotives to CSR.

## 6. Observation

Between the memo of 17 Jan and 14 March the imported components changed as follows:

Areas of concern, highlighted in yellow, show unexplained changes in the CNR foreign component. The result of these changes is to increase the calculated foreign component, as a percentage of the locomotive price to 61.95%.



		Base cost	Base cost (exc TE)	Negotiations
CNR		11-Nov-13	13-Jan-14	10-Mar-14
Foreign Content	USD		493,320	918,789
	EURO		325,584	774,064
Exchange Rate	USD	9	10.37725	10.68
	EURO		13.90863	14.87
In ZAR	USD in ZAR		5,119,305	9,812,667
	EURO in ZAR		4,528,427	11,510,332
	Foreign Total		9,647,732	21,322,998
	Locomotive Price		30,455,355	34,419,026
	<b>% Foreign Source</b>		<b>31.68%</b>	<b>61.95%</b>
Foreign Content	GE			
	USD	1,242,291	1,186,723	1,159,774
Exchange Rate	USD	9.168	10.37725	10.7225
In ZAR	USD in ZAR	11,389,324	12,314,921	12,435,677
	Locomotive Price		27,195,485	29,820,800
	<b>% Foreign Source</b>		<b>45.28%</b>	<b>41.70%</b>

## 7. Diesel Locomotive Prices Contracted - 10 March 2014

The diesel locomotive prices as contracted, and their derivation are given below. These are extracted from Negotiations Diesels 17 Mar 2014.xlsx worksheet "negotiations" with a "difference" column added to aid comment.

Latest Offers		CNR	GE	Difference
1	BAFO	27,360,000	24,311,700	3,048,300
2	Exchange rate impact on Loco	3,765,130	2,000,745	
3	Escalation up to signature date	3,498,038	484,640	3,013,398
4	Warranty/SD bond cost removal	-88,400	-110,000	
5	Fixed cost FX adjustment on other items	-385,717		
6	Batch pricing adjustment	269,975	3,133,715	
		7,059,026	5,509,100	
	<b>New Price</b>	<b>34,419,026</b>	<b>29,820,800</b>	<b>4,598,226</b>
	Add cost of new TE scope	189,617	444,600	
	Further discount 23 Feb 2014/12 March 2014	-608,643		
	Price including TE scope excluding forward escalation and hedging	34,000,000	30,265,400	3,734,600
	Cost to fix escalation going forward	4,836,526	3,946,138	
		38,836,526	34,211,538	
	Cost of Hedging	4,038,494	1,963,112	2,075,382
		42,875,020	36,174,650	
		<b>42,875,020</b>	<b>36,174,650</b>	<b>6,700,370</b>

### Comment:

1. The difference between the BAFO prices of CNR and GE is R3,048,300. This is similar to the R3,295,850 difference between the 13 Jan 2014 prices mentioned earlier.
2. There is over a R3m difference in the escalation up to signature date. Compare this to the minimal difference at 13 Jan 2017.
3. At the "new price" line the difference between CNR and GE increase to R4,598,226 though it decreases to R3,734,600 after TE scope is included.
4. The difference in hedging cost between CNR and GE is R2,075,382 which can in large part be attributed to the unexplained increase the CNR foreign exchange component.
5. The overall difference between the CNR and GE locomotives increase to R6,700,370 per locomotive at the contracted price level.
6. The batch pricing differential between CNR and GE deserves interrogation: particularly as GE have a well-established production line in TE and have on previous contracts delivered productions runs of 100, 60 and 43 at competitive prices.

## 8. Observations and Recommendations.

- 1 I find it inconceivable, given the locomotive prices as at 15 Jan 2014 and communicated to the Locomotive Steering Committee, that the increased prices would / could be accepted without rigorous interrogation. I can find no reasonable justification for many of the increases.
- 2 Specifically, the unexplained changes to the foreign exchange component of the CNR locomotives are a stepping stone to arbitrarily increased locomotive prices.
- 3 The worksheet "Negotiations Diesels 17 March 14.xlsx". contains several links to another worksheet. The worksheet "Reconciliation of inflation Forex and TE Scope 26 Feb 2014.xlsx should be interrogated.
- 4 The formula in the "negotiations" worksheet have hallmarks of reverse engineering to achieve a desired result.
- 5 Further, it as an obvious conclusion that the 17 Jan 2014 recommendation to split the tender into two suppliers came at significantly increased cost and did not fulfil the stated objectives of the memorandum.
- 6 The accountability for not meeting these objectives, lies I believe, with the signatories to the memorandum.
- 7 I would like to the opportunity to discuss further observations with you.

Francis Callard

27 Feb 2018

## ANNEXURE FC 88



**fcallard@telkomsa.net**

---

**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 27 February 2018 19:14  
**To:** 'nomfuyo.galeni@transet.net'  
**Subject:** 1064 reports  
**Attachments:** 465 Diesels Ver 1.pdf; 1064 Locomotives Ver 1.pdf

Hi Nomfuyo

It was great to chat. Please see the two documents I sent to Siya on the 599 and the 465.

If you can – please trace and freeze the laptop with the file “Reconciliation of inflation Forex and TE Scope 26 Feb 2014.xlsx”

I believe it should form part of the forensic audit.

Someone in SCS should have this file as it is often referenced in the two files that Lerato sent us.

Best regards

Francis

*Francis Callard*

+27 83 283 1593 (Mobile)

+27 11 678 4193 (Home)

[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)

19 Ohlhoff Rd Fairland

*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
Last Stream Poisoned, You Will Realize That You Cannot Eat Money*

## ANNEXURE FC 89





**fcallard@telkomsa.net**

**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 26 March 2018 12:39  
**To:** 'Siyabonga Gama Transnet Corporate JHB'  
**Subject:** RE: 465 Diesels and 599 Electric 1064 (mail1)  
**Attachments:** Negotiations Diesels 17 Mar 14.xlsx; Negotiations Electrics 17 Mar 2014.xlsx; Wrking Negotiations Diesels 17 Mar 14.xlsx; Wrking Negotiations Electrics 17 Mar 2014.xlsx; 2014\_17 4.2 Acquisition of 599 Electric Locomotives.pdf

**Sensitivity:** Private

Hi Siya

Thank you for the response and sorry to hear about your mishap. I do hope that you are well on the way to recovery though. Ouch – my sympathies.  
 I will reply to both mails in this one.

I would really appreciate the opportunity to brief you in detail and can meet any time Tuesday or Wednesday next week. I am of the firm opinion, grounded in the analysis that I have done and the timelines of various “events / interventions” that we overpaid for the 1064 locomotives in the region of R10bn.

Similarly we overpaid for the 100 Coal line locomotives. Also the reasons for the change in confinement from Mitsui to CSR to not stand up to scrutiny.

On your questions / comments:

- JT is Thamsanqa Jiyane (oops – a transposition)
- I cannot pronounce on the possibility of a third party is being remunerated for work that they have not performed, but believe the evidence that we overpaid for the locomotives is incontrovertible.
- I assisted the finance fraternity to reconcile the difference between our initial 38,6 billion and 40.4 billion based on:
  - Expedited delivery as contracted
  - Including escalation based on Treasury figures applicable to the contract period.
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  - Excluding hedging and borrowing costs. Normally allow 10% of the contracted value. Say R4 billion giving a total of R44.4bn.
- I cannot comment on the finance fraternity’s subsequent addition to reach R49 billion. There is solid evidence though that the decision to go to two suppliers for each locomotive added some R5 billion to the cost.
- Could it be that we could have achieved an even substantially lower cost if all 599 were done by CSR?... Yes. See above.
- Yousuf .. Anoj ..... assured me that they got the best fixed (hedging) rates for us and that this would avoid a scandal such as the arms deal as this was in Rand and fixed..... I believe this to be a partial truth. The full detail is exposed in the negotiation spreadsheets.

Copies of memos and original spreadsheets are attached. It is through analysis of the spreadsheets (copies call Wrking ... yellow tabs) and the timeline of events, together with the memos, that my conclusions are based. The memos are the trigger to split the awards to two suppliers each.

The memos are large files. Dated 17 Jan (465 and 599) and 21 Jan (100 coal line locos) they trigger the increase in costs. One is attached. Two separate mails follow with a memo each.

Best regards

*Francis Callard*

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19 Ohlhoff Rd Fairland

*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
Last Stream Poisoned, You Will Realize That You Cannot Eat Money*

**From:** Siyabonga Gama Transnet Corporate JHB <[Siyabonga.Gama@Transnet.net](mailto:Siyabonga.Gama@Transnet.net)>

**Sent:** 26 March 2018 04:08

**To:** Francis Callard <[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)>

**Subject:** Re: 465 Diesels of 1064

Hi Francis,

Many thanks for this input. I have been unwell for a while, I dislocated my shoulder on 23 Feb and have been in excruciating pain and visiting orthopedic surgeons and doing MRI scans...still not much help, but the painkillers provide some form of relief.

Who is JT? I think it would be good if we also have copies of the memos you refer to.

While I welcome your ability to brief me on all of this, I am essentially not very knowledgeable on the work of Transnet Treasury after we at TFR sent the business case to them. We have always relied on their guidance as experts...it would still be very relevant and instructive to me now in my new role to further understand where the areas of discrepancy might be so that we are able to identify and deal with same. Importantly, what keeps me awake at night is the possibility that there might be some truth in the allegations that a third party is being remunerated for work that they have not performed. Clearly this is not acceptable. Unfortunately at date none of the forensic work done has been able to definitively assist anyone in reaching such a conclusion, there is no proof yet. However if the Transnet treasury and CFO knowingly created false impressions, we ought to know that. I was told previously that the finance fraternity could reconcile the difference between our initial 38,6 billion versus the contracted R49 billion. Can you confirm that?

I am currently away and will be back on Friday morning. It would be opportune that we meet immediately after the Easter break to go through these and if you can favor me with copies of the documents you refer to. Please indicate your availability either on Tuesday or Wednesday on first week.

Kind regards and happy Easters.

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Group Chief Executive  
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Soren Kierkegaard

Sent from my iPad

On 27 Feb 2018, at 22:11, Francis Callard <[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)> wrote:

Hi Siya

Please see my observations on the 465 Diesels.

Regards

*Francis*

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[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)

19 Ohlhoff Rd Fairland

*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
Last Stream Poisoned, You Will Realize That You Cannot Eat Money*

**From:** Francis Callard [<mailto:fcallard@telkomsa.net>]

**Sent:** 26 February 2018 12:21

**To:** 'siyabonga.gama@transnet.net' <[siyabonga.gama@transnet.net](mailto:siyabonga.gama@transnet.net)>

**Subject:** FW: 599 Electrics of 1064

**Importance:** High

Hi Siya

Please see the document I prepared following our sms's of Thursday. It only covers the 599 electrics. I am preparing a similar one on the 465 diesels and the 100 Coal Line locomotives

I would appreciate the opportunity to take you through some of the detail.

