TRANSNET

delivering on our commitment *to you*

national ports authority

Tariff Application

2012/13 Tariff application to the Ports Regulator in terms of the National Ports Act, 2005

(Act No. 12 of 2005)

Transnet National Ports Authority

29 July 2011

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1. Executive summary

In terms of Section 72 (1)(a) of the National Ports Act, 2005 (Act No. 12 of 2005) ("the Act"), Transnet National Ports Authority ("the Authority") is required, with the approval of the Ports Regulator ("the Regulator"), to determine tariffs for services and facilities offered by the Authority and to annually publish a tariff book containing those tariffs. The tariff application for the Authority's 2012/13 financial year is in accordance with the directives, which were approved on the 13th July 2010 (gazetted on the 6th August 2010) and amended on 29 January 2011. In terms of these directives when considering the proposed tariffs for the Authority, the Regulator must ensure that such tariffs allow the Authority to:

a) Recover its investment in owning, managing, controlling and administering ports and its investment in port services and facilities;

b) Recover its costs in maintaining, operating, managing, controlling and administering Ports and its costs in providing port services and facilities; and

c) Make a profit commensurate with the risk of owning, managing, controlling and administering ports and of providing port services and facilities.

The Authority is applying for a single year tariff adjustment, across all its published and regulated tariffs. The methodology applied in this tariff application is consistent with the tariff methodology discussion papers submitted by the Authority in 2010 and 2011 with the exception of determining the opening regulatory asset base and depreciation. Per this methodology, the revenue requirement approach is defined as follows:

Revenue requirement$_1$[1] = (cost of capital x regulatory asset base ("RAB")) + operating costs + depreciation + taxation expense – claw back – financing requirements costs previous year x (1 + cost of capital previous year) + financing requirements costs current year

The cost of capital has been determined by calculating a Vanilla weighted average cost of capital ("WACC"). The RAB is derived from the audited fixed asset closing balance at 31 March 2011, with estimated capital expenditure; depreciation; and inflation taken into account.

Operating expenses are informed by the Transnet Corporate Plan as approved by the Board of Directors ("the Board") of Transnet Limited ("Transnet") in February 2011.and adjusted for latest estimates for the financial year ending 31 March 2013.

1.[1] The individual components of the Required revenue calculation are discussed in section 6.

Depreciation was calculated based on the straight-line method beginning on the estimated date that assets will become available for use, in accordance with the principles contained in International Accounting Standards ("IAS") 16.

A taxation computation was performed in order to arrive at the taxation expense, which is included in the revenue requirement calculation.

The Claw back is the mechanism used to rectify any over or under-recovery of required revenue relating to previous tariff determinations.

A financing requirements cost was not required for this application.

Following on the Record of Decision FY2010/11 the Authority has determined the effect on revenue requirement of including the Real Estate business in this tariff application. However, owing to the categorization and valuation approaches of the Real Estate assets the Authority recommends, for now, that a revenue requirement excluding this business be determined.

The net revenue requirement from tariffs of the Authority, excluding the Real Estate business, for the period 1 April 2012 to 31 March 2013 is R9, 645m and is demonstrated in the table below:

Description	R million
RAB	58,490
Real post-tax WACC	8.97%
Return on Capital ('ROC")	5,245
Plus: Depreciation	1,130
Plus: operating expenses	2,981
Plus: taxation expense	786
Total revenue requirement	10,142
Less: Claw back	(497)
Total revenue requirement after claw back	9,645

Table 1: Net revenue requirement calculation

In order to calculate the tariff increase for 2012/13, the net revenue requirement is then compared with the expected revenue 11/12 increased for the expected growth in volume for 12/13. The following formula reflects this calculation:

Description	R million
RR12/13	9,645
ER 11/12	7,807
EVI (%)	4.65%
ER 12/13 including volume increase (R million)	8,170
Tariff adjustment (%)	18.06%

Table 2: Tariff increase calculation

Tariff increase = [(RR12/13 /ER12/13) -1

Where:

- RR12/13 is the revenue requirement for 2012/13
- ER11/12 is the estimated revenue for 2011/12
- EVI is the expected increase in volumes in 2012/13
- ER12/13 is the estimated revenue for 2012/13 before tariff adjustments

The Authority hereby makes an application to the Ports Regulator for a tariff reduction in 2012/13, based on a revenue requirement of R9, 645m of 18.06%.