Best regards

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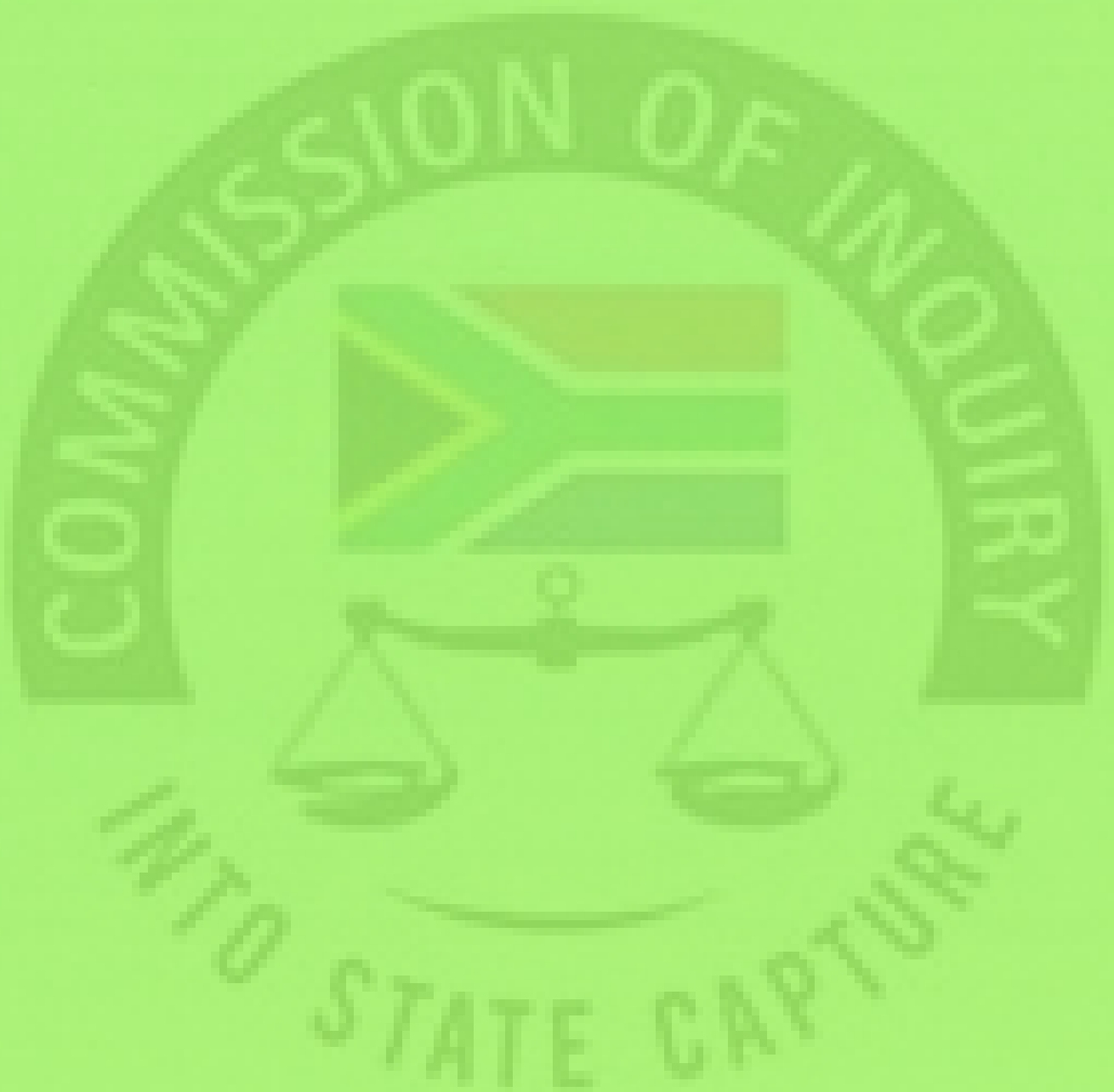
*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
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<465 Diesels Ver 1.pdf>



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## ANNEXURE FC 90



**fcallard@telkomsa.net**

**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 26 March 2018 12:42  
**To:** 'Siyabonga Gama Transnet Corporate JHB'  
**Subject:** RE: 465 Diesels and 599 Electric 1064 (mails 2)  
**Attachments:** 2014\_17 4.3 Acquisition of 465 Diesel Locomotives.pdf

**Sensitivity:** Private

Memo 12 Jan 2014 recommending split the 465 diesels.

*Francis*

+27 83 283 1593 (Mobile)  
 +27 11 678 4193 (Home)  
[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)  
 19 Ohlhoff Rd Fairland

*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
 Last Stream Poisoned, You Will Realize That You Cannot Eat Money*

**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 26 March 2018 12:39  
**To:** 'Siyabonga Gama Transnet Corporate JHB' <Siyabonga.Gama@Transnet.net>  
**Subject:** RE: 465 Diesels and 599 Electric 1064 (mail1)  
**Sensitivity:** Private

Hi Siya

Thank you for the response and sorry to hear about your mishap. I do hope that you are well on the way to recovery though. Ouch – my sympathies.  
 I will reply to both mails in this one.

I would really appreciate the opportunity to brief you in detail and can meet any time Tuesday or Wednesday next week. I am of the firm opinion, grounded in the analysis that I have done and the timelines of various “events / interventions” that we overpaid for the 1064 locomotives in the region of R10bn.

Similarly we overpaid for the 100 Coal line locomotives. Also the reasons for the change in confinement from Mitsui to CSR to not stand up to scrutiny.

On your questions / comments:

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## ANNEXURE FC 91





**fcallard@telkomsa.net**

---

**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 26 March 2018 12:59  
**To:** 'Siyabonga Gama Transnet Corporate JHB'  
**Subject:** RE: 465 Diesels and 599 Electric 1064 and 100 Coal Line Locos (mail 3 )  
**Attachments:** Fw: URGENT CONFIDENTIAL - 100 and 60 Locomotives; 2014\_17 4.1 Acquisition of additional Locomotives.pdf

**Sensitivity:** Private

Hi Siya

Memo of 21 Jan 2014 on the 100 Coal Line locomotives changing confinement from Mitsui to CSR. The recommended CSR locomotives that had to be subsequently upgraded.

See also my mail of 23 Jan 2014. Reading the two in context, it is apparent that the decision to change from Mitsui to CSR was not a considered TFR view.

Best regards

*Francis*

+27 83 283 1593 (Mobile)  
 +27 11 678 4193 (Home)  
 fcallard@telkomsa.net  
 19 Ohlhoff Rd Fairland

*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
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**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 26 March 2018 12:39  
**To:** 'Siyabonga Gama Transnet Corporate JHB' <Siyabonga.Gama@Transnet.net>  
**Subject:** RE: 465 Diesels and 599 Electric 1064 (mail1)  
**Sensitivity:** Private

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**From:** Siyabonga Gama Transnet Corporate JHB <[Siyabonga.Gama@Transnet.net](mailto:Siyabonga.Gama@Transnet.net)>

**Sent:** 26 March 2018 04:08

**To:** Francis Callard <[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)>

**Subject:** Re: 465 Diesels of 1064

Hi Francis,

Many thanks for this input. I have been unwell for a while, I dislocated my shoulder on 23 Feb and have been in excruciating pain and visiting orthopedic surgeons and doing MRI scans...still not much help, but the painkillers provide some form of relief.

Who is JT? I think it would be good if we also have copies of the memos you refer to.

While I welcome your ability to brief me on all of this, I am essentially not very knowledgeable on the work of Transnet Treasury after we at TFR sent the business case to them. We have always relied on their guidance as experts...it would still be very relevant and instructive to me now in my new role to further understand where the areas of discrepancy might be so that we are able to identify and deal with same. Importantly, what keeps me awake at night is the possibility that there might be some truth in the allegations that a third party is being remunerated for work that they have not performed. Clearly this is not acceptable. Unfortunately at date none of the forensic work done has been able to definitively assist anyone in reaching such a conclusion, there is no proof yet. However if the Transnet treasury and CFO knowingly created false impressions, we ought to know that. I was told previously that the finance fraternity could reconcile the difference between our initial 38,6 billion versus the contracted R49 billion. Can you confirm that?

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Kind regards and happy Easters.

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Sent from my iPad

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Hi Siya

Please see my observations on the 465 Diesels.

Regards

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**From:** Francis Callard [<mailto:fcallard@telkomsa.net>]

**Sent:** 26 February 2018 12:21

**To:** 'siyabonga.gama@transnet.net' <[siyabonga.gama@transnet.net](mailto:siyabonga.gama@transnet.net)>

**Subject:** FW: 599 Electrics of 1064

**Importance:** High

Hi Siya

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&lt;465 Diesels Ver 1.pdf&gt;



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## ANNEXURE FC 92



**fcallard@telkomsa.net**

---

**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 04 April 2018 10:30  
**To:** 'Ndiphiwe.Silinga@transnet.net'  
**Subject:** FW: 465 Diesels and 599 Electric 1064 (mail1)  
**Attachments:** Negotiations Diesels 17 Mar 14.xlsx; Negotiations Electrics 17 Mar 2014.xlsx; Wrking Negotiations Diesels 17 Mar 14.xlsx; Wrking Negotiations Electrics 17 Mar 2014.xlsx; 2014\_17 4.2 Acquisition of 599 Electric Locomotives.pdf

**Sensitivity:** Private

Hi Ndiphiwe

The mails I sent to Siya. There are three of them.

Kind regards

Francis Callard  
 +27 83 283 1593 (Mobile)  
 +27 11 678 4193 (Home)  
[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)  
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**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 26 March 2018 12:39  
**To:** 'Siyabonga Gama Transnet Corporate JHB' <Siyabonga.Gama@Transnet.net>  
**Subject:** RE: 465 Diesels and 599 Electric 1064 (mail1)  
**Sensitivity:** Private

Hi Siya

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 I will reply to both mails in this one.

I would really appreciate the opportunity to brief you in detail and can meet any time Tuesday or Wednesday next week. I am of the firm opinion, grounded in the analysis that I have done and the timelines of various “events / interventions” that we overpaid for the 1064 locomotives in the region of R10bn.

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Regards

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**Sent:** 26 February 2018 12:21

**To:** 'siyabonga.gama@transnet.net' <[siyabonga.gama@transnet.net](mailto:siyabonga.gama@transnet.net)>

**Subject:** FW: 599 Electrics of 1064

**Importance:** High

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+27 11 678 4193 (Home)  
[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)  
19 Ohlhoff Rd Fairland

*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
Last Stream Poisoned, You Will Realize That You Cannot Eat Money*

&lt;465 Diesels Ver 1.pdf&gt;



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## ANNEXURE FC 93



**fcallard@telkomsa.net**

---

**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 04 April 2018 10:30  
**To:** 'Ndiphiwe.Silinga@transnet.net'  
**Subject:** FW: 465 Diesels and 599 Electric 1064 (mails 2)  
**Attachments:** 2014\_17 4.3 Acquisition of 465 Diesel Locomotives.pdf

**Sensitivity:** Private

Mail 2

*Francis Callard*  
 +27 83 283 1593 (Mobile)  
 +27 11 678 4193 (Home)  
[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)  
 19 Ohlhoff Rd Fairland

*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
 Last Stream Poisoned, You Will Realize That You Cannot Eat Money*

**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 26 March 2018 12:42  
**To:** 'Siyabonga Gama Transnet Corporate JHB' <Siyabonga.Gama@Transnet.net>  
**Subject:** RE: 465 Diesels and 599 Electric 1064 (mails 2)  
**Sensitivity:** Private

Memo 12 Jan 2014 recommending split the 465 diesels.

*Francis*  
 +27 83 283 1593 (Mobile)  
 +27 11 678 4193 (Home)  
[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)  
 19 Ohlhoff Rd Fairland

*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
 Last Stream Poisoned, You Will Realize That You Cannot Eat Money*

**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 26 March 2018 12:39  
**To:** 'Siyabonga Gama Transnet Corporate JHB' <Siyabonga.Gama@Transnet.net>  
**Subject:** RE: 465 Diesels and 599 Electric 1064 (mail1)  
**Sensitivity:** Private

Hi Siya

Thank you for the response and sorry to hear about your mishap. I do hope that you are well on the way to recovery though. Ouch – my sympathies.  
 I will reply to both mails in this one.

I would really appreciate the opportunity to brief you in detail and can meet any time Tuesday or Wednesday next week. I am of the firm opinion, grounded in the analysis that I have done and the timelines of various “events / interventions” that we overpaid for the 1064 locomotives in the region of R10bn.

Similarly we overpaid for the 100 Coal line locomotives. Also the reasons for the change in confinement from Mitsui to CSR to not stand up to scrutiny.

On your questions / comments:

- JT is Thamsanqa Jiyane (oops – a transposition)
- I cannot pronounce on the possibility of a third party is being remunerated for work that they have not performed, but believe the evidence that we overpaid for the locomotives is incontrovertible.
- I assisted the finance fraternity to reconcile the difference between our initial 38,6 billion and 40.4 billion based on:
  - Expedited delivery as contracted
  - Including escalation based on Treasury figures applicable to the contract period.
  - Best and final offer prices as at 10 Jan 2014.
  - Single supplier each for electric and diesel.
  - Excluding hedging and borrowing costs. Normally allow 10% of the contracted value. Say R4 billion giving a total of R44.4bn.
- I cannot comment on the finance fraternity's subsequent addition to reach R49 billion. There is solid evidence though that the decision to go to two suppliers for each locomotive added some R5 billion to the cost.
- Could it be that we could have achieved an even substantially lower cost if all 599 were done by CSR?... Yes. See above.
- Yousuf .. Anoj ..... assured me that they got the best fixed (hedging) rates for us and that this would avoid a scandal such as the arms deal as this was in Rand and fixed..... I believe this to be a partial truth. The full detail is exposed in the negotiation spreadsheets.

Copies of memos and original spreadsheets are attached. It is through analysis of the spreadsheets (copies call Wrking ... yellow tabs) and the timeline of events, together with the memos, that my conclusions are based. The memos are the trigger to split the awards to two suppliers each.

The memos are large files. Dated 17 Jan (465 and 599) and 21 Jan (100 coal line locos) they trigger the increase in costs. One is attached. Two separate mails follow with a memo each.

Best regards

*Francis Callard*

+27 83 283 1593 (Mobile)

+27 11 678 4193 (Home)

[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)

19 Ohlhoff Rd Fairland

*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
Last Stream Poisoned, You Will Realize That You Cannot Eat Money*

**From:** Siyabonga Gama Transnet Corporate JHB <[Siyabonga.Gama@Transnet.net](mailto:Siyabonga.Gama@Transnet.net)>

**Sent:** 26 March 2018 04:08

**To:** Francis Callard <[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)>

**Subject:** Re: 465 Diesels of 1064

Hi Francis,

Many thanks for this input. I have been unwell for a while, I dislocated my shoulder on 23 Feb and have been in excruciating pain and visiting orthopedic surgeons and doing MRI scans...still not much help, but the painkillers provide some form of relief.

Who is JT? I think it would be good if we also have copies of the memos you refer to.

While I welcome your ability to brief me on all of this, I am essentially not very knowledgeable on the work of Transnet Treasury after we at TFR sent the business case to them. We have always relied on their guidance as experts...it would still be very relevant and instructive to me now in my new role to further understand where the areas of discrepancy might be so that we are able to identify and deal with same. Importantly, what keeps me



awake at night is the possibility that there might be some truth in the allegations that a third party is being remunerated for work that they have not performed. Clearly this is not acceptable. Unfortunately at date none of the forensic work done has been able to definitively assist anyone in reaching such a conclusion, there is no proof yet. However if the Transnet treasury and CFO knowingly created false impressions, we ought to know that. I was told previously that the finance fraternity could reconcile the difference between our initial 38,6 billion versus the contracted R49 billion. Can you confirm that?

I am currently away and will be back on Friday morning. It would be opportune that we meet immediately after the Easter break to go through these and if you can favor me with copies of the documents you refer to. Please indicate your availability either on Tuesday or Wednesday on first week.

Kind regards and happy Easters.

Siyabonga Gama  
Group Chief Executive  
Transnet SOC Limited  
+27113082313

'To dare is to lose one's foot momentarily. To not dare is to lose oneself.'  
Soren Kierkegaard

Sent from my iPad

On 27 Feb 2018, at 22:11, Francis Callard <[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)> wrote:

Hi Siya

Please see my observations on the 465 Diesels.

Regards

*Francis*

+27 83 283 1593 (Mobile)  
+27 11 678 4193 (Home)  
[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)  
19 Ohlhoff Rd Fairland

*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
Last Stream Poisoned, You Will Realize That You Cannot Eat Money*

**From:** Francis Callard [<mailto:fcallard@telkomsa.net>]  
**Sent:** 26 February 2018 12:21  
**To:** 'siyabonga.gama@transnet.net' <[siyabonga.gama@transnet.net](mailto:siyabonga.gama@transnet.net)>  
**Subject:** FW: 599 Electrics of 1064  
**Importance:** High

Hi Siya

Please see the document I prepared following our sms's of Thursday. It only covers the 599 electrics. I am preparing a similar one on the 465 diesels and the 100 Coal Line locomotives

I would appreciate the opportunity to take you through some of the detail.

Best regards

Francis Callard  
+27 83 283 1593 (Mobile)  
+27 11 678 4193 (Home)  
[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)  
19 Ohlhoff Rd Fairland

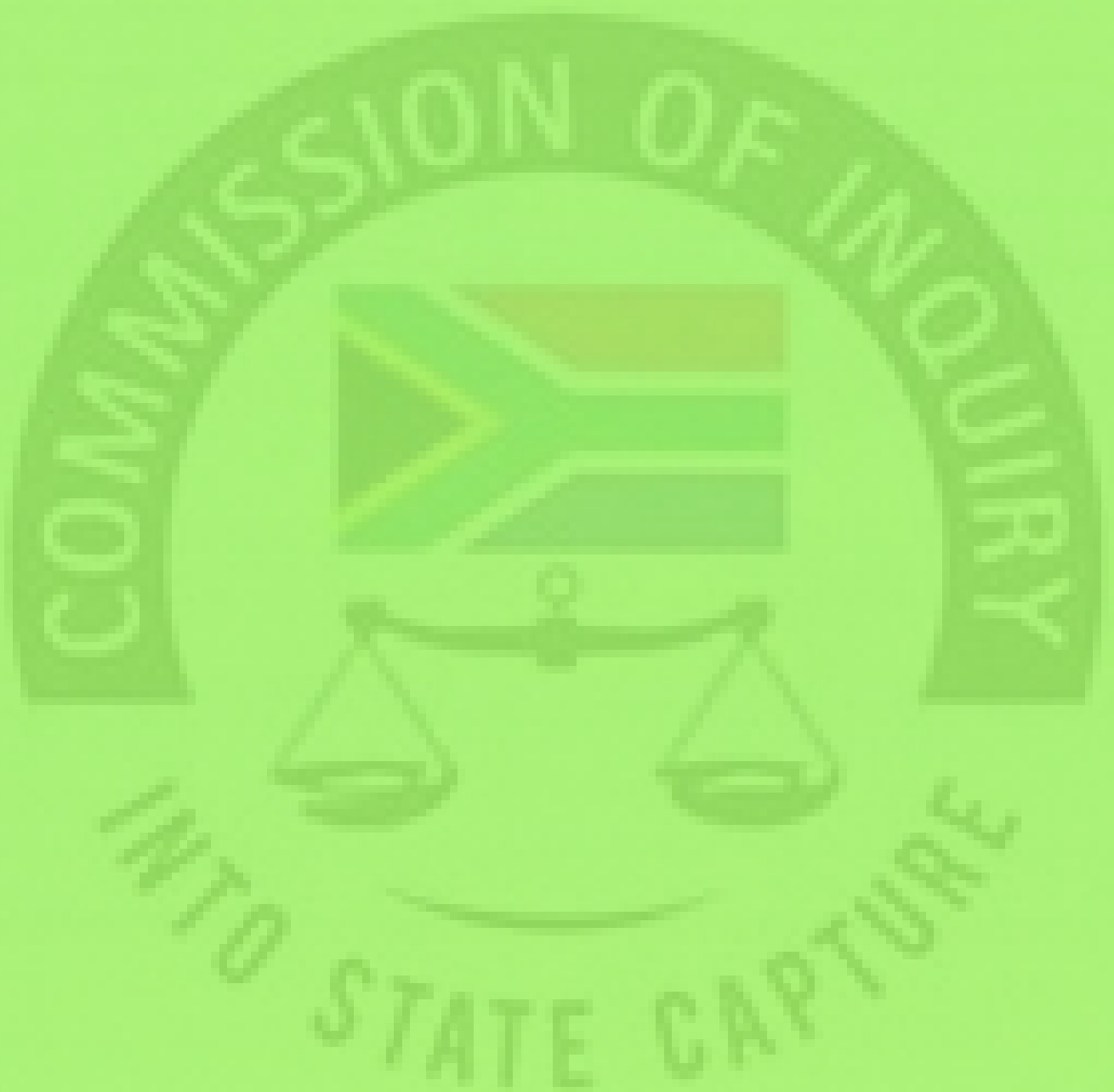
*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
Last Stream Poisoned, You Will Realize That You Cannot Eat Money*

<465 Diesels Ver 1.pdf>



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## ANNEXURE FC 94



**fcallard@telkomsa.net**

---

**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 04 April 2018 10:31  
**To:** 'Ndiphiwe.Silinga@transnet.net'  
**Subject:** FW: 465 Diesels and 599 Electric 1064 and 100 Coal Line Locos (mail 3 )  
**Attachments:** Fw: URGENT CONFIDENTIAL - 100 and 60 Locomotives; 2014\_17 4.1 Acquisition of additional Locomotives.pdf

**Sensitivity:** Private

Mail 3

*Francis*

+27 83 283 1593 (Mobile)  
 +27 11 678 4193 (Home)  
[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)  
 19 Ohlhoff Rd Fairland

*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
 Last Stream Poisoned, You Will Realize That You Cannot Eat Money*

**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 26 March 2018 12:59  
**To:** 'Siyabonga Gama Transnet Corporate JHB' <Siyabonga.Gama@Transnet.net>  
**Subject:** RE: 465 Diesels and 599 Electric 1064 and 100 Coal Line Locos (mail 3 )  
**Sensitivity:** Private

Hi Siya

Memo of 21 Jan 2014 on the 100 Coal Line locomotives changing confinement from Mitsui to CSR. The recommended CSR locomotives that had to be subsequently upgraded.

See also my mail of 23 Jan 2014. Reading the two in context, it is apparent that the decision to change from Mitsui to CSR was not a considered TFR view.

Best regards

*Francis*

+27 83 283 1593 (Mobile)  
 +27 11 678 4193 (Home)  
[fcallard@telkomsa.net](mailto:fcallard@telkomsa.net)  
 19 Ohlhoff Rd Fairland

*When the Last Tree Is Cut Down, the Last Fish Eaten, and the  
 Last Stream Poisoned, You Will Realize That You Cannot Eat Money*

**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 26 March 2018 12:39  
**To:** 'Siyabonga Gama Transnet Corporate JHB' <Siyabonga.Gama@Transnet.net>  
**Subject:** RE: 465 Diesels and 599 Electric 1064 (mail1)  
**Sensitivity:** Private

Hi Siya

## ANNEXURE FC 95



Brian Molefe, Group Chief Executive

TRANSNET



Mr. Rowlen von Gericke  
CNR Consortium/ Unincorporated Joint Venture  
60 Tulbagh Road  
Kempton Park  
1619

Tel: 011 230 1900  
Cell: 083 283 1175  
Email: Rowlen@globalgroups.org

Brian Molefe  
Transnet SOC Ltd  
Carlton Centre  
150 Commissioner Street  
Johannesburg  
2001

Tel.: 011 308 2313  
Fax: 011 308 2315  
Email: Brian.Molefe@transnet.net

Date: January 4, 2014

Ref: TFRAC-HO-8609

Dear Tenderer,

**TENDER NO.:** TFRAC-HO-8609

**DESCRIPTION:** SUPPLY OF 465 NEW DIESEL LOCOMOTIVES FOR THE GENERAL FREIGHT BUSINESS (GFB)

Your tender dated 30 April 2013 refers.