2. The Business of the Authority

2.1 Introduction

The Authority is a division of Transnet, a wholly state-owned enterprise. The Authority is charged with obligations in terms of the Act to manage the commercial ports in South Africa and to ensure their efficient and economic functioning.

In delivering on its business mandate the Authority is aligned with the Transnet growth strategy, as illustrated in the diagram below:

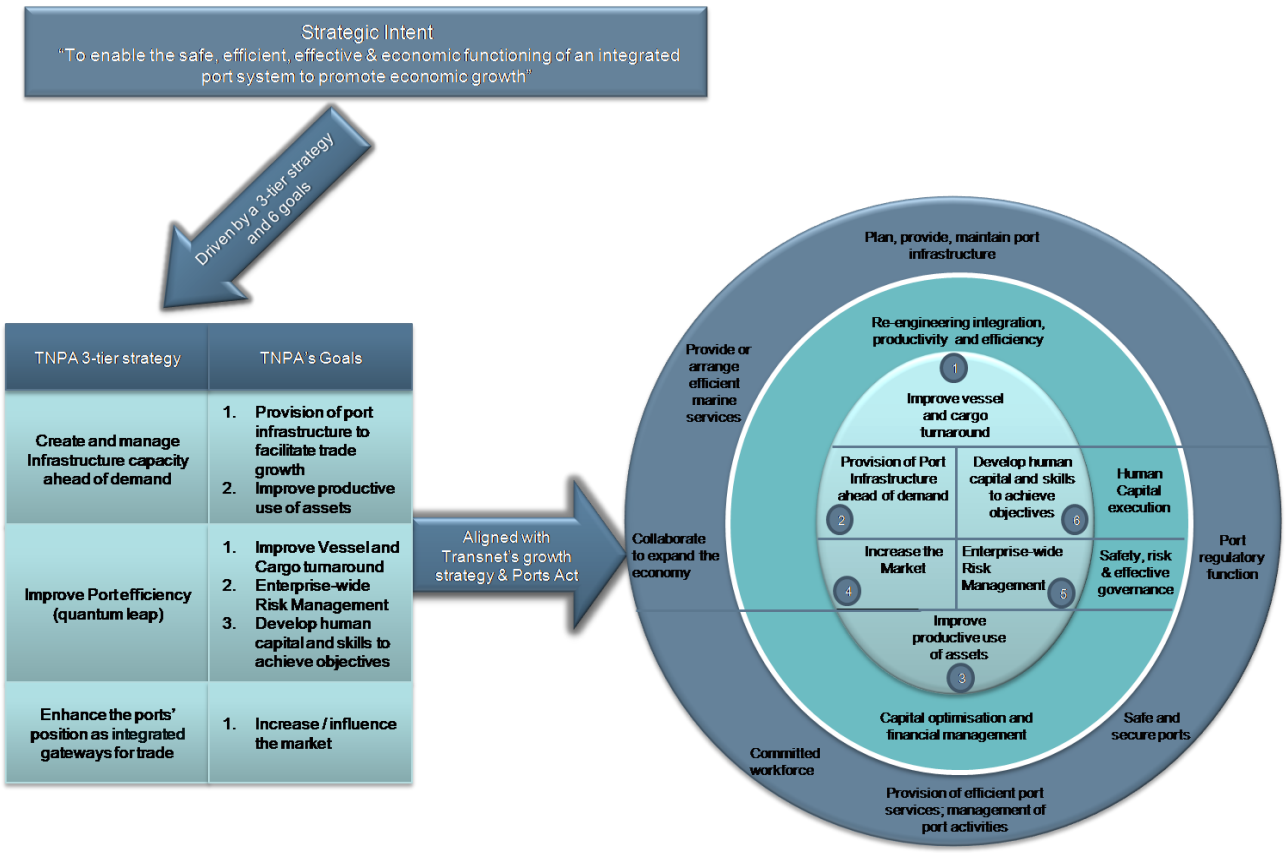


Diagram 1: Strategic Intent

2.2 The functions of the Authority

The National Commercial Ports Policy requires that the Authority will be responsible for the management of the national commercial port system as a landlord port authority. Being a landlord-type port authority means that the Authority:

- Owns, develops and maintains port infrastructure;
- Does not engage in port operations (except as operator of last resort);
- Does not employ cargo handling labour;
- Fulfils a port regulatory and port landowner function; and
- Owns all port land

As landlord, the Port Authority typically owns, develops and maintains port infrastructure, whilst not engaging in cargo handling. The Authority's core functions (as set out in Section 11 of the Act) can be summarised as follows:

Function	Detail
Landlord	Promote the use, improvement and development of ports, and control land use within the ports, having the power to lease port land under conditions it determines.
Master planner	Plan, improve, develop and maintain port infrastructure.
Controller of ports navigation	Make and apply rules to control navigation within port limits and approaches, ensure protection of the environment and ensure safety and security within port limits.
Controller of ports services and facilities	Ensure that port services and facilities are provided, and may enter into agreements or licence other parties to provide these.
Marketer and administrator	Ensure that adequate, affordable, equitable and efficient port services and facilities are provided for port users.
Change agent	Ensure non-discriminatory, fair, transparent access to port services and facilities; advancement of previously disadvantaged people; promotion of representation and participation in terminal operations; enhanced transparency in port management.
Coordinator with other state agencies	Advise on all matters relating to the port sector, and liaise with all stakeholders.

Table 3: The Authority's core functions

The Authority manages eight commercial ports within South Africa, namely Saldanha Bay, Cape Town, Mossel Bay, Port Elizabeth, Ngqura, East London Durban and Richards Bay. Port Nolloth is listed as one of the commercial ports in the Act, but is leased by the Authority to the De Beers Corporation and is not utilised as a commercial port.

Transnet's strategy is to be a focused freight transport company delivering integrated, efficient, safe and cost effective freight solutions, which help, promote economic growth in South Africa. Having successfully chartered a major turn-around in the years 2004 to 2008, Transnet is now focusing on a growth strategy comprising the following four elements:

- Re-engineering integration, productivity and efficiency;
- Capital optimisation and financial management;
- Safety, risk and effective governance; and
- Human capital development.

In fulfilling its role in the Transnet strategy, the Authority provides port infrastructure[2] and marine-related services[3], including the management of port activities and the port regulatory function, in a landlord capacity. The Authority is responsible for the safe, efficient and effective economic functioning of the national ports system, which it manages, controls and administers on behalf of the state.

As the custodian of the country's primary trading hubs, the Authority manages the most vital conduits of the country's imports and exports, ensuring the provision of port services and port facilities to port users. Port users fall into three main categories, namely: terminal operators, shipping lines and cargo owners. While numerous other parties utilise the port, they do so to a lesser extent than these principal port users.

[2] Port Infrastructure means the basic structure of a port, including breakwaters, seawalls, channels, basins, quay walls, jetties, roads, railways and infrastructure used for the provision of water, lights, power, sewerage and similar services.

[3] Pilotage, tug services and berthing

The Authority provides port users with a combination of port infrastructure facilities and services. Each port has a natural hinterland with defined markets, which determines the nature of services and facilities, and the types of cargo handled at each port. Hence, each port operates and develops its own specialized services within a complementary port system to support a defined customer base.

The ports handle in excess of 98% of the country's imports and exports and the Authority plays a pivotal role in international trade by providing suitable port infrastructure to grow the country's imports and exports. The Authority's sustainable business performance is thus integral to the well-being of the South African economy.

2.3 Tariffs in perspective

The Authority, like any other port authority, needs to generate revenue by charging tariffs for the services that it renders. The Authority may charge fees, in accordance with tariffs approved by the Regulator in order to fulfil the functions it must perform in terms of the Act.