Transnet is in the final stages of finalising the evaluations of the above tender and we thank you for your participation in our processes thus far.

This tender as you may be aware forms a significant portion of the entire Transnet capital expenditure programme of R300 billion over the next seven years consequently it is imperative that we are in a position to achieve commercially acceptable and competitive prices that will enable us to meet our mandate of lowering the cost of doing business in South Africa.

In order to achieve the above objective and also conclude the final stages of the evaluation process, Transnet is requesting that you provide a best and final offer.

The best and final offer must focus on commercial aspects of your bid only.

We suggest that the following guidelines be used in preparing your best and final offer submissions:

1. Base price excluding hedging and escalations
2. Base price using sub-contractors of your choice not Transnet Engineering
3. Disclosure of foreign amounts and spot exchange rates used
4. Your local content target as originally committed will not change
5. Reconciliation of current best and final offer price to the submitted price with reasons for changes if any.

**Transnet SOC Ltd**  
Registration Number  
1990/000900/30

Carlton Centre  
150 Commissioner Street  
Johannesburg  
2001  
P.O. Box 72501  
Parkview, Johannesburg  
South Africa, 2122  
T +27 11 308 2309  
F +27 11 308 2315

**Directors:** ME Mkwana (Chairman) B Molefe\* (Group Chief Executive) MA Fanucchi Y Forbes HD Gazendam NP Mkhosana N Molefe NR Njoku IM Sharma IB Skosana E Tshabalala DLJ Tshepe A Singh (Group Chief Financial Officer)  
\*Executive: Indian

Group Company Secretary: ANC Ceba

www.transnet.net



Transnet reserve the right to issue further requests for clarification.

Failure to comply may prejudice your bid submission.

The response (in a sealed envelope) is to be deposited in the Transnet Freight Rail tender box which is located at Inyanda No 1, Ground Floor, 21 Wellington Road Parktown, JOHANNESBURG and should be addressed as follows:

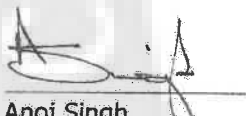
THE CHAIRPERSON  
TRANSNET FREIGHT RAIL  
ACQUISITION COUNCIL  
GROUND FLOOR  
TENDER BOX  
Inyanda House 1  
21 Wellington Road  
Parktown

OR

Clarifications can be emailed to the Secretariat Ms. Prudence Nkabinde and Lolo Sokhela:  
[Prudence.Nkabinde@transnet.net](mailto:Prudence.Nkabinde@transnet.net) and [Lolo.Sokhela@transnet.net](mailto:Lolo.Sokhela@transnet.net)

Please note that this clarification closes punctually at 14:00 on Friday, 10 January 2014.

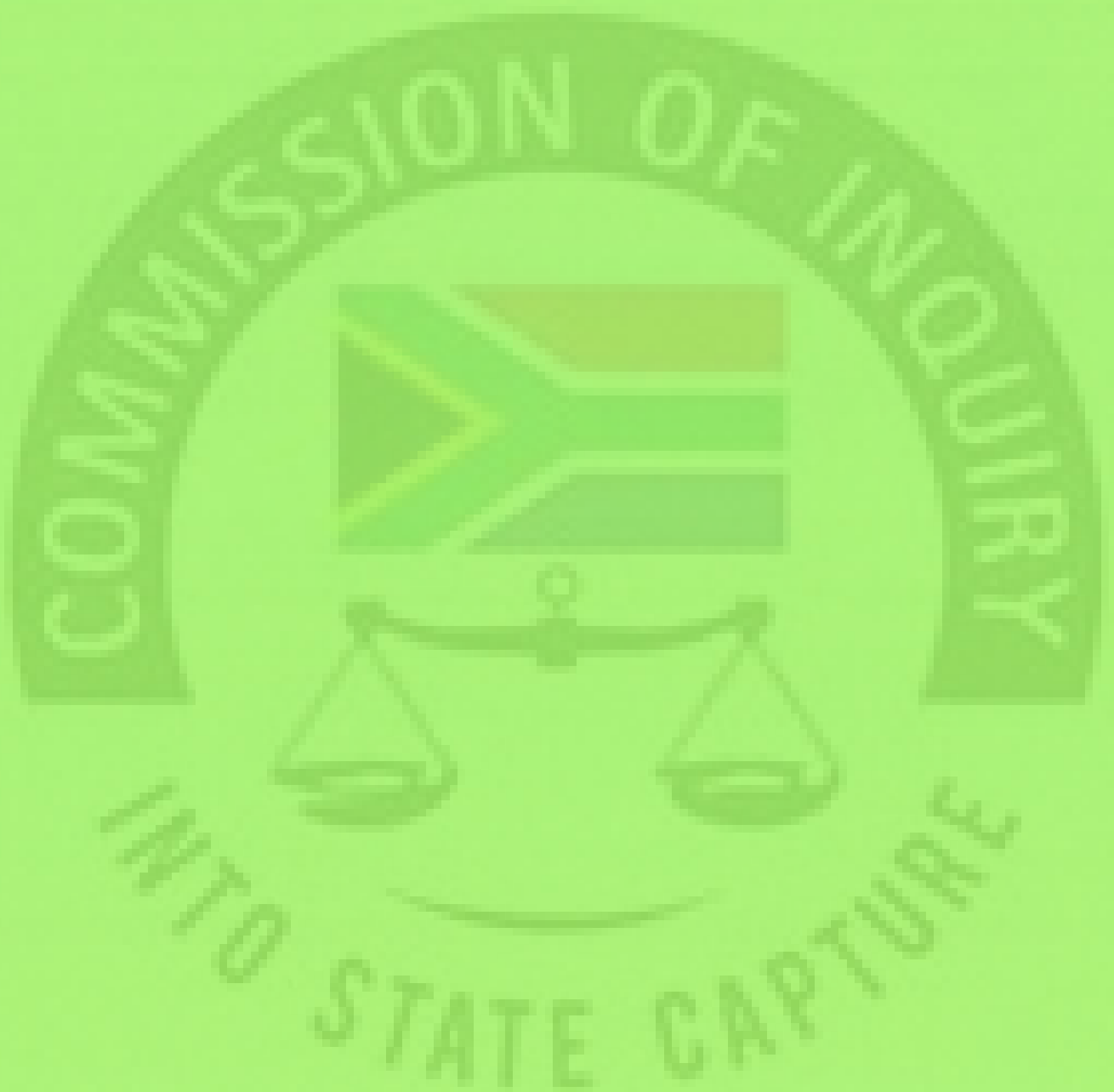
Yours faithfully



Anoj Singh  
Acting Group Chief Executive

Date: 04/01/14

## ANNEXURE FC 96



**fcallard@telkomsa.net**

---

**From:** Rowlen von Gericke <Rowlen@globalgroups.org>  
**Sent:** 06 January 2014 08:39  
**To:** Lindiwe Mdletshe Transnet Freight Rail JHB  
**Subject:** FW: TFRAC-HO-8609 - SUPPLY OF 465 NEW DIESEL LOCOMOTIVES FOR THE GENERAL FREIGHT BUSINESS (GFB)

Dear Lindiwe

Our message below refers.

After serious discussions between the members of the CNR Consortium / Unincorporated Joint Venture (CNR) regarding the requirements as outlined in your letter dated 4 January 2014, and particularly as far as "Item 2 – Base price using sub-contractors of your choice not Transnet Engineering" are concerned, we are extremely concerned that the time allowed for us to respond will not be sufficient.

As you are aware, during the tender process, CNR used prices from Transnet Engineering as its local sub-contractors for building of the locomotive bodies as well as the assembly of the locomotives. As the period for the submission of the tender prices by Transnet Engineering was in excess of 3 months, it will be impossible for CNR to obtain a quotation from an alternative local sub-contractor by 10 January 2014.

We would, therefore, earnestly request for an extension of at least 21 days for our response to the requirements as outlined in your letter of 4 December 2014.

We trust that our request will be favourably considered and please do not hesitate to contact us should any additional information be required.

Kind Regards

Rowlen von Gericke  
On behalf of CNR Consortium / Unincorporated Joint Venture  
Tel: 011 230 1900  
Cell: 083 283 1175

---

**From:** Rowlen von Gericke  
**Sent:** 04 January 2014 10:05 PM  
**To:** Lindiwe Mdletshe Transnet Freight Rail JHB  
**Subject:** FW: TFRAC-HO-8609 - SUPPLY OF 465 NEW DIESEL LOCOMOTIVES FOR THE GENERAL FREIGHT BUSINESS (GFB)

Dear Lindiwe

Your E-Mail message (below), as well as the content of the letter dated 4 January 2014, accompanying your E-Mail message, is hereby acknowledged.

It is of paramount importance that members of CNR in China visit South Africa in preparation of our response to the requirements in your abovementioned letter.

Unfortunately, none of our Chinese colleagues are in possession of a valid visa for South Africa and could only apply for same during the coming week of 6 January 2014.

We would, therefore, respectfully, request for a 14 day extension to the submission date of our response to requirements as outlined in your letter of 4 January 2014.

Looking forward to your response.

Kind regards

Rowlen von Gericke

On behalf of CNR Consortium / Unincorporated Joint Venture

Tel: 011 230 1900

Cell: 083 283 1175

---

**From:** Lindiwe Mdletshe Transnet Freight Rail JHB [<mailto:Lindiwe.Mdletshe@transnet.net>]

**Sent:** 04 January 2014 11:35 AM

**To:** Rowlen von Gericke

**Subject:** TFRAC-HO-8609 - SUPPLY OF 465 NEW DIESEL LOCOMOTIVES FOR THE GENERAL FREIGHT BUSINESS (GFB)

Dear Tenderer,

Please find attached letter for your attention.

Kindly acknowledge receipt of this email.

Kind Regards



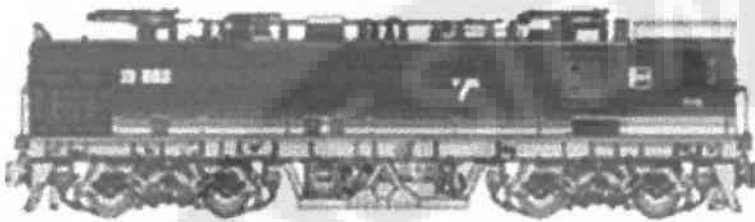
Lindiwe Mdletshe  
Commodity Manager  
Supply Chain Services  
Transnet Freight Rail

 011 584 0620

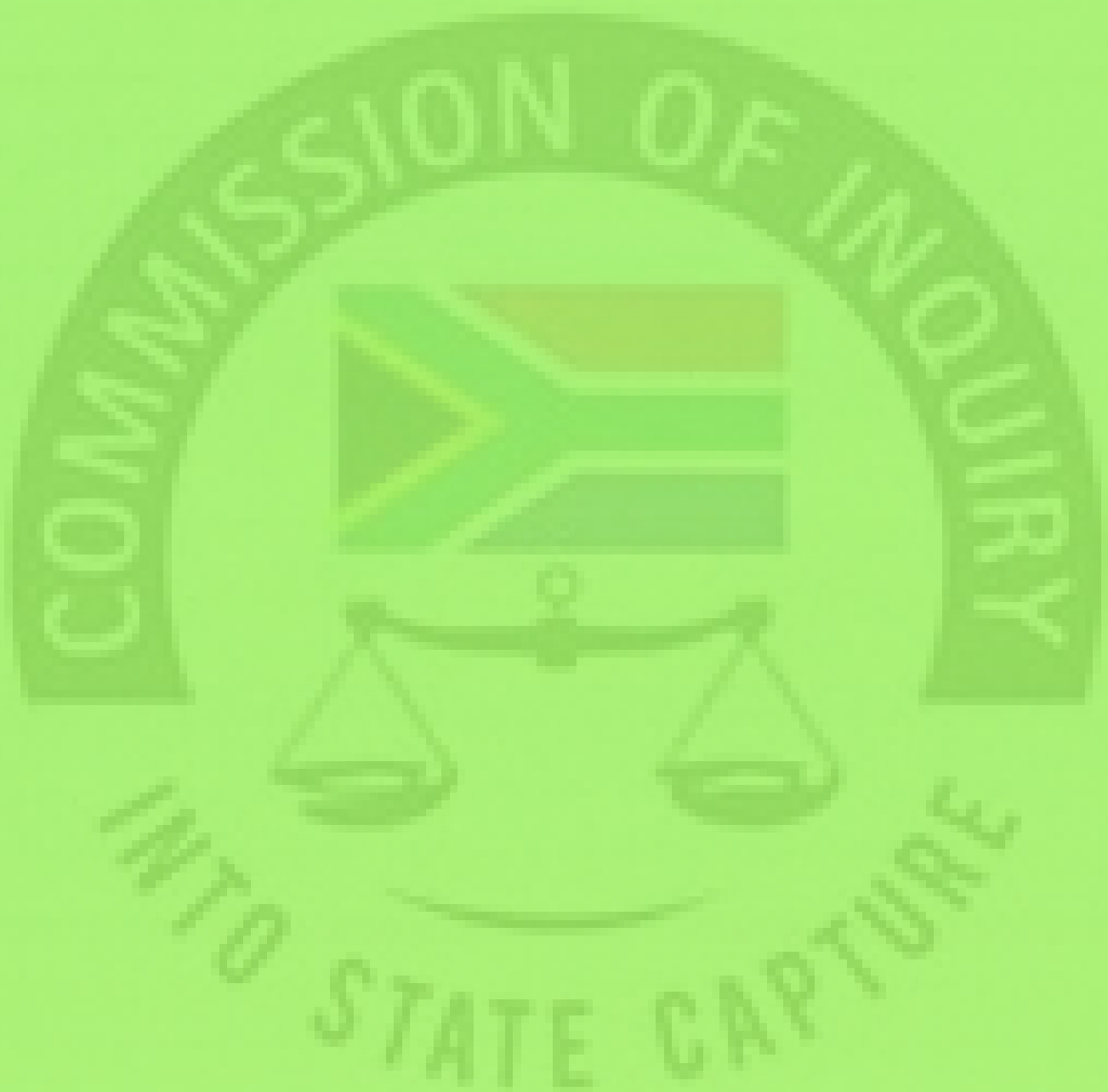
011 773 0832  
[www.transnet.net](http://www.transnet.net)

 083 2683365

 [Lindiwe.Mdletshe@transnet.net](mailto:Lindiwe.Mdletshe@transnet.net)



## ANNEXURE FC 97







GE South Africa  
Technologies

GE South Africa Technologies (Pty) Ltd  
130 Gazelle Avenue  
Corporate Park Midrand 1682  
PO Box 787122 Sandton  
2146 South Africa  
T +27 11 237 0141  
F +27 11 237 0121  
www.ge.com

Date: January 10, 2014  
Ref: TFRAC-HO-8609

Mr. Anoj Singh  
Carlton Centre  
Transnet SOC Ltd  
150 Commissioner Street  
Johannesburg  
2001

**Tender no: TFRAC-HO-8609**

**Description: Supply of 465 New Diesel Locomotives for the General Freight Business (GFB)**

Dear Mr. Singh,

GESAT sincerely appreciates the opportunity to further respond to Transnet's most recent clarification request. Following the guidelines suggested, GESAT has prepared the responses that follow.

**1. Base price excluding Hedging & Escalations**

R 25,624,560 per locomotive.

This is the base price excluding hedging and escalation as per our proposal submitted 30 April 2013. This base price assumes the use of Transnet Engineering (TE) as a subcontractor for the scope as defined in our 30 April 2013 submittal and is based on the pricing TE provided to GESAT at that time.

**2. Base price using Sub-contractors of GESAT's choice, not Transnet Engineering**

GESAT has been able to identify alternative suppliers who have in some instances been found to be more competitive as per our 04 December 2013 response to the TFR clarification request dated 02 December 2013 to replace some TE content.

As requested, GESAT is able to offer the below revised base price using sub-contractors of our choice, not Transnet Engineering:

R 24,311,700 per locomotive.

GE South Africa Technologies (Pty) Ltd  
A member of the GE Group of Companies  
**Directors:** K Cowan, M.M. Kabi, G.G. Zimba, S. Noormohamed, R McKeel, T Schweikert, Z Ebrahim, N Khaole

Reg.No.2008/017142/07 Vat no. 4170252003

GE CONFIDENTIAL



### 3. Disclosure of Foreign Amounts and Spot Rates used

Based on the revised pricing provided in item 2 (Base price using Sub-contractors of GESAT's choice) above:

- The stated US Dollar component per locomotive is USD\$1,030,490.
- The US Dollar component of the locomotive is calculated based on the ZAR: USD exchange rate of 9.168:1 on 17 April 2013.
- Any other imported content of the locomotives is purchased by GESAT from other South African suppliers in Rand and therefore will not be subject to currency fluctuation.

### 4. Local Content as Originally Submitted will not Change

GESAT understands that at least 55% local content is an imperative to driving South Africa's industrialisation and can confirm that local content target originally submitted on the 30 April 2013 will not change.

### 5. Reconciliation of best & final offer price to the Submitted price with reasons for changes

The price set forth in item 1 (Base price excluding Hedging & Escalations - R 25,624,560 per locomotive) above is as submitted in our 30 April 2013 submission. This is the price if TE is the subcontractor for the scope considered in the 30 April submission.


The price set forth in item 2 (Base price using Sub-contractors of GESAT's choice - R 24,311,700 per locomotive) above is based on using sub-contractors of our choice.

### Additional GESAT Remarks

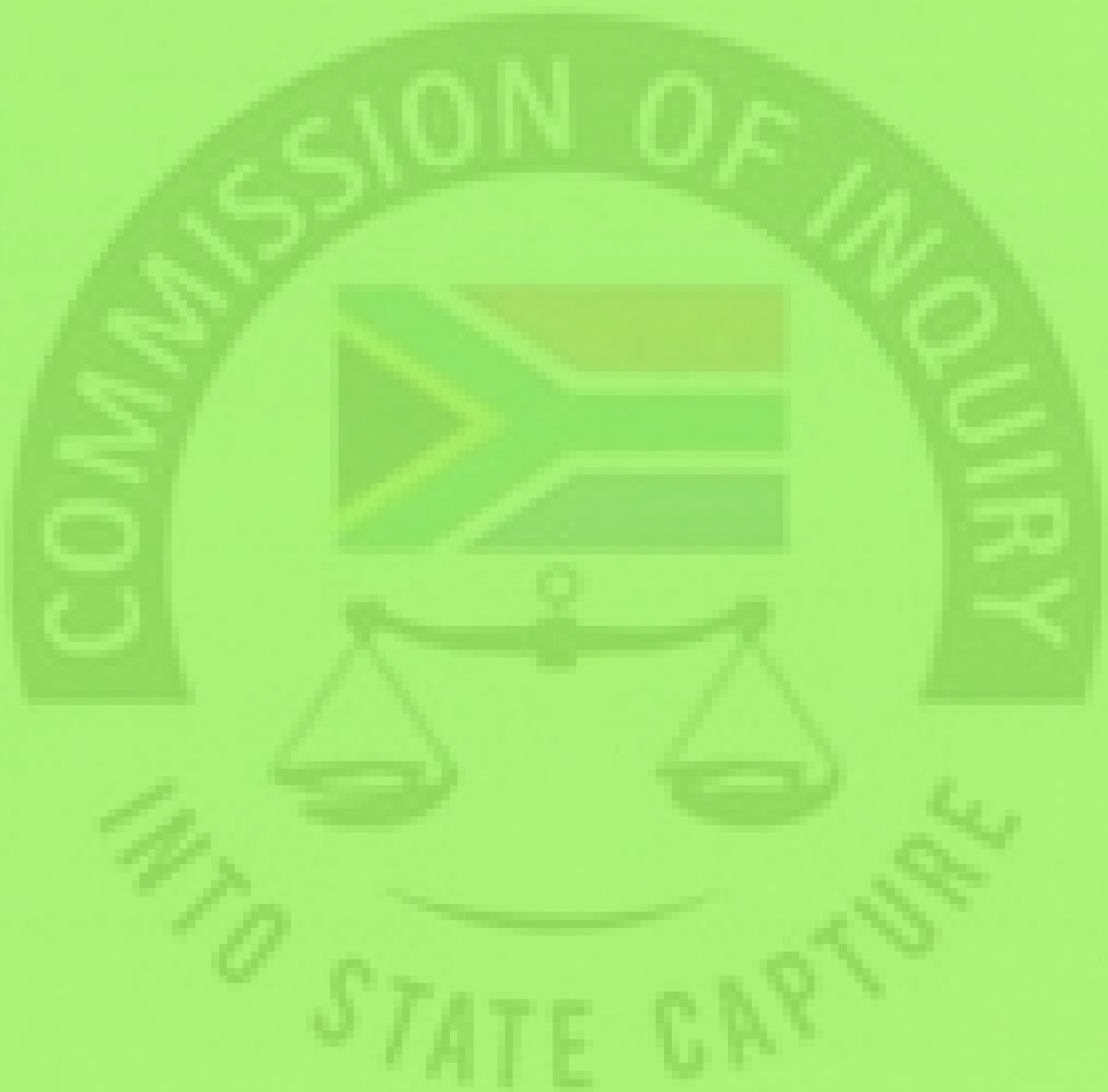
- All calculations of price are based on the ZAR: USD exchange rate of 9.168:1 on 17 April 2013 as per GESAT's 30 April 2013 submission.
- This USD: ZAR "forward curve" will be fixed at contract signing and utilized to determine the future payments in accordance with the contractual delivery schedule. All payments will be made in South African Rand currency unless Transnet prefers a different payment arrangement.
- Base pricing excludes hedging and escalation and subject to the escalation formula described in GESAT's 30 April submission.

Yours sincerely,

  
Gorman Zimba  
GESAT CEO

  
Zeenith Ebrahim  
GESAT Commercial Leader - SSA

## ANNEXURE FC 98





## CNR CONSORTIUM/UNINCORPORATED JOINT VENTURE

THE CHAIRPERSON  
TRANSNET FREIGHT RAIL  
ACQUISITION COUNCIL  
GROUND FLOOR  
TENDER BOX  
Inyanda House 1  
21 Wellington Road  
Parktown

10 JANUARY 2014

Dear Sirs, Madams

**TENDER NO:** TFRAC-HO-8609

**DESCRIPTION:** SUPPLY OF 465 NEW DIESEL LOCOMOTIVES FOR THE GENERAL FREIGHT BUSINESS (GFB)

**Return Date:** 10 January 2014 @ 14:00

With reference to your letter TFRAC-HO-8609 dated 4 January 2014 in the above regard.

Considering the guidelines suggested in the abovementioned letter, we would like to present to you our best and final offer for the tender:

1. We have reduced our **Base Price** in the TCO model (as referred to in your letter of 4 January 2014), from R39,735,831 (thirty nine million, seven hundred and thirty five thousand, eight hundred and thirty one rands) to **R27,360,000** (twenty seven million, three hundred and sixty thousand rands). This price relates to the cost of manufacture and does not include Training costs, Logistics, Royalties, Technical Support, Service Charges, Finance Costs and Contingencies, etc.
2. We confirm that the Base Price above excludes hedging costs.
3. We confirm that the Base Price does not include any escalations.
4. The spot exchange rates used in the Base Price above is based on the rates we used in the tender submission of 30 April 2013, being a USD/ZAR rate of R9, and EUR/ZAR rate of R12. Using these exchange rates, the Base Price in foreign currency value is USD3,040,000.00 per diesel Co-Co locomotive.