As a landlord port authority, the Authority's core services, as specified in the Act, result in a number of revenue streams, which are utilised by the Authority to fulfil its responsibility for the safe, efficient and effective economic functioning of the national ports system.

There are various services provided within a port and Diagram 2: Various Port Services (adapted from the United Nations Conference on Trade and Development) illustrates the flow of cargo and ships through the port:

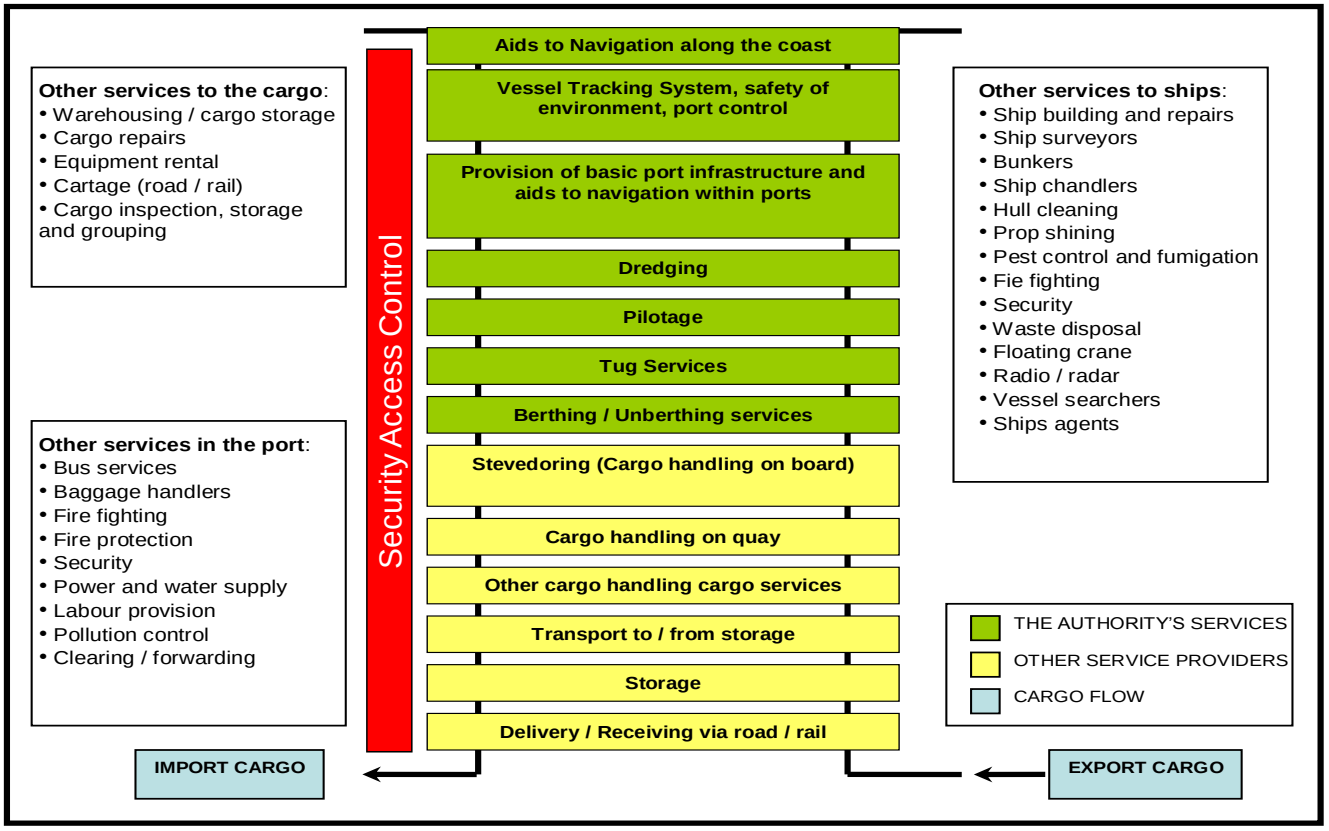


Diagram 2: Various Port Services

The Authority's services at the ports can be divided into two basic groups:

- Basic port infrastructure; and
- Operational services to port users.