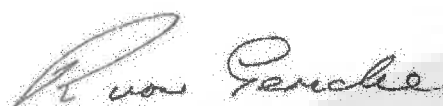
Care of: Global House, 60 Tulbagh Road, Kempton Park 1630  
P.O. Box 10285, Aston Manor, Kempton Park, 1619

Tel: +27 11 230 1900  
Fax: +27 11 396 1594  
Email: Rowlen@globalgroups.org

5. We confirm that the local content target originally committed to in our tender will not decrease, based on the assumptions contained in the RFP issued by Transnet.

Please do not hesitate to contact us should any additional information be required.

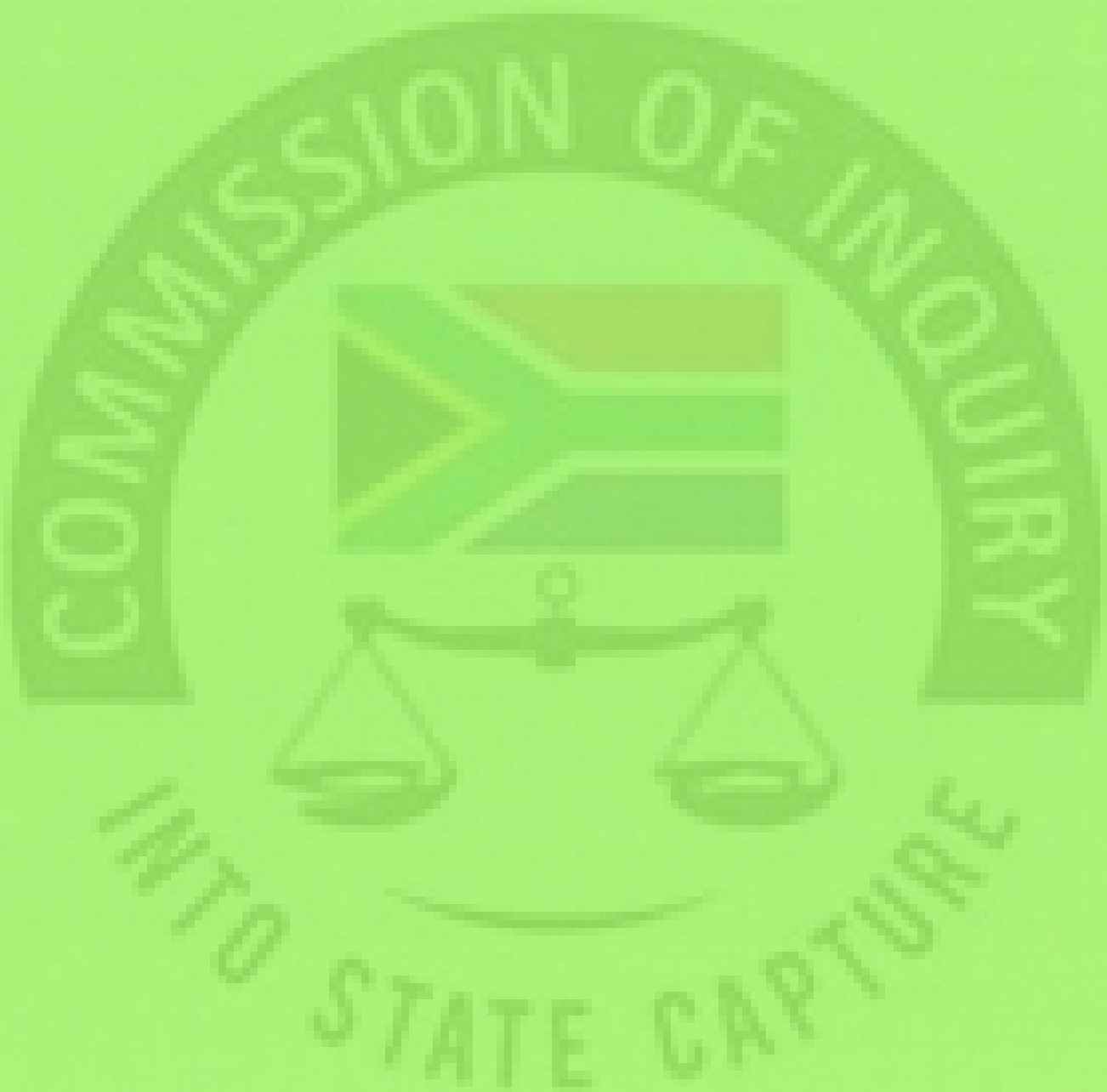
Yours faithfully



Rowlen von Gericke  
On behalf of CNR Consortium/Unincorporated Joint Venture



## ANNEXURE FC 99





Brian Molefe, Group Chief Executive

TRANSNET



Mr. Rowlen von Gericke  
CNR Consortium/ Unincorporated Joint Venture  
60 Tulbagh Road  
Kempton Park  
1619

Tel: 011 230 1900  
Cell: 083 283 1175  
Email: Rowlen@globalgroups.org

Brian Molefe  
Transnet SOC Ltd  
Carlton Centre  
150 Commissioner Street  
Johannesburg  
2001

Tel.: 011 308 2313  
Fax: 011 308 2315  
Email: Brian.Molefe@transnet.net

Date: January 14, 2014  
Ref: TFRAC-HO-8609

Dear Tenderer,

**TENDER NO.:** TFRAC-HO-8609

**DESCRIPTION:** SUPPLY OF 465 NEW DIESEL LOCOMOTIVES FOR THE GENERAL FREIGHT BUSINESS (GFB)

Your clarification response 10 January 2014 refers:

With reference to point 3 of the guidelines "3 Disclosure of foreign amounts and spot exchange rates used"

Your response did not indicate the foreign currency import per individual currency and amount.

Please confirm the individual foreign currency import amounts and spot exchange rates used based on the revised base price of ZAR 27 360 000 submitted.

Transnet reserve the right to issue further requests for clarification.

Failure to comply may prejudice your bid submission.

Response to clarification can be emailed to the Secretariat Ms. Prudence Nkabinde and Lindiwe Mdletshe: [Prudence.Nkabinde@transnet.net](mailto:Prudence.Nkabinde@transnet.net) and [Lindiwe.Mdletshe@transnet.net](mailto:Lindiwe.Mdletshe@transnet.net)

Kindly respond as soon as possible or before 15:00 today, 14 January 2014.

Yours faithfully

  
Brian Molefe  
Group Chief Executive

Transnet SOC Ltd  
Registration Number  
1990/000900/30

Carlton Centre  
150 Commissioner  
Street  
Johannesburg  
2001

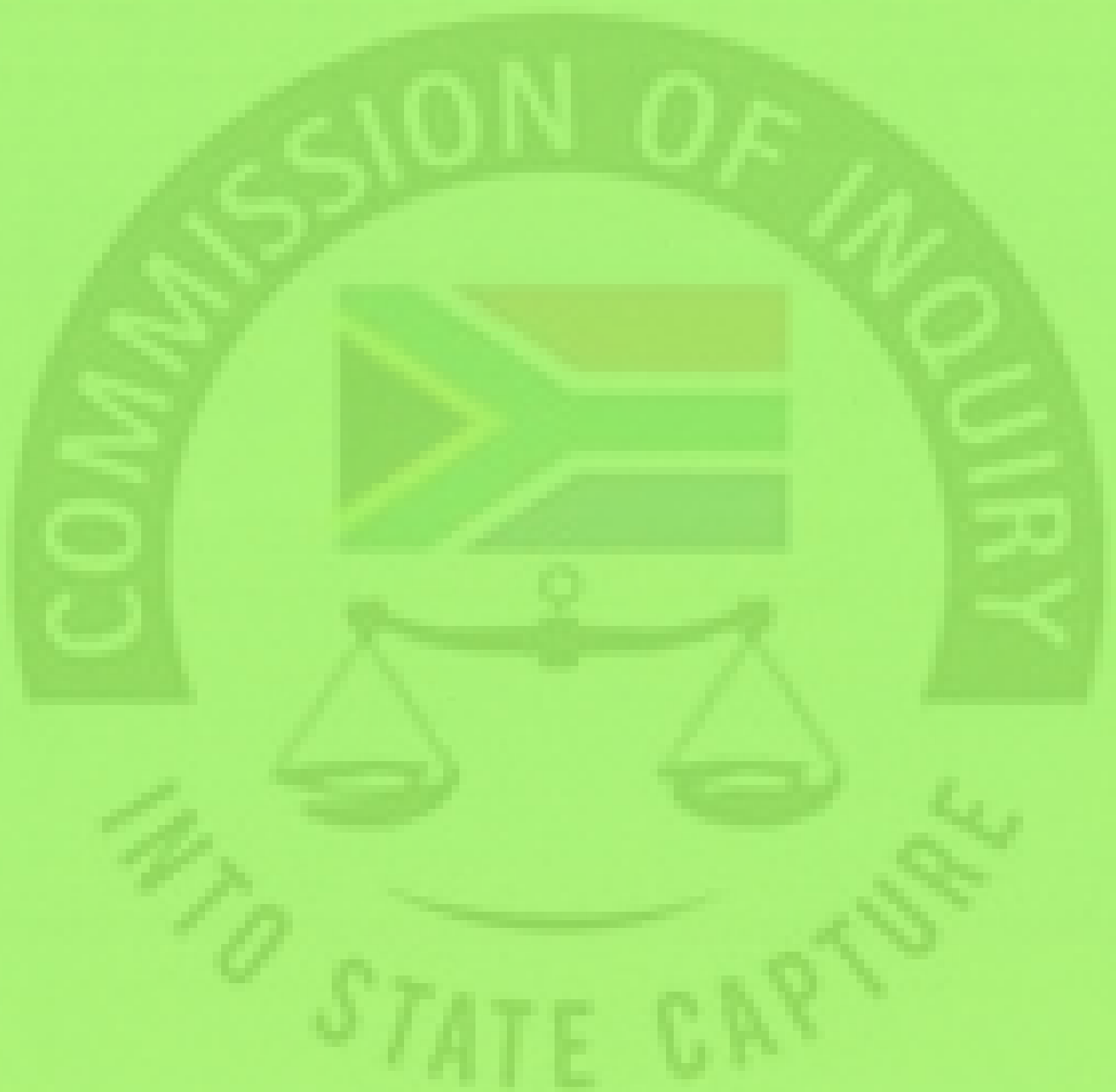
P.O. Box 72501  
Parkview, Johannesburg  
South Africa, 2122  
T +27 11 308 2309  
F +27 11 308 2315

**Directors:** ME Mkwana (Chairman) B Molefe\* (Group Chief Executive) MA Faniucchi Y Forbes HO Gazendam NP Mnxasana N Moola NR Njeke IM Sharma TB Skosana E Tshabalala DLJ Tshepe A Singh\* (Group Chief Financial Officer)  
\*Executive Indian

Group Company Secretary: ANC Ceba

[www.transnet.net](http://www.transnet.net)

## ANNEXURE FC 100



**CNR CONSORTIUM/UNINCORPORATED JOINT VENTURE**

THE CHAIRPERSON  
TRANSNET FREIGHT RAIL  
ACQUISITION COUNCIL  
GROUND FLOOR  
TENDER BOX  
Inyanda House 1  
21 Wellington Road  
Parktown

14 JANUARY 2014

Dear Sirs, Madams

**TENDER NO:** TFRAC-HO-8609**DESCRIPTION:** SUPPLY OF 465 NEW DIESEL LOCOMOTIVES FOR THE GENERAL FREIGHT BUSINESS (GFB)**Return Date:** 14 January 2014 @ 15:00

With reference to your letter TFRAC-HO-8609 dated 14 January 2014 in the above regard.

1. Or Local Content target as originally committed to in our tender will remain unchanged based on the assumptions contained in the RFP issued by Transnet.
2. For individual foreign currency import amounts, please refer to our tender proposal which was submitted to you on 30 April 2013.

Please do not hesitate to contact us should any additional information be required.

Yours faithfully

Rowlen von Gericke

On behalf of CNR Consortium/Unincorporated Joint Venture

Care of: Global House, 60 Tulbagh Road, Kempton Park 1630  
P.O. Box 10285, Aston Manor, Kempton Park, 1619

Tel: +27 11 230 1900  
Fax: +27 11 396 1594  
Email: Rowlen@globalgroups.org

## ANNEXURE FC 101



TRANSNET



Mr. Rowlen von Gericke  
CNR Consortium/ Unincorporated Joint venture  
60 Tulbagh Road  
Kempton Park  
1619

Tel: 011 230 1900  
Cell: 083 283 1175  
Email: Rowlen@globalgroups.org

Mr. Thamsanqa Jiyane  
Transnet Freight Rail  
15 Girton Road  
Parktown  
Johannesburg  
2193

Tel.: 011 584 0589  
Fax: 011 773 0858  
Email: Thamsanqa.Jiyane@transnet.net

Date: December 20, 2013

Ref: TFRAC-HO-8609

Dear Tenderer,

**TENDER NO.:** TFRAC-HO-8609

**DESCRIPTION:** SUPPLY OF 465 NEW DIESEL LOCOMOTIVES FOR THE GENERAL FREIGHT BUSINESS (GFB)

Your tender dated 30 April 2013 refers.

Transnet is currently finalising the bid valuations and has found some aspects which have been included as part of your Annexure E (Local Content Declaration – Supporting Schedule to Annexure C).

Transnet would like a breakdown and explanation of the following figures which have been taken from your Annexure E:

Manpower costs (Tenderer's manpower cost)	R	57 680 899.00
Factory Overheads (Rental, depreciation & amortisation, utility costs, consumables etc)	R	167 917 477.00
Admin Overheads & Markup (Marketing, insurance, financing, interest etc.)	R	5 232 393 194.00

It is critical that details are provided to TFR on the makeup of these values.

Please do not submit or resubmit any information in addition to the information required in the returnable schedule.

Transnet reserve the right to issue further request for clarification.

Failure to comply may prejudice your bid submission.

Transnet SOC Ltd  
Registration Number  
1990/000900/30

15 Girton Rd  
Inyanda 2  
Parktown  
Johannesburg  
2193

Private Bag x47  
Johannesburg  
South Africa, 2000  
T +27 11 544 9500  
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Transnet Freight Rail is an Authorised Financial Services Provider FSP 18828

www.transnetfreightrail-tfr.net

**Directors:** ME Mkwana (Chairman) B Molefe\* (Group Chief Executive) MA Fanucchi Y Forbes HD Gazendam NP Mnxasana N Moolá NR Njeke JM Sharma IB Skosana E Tshabalala DLJ Tshepe A Singh\* (Group Chief Financial Officer)  
Executive

Group Company Secretary: ANC Ceba

TRANSNET



The envelope is to be deposited in the Transnet Freight Rail tender box which is located at Inyanda No 1, Ground Floor, 21 Wellington Road Parktown, JOHANNESBURG and should be addressed as follows:

THE CHAIRPERSON  
TRANSNET FREIGHT RAIL  
ACQUISITION COUNCIL  
GROUND FLOOR  
TENDER BOX  
Inyanda House 1  
21 Wellington Road  
Parktown

OR

Clarifications can be emailed to the Secretariat Ms. Prudence Nkabinde and Ms. Lolo Sokhela:  
[Prudence.Nkabinde@transnet.net](mailto:Prudence.Nkabinde@transnet.net) and [Lolo.Sokhela@transnet.net](mailto:Lolo.Sokhela@transnet.net)

Please note that this clarification closes punctually at 10:00 on Monday, 23 December 2013.

Yours Faithfully

Mr. Thamsanqa Jiyane  
General Manager: Supply Chain Services

Transnet SOC Ltd  
Registration Number  
1990/000900/30

15 Gilton Rd  
Inyanda 2  
Parktown  
Johannesburg  
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Transnet Freight Rail is an Authorised Financial Services Provider FSP 18828

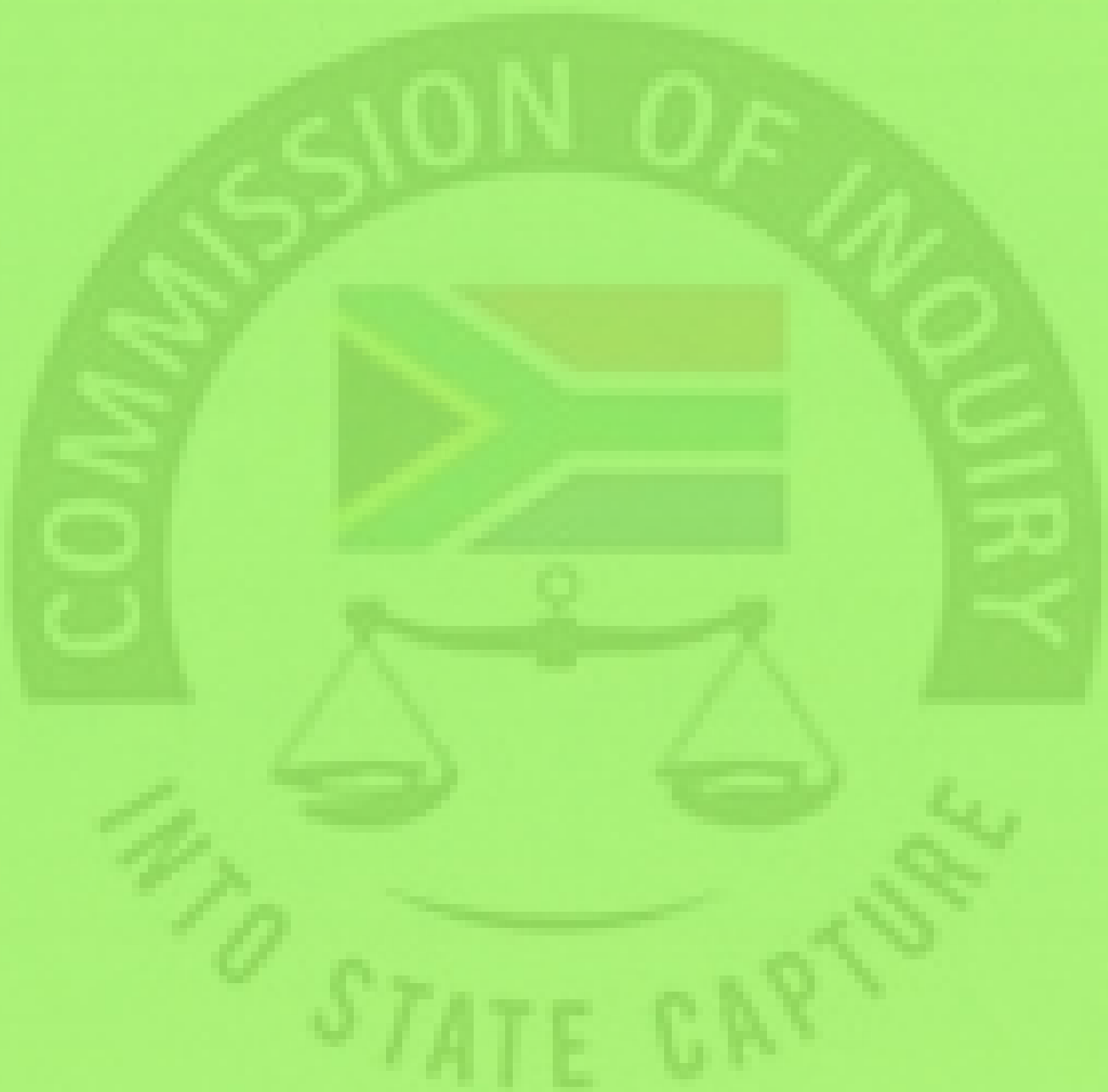
[www.transnetfreightrail-tfr.net](http://www.transnetfreightrail-tfr.net)

Directors: ME Mkwana (Chairman) B. Molefe\* (Group Chief Executive) MA Fanucchi Y. Forbes HD Gazendam NP Mnxasana N Moola NR Njeke IM Sharma IB Skosana E Tshabalala DLJ Tshepe A Singh\* (Group Chief Financial Officer)  
Executive

Group Company Secretary: ANC Ceba



## ANNEXURE FC 102





## CNR CONSORTIUM/UNINCORPORATED JOINT VENTURE

THE CHAIRPERSON  
TRANSNET FREIGHT RAIL  
ACQUISITION COUNCIL  
GROUND FLOOR  
TENDER BOX  
Inyanda House 1  
21 Wellington Road  
Parktown

22 DECEMBER 2013

Dear Sirs, Madams

**TENDER NO: TFRAC-HO-8609**

**DESCRIPTION: SUPPLY OF 465 NEW DIESEL LOCOMOTIVES FOR THE GENERAL FREIGHT BUSINESS (GFB)**

**Return Date: 23 December 2013 @ 10:00**

With reference to your letter TFRAC-HO-8609 dated 20 December 2013.

Our response to your request for a breakdown and explanation of the budget figures you have queried on our Annexure E is as follows;

1. Manpower Costs R57 680 899.00

This is a budgeted expense for the Project Management Company that will be established to manage and control the daily operations relevant to the supply of the locomotive contract.

2. Factory Overheads R 167 917 477.00

This budget figure is made up of;

Type test	R 45 000 000.00
TE Warehouse	R 13 689 291.00
TE Training in China	R 4 650 000.00
TE mockup	R 1 300 000.00
Bogie factory	R 104 494 382.00

Care of: Global House, 60 Tulbagh Road, Kempton Park 1630  
P.O. Box 10285, Aston Manor, Kempton Park, 1619

Tel: +27 11 230 1900  
Fax: +27 11 396 1594  
Email: Rowlen@globalgroups.org

### 3. Admin Overheads & Markup R5 232 393 194.00

This budget figure is made up of;

Insurance	R 321 127 385.00
Transport costs	R 118 915 000.00
Import Duties	R 87 377 035.00
Mark Up	R 2 525 336 169.00
Warranties	R 138 096 165.00
Interest Cost	R 1 330 621 894.00
Performance Bond	R 158 328 101.00
Consulting Fees	R 52 591 445.00
Contingency	R 500 000 000.00

We trust the above meets your requirements. Please be aware that our offices are closed until the 6th January 2014 at which time we will be able to answer any further questions you may have in this regard.

Kind regards,

Yours faithfully



Rowlen von Gerike  
On behalf of CNR Consortium/Unincorporated Joint Venture

## ANNEXURE FC 103



**fcallard@telkomsa.net**

---

**From:** Francis Callard <fcallard@telkomsa.net>  
**Sent:** 08 February 2018 01:03  
**To:** 'Mohammed Moola Transnet Freight Rail JHB'; 'Yousuf Laher Transnet Freight Rail JHB'; 'Xabiso Mtebele Transnet Freight Rail'; 'Sibusiso Nkosi Transnet Freight Rail JHB'; 'Lerato Mothae Transnet Corporate JHB'  
**Subject:** RE: 1064 ETC Recon to Business case model ver 6 correlated  
**Attachments:** 2014\_15 1064 Ver180207\_7 correlated.xlsx  
**Importance:** High

Hi All

Unfortunately an updated file. I was adding some crosschecking features and found two contract delivery tables were incorrect in their start date. These have been corrected but it does change figures marginally. (R40,192 goes to R40,457 for OEM delivery, payment and local content)

All changes are in the revision worksheet.

Please disregard all previous versions and use this version 7.

Sibusiso – this file has the cross checks we spoke about.

Write up now following.

Regards

Francis

**From:** Francis Callard [mailto:fcallard@telkomsa.net]  
**Sent:** 07 February 2018 13:19  
**To:** 'Mohammed Moola Transnet Freight Rail JHB' <Mohammed.Moola@transnet.net>; 'Yousuf Laher Transnet Freight Rail JHB' <Yousuf.Laher@transnet.net>; 'Xabiso Mtebele Transnet Freight Rail' <Xabiso.Mtebele@transnet.net>; 'Sibusiso Nkosi Transnet Freight Rail JHB' <Sibusiso.Nkosi2@transnet.net>; 'Lerato Mothae Transnet Corporate JHB' <Lerato.Mothae@transnet.net>  
**Subject:** RE: 1064 ETC Recon to Business case model ver 6 correlated  
**Importance:** High

Hi Colleagues

As per our discussion this meeting, please see:

- Model ver 6 correlated - the starting point balances exactly to the Business case model
- A original business case model updated with enhanced main control input.

Word document tomorrow.

All the best

Francis

**From:** Francis Callard [<mailto:fcallard@telkomsa.net>]

**Sent:** 01 February 2018 08:05

**To:** 'Mohammed Moola Transnet Freight Rail JHB' <[Mohammed.Moola@transnet.net](mailto:Mohammed.Moola@transnet.net)>; 'Yousuf Laher Transnet Freight Rail JHB' <[Yousuf.Laher@transnet.net](mailto:Yousuf.Laher@transnet.net)>; 'Xabiso Mtebele Transnet Freight Rail' <[Xabiso.Mtebele@transnet.net](mailto:Xabiso.Mtebele@transnet.net)>; 'Sibusiso Nkosi Transnet Freight Rail JHB' <[Sibusiso.Nkosi2@transnet.net](mailto:Sibusiso.Nkosi2@transnet.net)>

**Subject:** RE: 1064 ETC recon updated

Hi Team

Please see the recons from yesterdays discussion and a new table for 2014 real loco prices. Also the explanatory word document.

I will be available after 2: pm for further discussion.

Regards

Francis

**From:** Francis Callard [<mailto:fcallard@telkomsa.net>]

**Sent:** 29 January 2018 14:30

**To:** 'Mohammed Moola Transnet Freight Rail JHB' <[Mohammed.Moola@transnet.net](mailto:Mohammed.Moola@transnet.net)>; 'Yousuf Laher Transnet Freight Rail JHB' <[Yousuf.Laher@transnet.net](mailto:Yousuf.Laher@transnet.net)>; 'Xabiso Mtebele Transnet Freight Rail' <[Xabiso.Mtebele@transnet.net](mailto:Xabiso.Mtebele@transnet.net)>

**Subject:** RE: 1064 ETC recon

Hi Team

Please see the completed recon. I was not sure so added a line for extending the business case by one year. It was put out in 2013 and assumed almost instant delivery.

Second part below is the original.

I will come in tomorrow so can do any final tweaks with you.

Best

Francis

**From:** Mohammed Moola Transnet Freight Rail JHB [<mailto:Mohammed.Moola@transnet.net>]

**Sent:** 29 January 2018 10:41

**To:** [fcallard@telkomsa.net](mailto:fcallard@telkomsa.net); Yousuf Laher Transnet Freight Rail JHB <[Yousuf.Laher@transnet.net](mailto:Yousuf.Laher@transnet.net)>; Xabiso Mtebele Transnet Freight Rail <[Xabiso.Mtebele@transnet.net](mailto:Xabiso.Mtebele@transnet.net)>

**Subject:** 1064 ETC recon

Hi Francis,

Please refer attached recon template.

Kindly complete the cells highlighted in Green.

Chat later.

Regards

Mohammed Moola

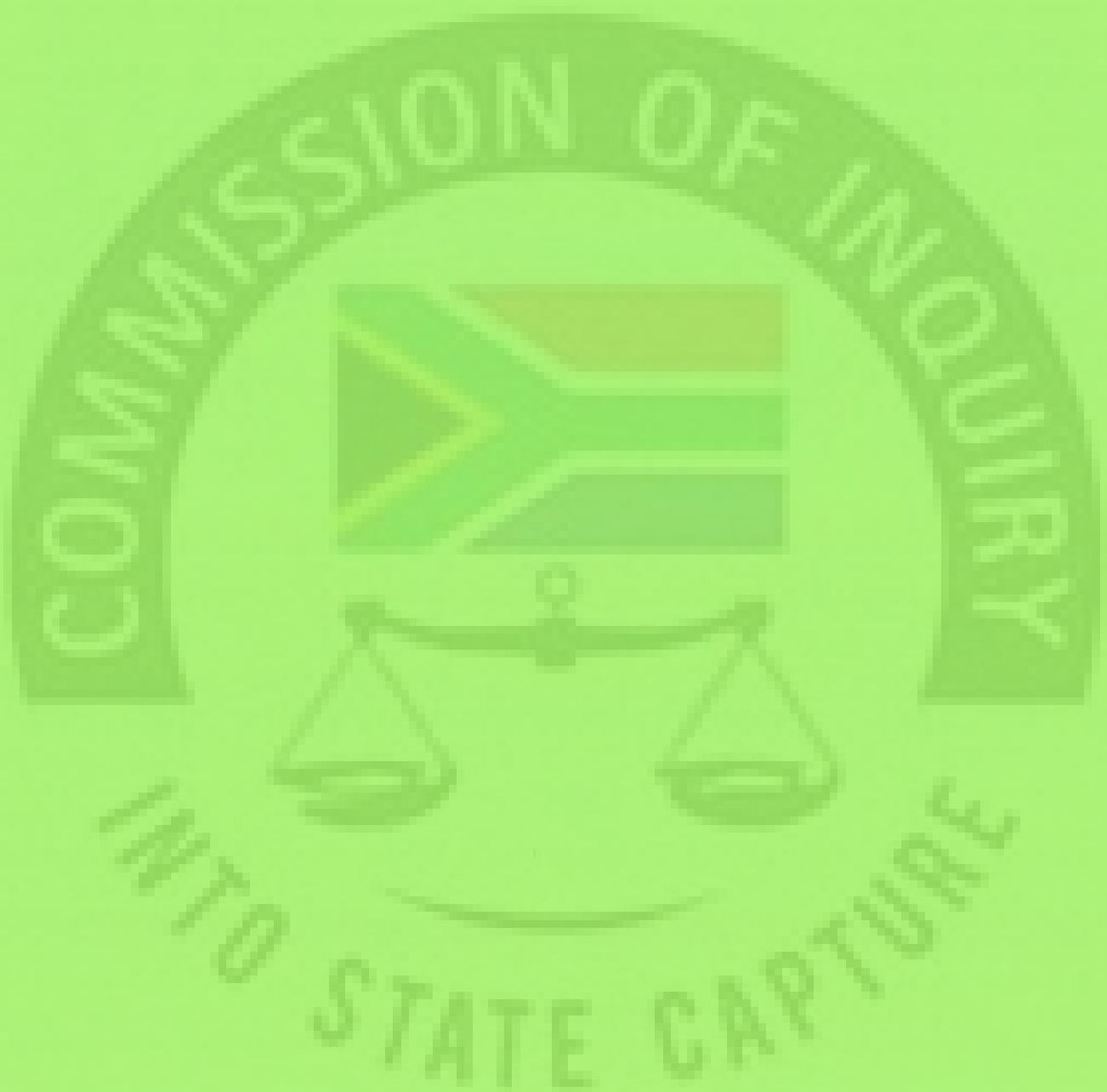




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## ANNEXURE FC 104



## Business case Original

	USD	Total	Loco Base Rm	Deposit	Desg.Rev	Base Price	Escalation	Forex	Total Rm	1064
Treasury FX (R/\$) BC 2013	2.6	12,640	24,922	0	0	11,705	408	528	12,640	
Business Case DIESEL 465	3.5	23,728	33,549	0	0	20,297	1,504	1,927	23,728	36,368
Business Case Electric 599										
Contingency										2,232
Business Case ETC										38,600

## Business Case Delivery with 2014 Tender prices

	USD	Total	Loco Base Rm	Deposit	Desg.Rev	Base Price	Escalation	Forex	Total Rm	1064
Treasury FX (R/\$) BC 2013	2.935	14,268	28,131	0	0	13,212	460	596	14,268	
Business Case DIESEL 465	3.128	21,207	29,985	0	0	18,141	1,344	1,722	21,207	35,475
Business Case Electric 599										

## BC 2014 Delivery Price 2014 Curve

	USD	Total	Loco Base Rm	Deposit	Desg.Rev	Base Price	Escalation	Forex	Total Rm	1064
Treasury FX (R/\$) 2014	2.935	16,199	31,489	0	0	14,789	515	895	16,199	
Business Case DIESEL 465	3.128	24,442	33,564	0	0	20,306	1,505	2,631	24,442	40,641
Business Case Electric 599										

## BC Del +1yr 2014 Forex Curve

	USD	Total	Loco Base Rm	Deposit	Desg.Rev	Base Price	Escalation	Forex	Total Rm	1064
Treasury FX (R/\$) 2014	2.935	17,234	31,489	0	0	14,789	890	1,555	17,234	
Business Case DIESEL 465	2.612	21,907	28,025	0	0	16,955	1,804	3,148	21,907	39,140
Business Case Electric 599						31,744	2,694	4,703	39,140	

## BC OEM Del

	USD	Total	Loco Base Rm	Deposit	Desg.Rev	Base Price	Escalation	Forex	Total Rm	1064
Treasury FX (R/\$) 2014	3.120	9,743	33,476	0	0	8,115	591	1,038	9,743	
Electric BT Contract 240	3.128	14,458	33,564	0	0	12,170	832	1,456	14,458	24,201
CSR Contract - 359										
Treasury FX (R/\$) 2014	2.617	7,838	28,081	0	0	6,608	446	783	7,838	
GE OEM Diesel 233	2.935	9,013	31,489	0	0	7,378	593	1,042	9,013	16,851
CNR OEM Diesel 232						34,271	2,462	4,318	41,052	41,052

## BC OEM Del and Payment

		USD	Total	Loco Base Rm	Deposit	Desg.Rev	Base Price	Escalation	Forex	Total Rm	1064
Treasury FX (R/\$) 2014 Electric BT Contract 240 CSR Contract - 359	USD	3.120	9,368	33.476	723	1446	5,924	463	812	9,368	0
	3.128		13,784	33.564	1205	2410	8,519	600	1,051	13,784	23,153
Treasury FX (R/\$) 2014 GE OEM Diesel 233 CNR OEM Diesel 232	USD	2.617	7,725	28.081	654	0	5,948	408	715	7,725	0
	2.935		8,817	31.489	731	365	6,272	526	924	8,817	16,542
							26,662	1,997	3,502	39,695	39,695

## BC OEM Delivery Payment and Local Content

		USD	Total	Loco Base Rm	Deposit	Desg.Rev	Base Price	Escalation	Forex	Total Rm	1064
Treasury FX (R/\$) 2014 Electric BT Contract 240 CSR Contract - 359	USD	3.120	9,310	33.476	723	1446	5,936	557	648	9,310	0
	3.128		13,707	33.564	1205	2410	8,537	726	830	13,707	23,017
Treasury FX (R/\$) 2014 GE OEM Diesel 233 CNR OEM Diesel 232	USD	2.617	7,696	28.081	654	0	5,954	455	633	7,696	0
	2.935		8,784	31.489	731	365	6,278	578	832	8,784	16,480
							26,704	2,316	2,942	39,497	39,497

BAFO - 13	ZAR M	R : US\$	USD M
January 2014			
Diesel			
General Electric	27.1595	10.7290	2.5314
CNR	30.4553	10.7290	2.8386
Electric			
Bombardier	32.3778	10.7290	3.0178
China South Rail	32.4623	10.7290	3.0257