The Authority's services and the respective revenue streams are set out in the table below:

Port Infrastructure		Revenue Stream
Port land and Terminals	Lease port land to terminal operators and other port service and port facility providers in the port(s) and undertake environmental management and land use planning	Lease income (rentals)
Wet infrastructure	Lighthouse services infrastructure (lighthouses, buoys, beacons and electronic / radio navigation equipment) , port control and safety, entrance channels, breakwaters, turning basins, aids to navigation within port limits, vessel traffic services, maintenance dredging within ports.	Light dues, port dues, vessel traffic services fees
Dry infrastructure	Quay walls, roads, rail lines, buildings, fencing, port security, lighting (outside terminals), bulk services and in certain cases terminal infrastructure	Cargo dues, berth dues
Ship repair services	To provide and maintain repair facilities as well as the cranes utilised in such facilities.	Preparation fee, docking and undocking fees (vessels at repair facilities), Berth dues (vessels at repair quays)
Marine services	Pilotage, tug assistance, berthing, running of lines, floating cranes	Pilotage dues, tug assistance fees, berthing fees, running of line fees, floating crane hire fees

Table 4: The Authority's services and corresponding revenue streams

In the context of the South African ports and the Act, the revenue generated from the Authority's services is utilised inter alia to:

- maintain basic port infrastructure;
- provide current and future port infrastructure;
- maintain and provide the current and future marine fleet; and
- maintain and provide current and future ship repair facilities.

This makes the South African port system distinct from most ports internationally, where typically, some port capital costs are funded through state or municipal budgets. The Authority's Tariff Book sets out the various tariffs that are charged by the Authority to maintain and develop the South African port system.

These are:

Tariffs	Service Rendered	Application
Light dues	The provision of navigation aids to vessels along the South African coast	Raised per vessel (per gross ton) at the first port of call (Tariff Book Section 1)
Vessel Traffic Services	The provision of vessel traffic services, safety of the port environment and port control	Raised per vessel (per gross ton) at all ports (Tariff Book Section 2)
Port dues	The provision and maintenance of entrance channels, breakwaters, turning basins, navigational aids (beacons and buoys inside port limits) and maintenance dredging inside the port	Raised per vessel (per gross ton), linked to the time that the vessel remains in port (Tariff Book Section 4)
Berth dues	The provision and maintenance of repair quays and other non-cargo quay (berth) infrastructure	Raised per vessel (per gross ton), per 24-hour period (Tariff Book Section 4)
Cargo dues	To recover the cargo contribution towards the provision and maintenance of basic port infrastructure	Raised per unit of cargo, differentiated between different commodities (Tariff Book Section 7)
Rentals	Lease of port land to terminal operators, port service and port facility providers	Rental arrangements including escalations are negotiated on a case-by-case basis and are not reflected in the tariff book.
Pilotage	Pilotage assistance to vessels entering/leaving the port	Raised as a basic fee per service, plus per vessel (per gross ton) (Tariff Book Section 3)
Tug Assistance	Tug assistance to vessels entering/leaving the port	Raised per service, based on the size of the vessel (per gross ton) (Tariff Book Section 3)
Miscellaneous Tug/Vessel services	Tanker fire watch, fire fighting and standby services	Raised per service, per hour (Tariff Book Section 3)

Tariffs	Service Rendered	Application
Berthing Services	Berthing services to tie/untie vessels at the berth	Raised per service (Tariff Book Section 3)
Running of Vessel Lines	Running of lines for vessels entering, leaving or shifting	Raised per service (Tariff Book Section 3)
Floating Crane Services	Floating crane services rendered to the vessels	Raised per service, per hour (Tariff Book Section 3)
Ship Repair Facilities	Preparation, Docking and Undocking of vessels at repair facilities	Raised per service (Tariff Book Section 6)
Dry-dock, floating dock, synchrolifts and slipways	Dry-dock, floating dock and syncrolift fees	Raised per service for the use of a facility, based on the size of the vessel (per gross ton) (Tariff Book Section 6)

Table 5: The Authority's tariffs

Apart from the services that the Authority itself renders, the Authority is also the controller of port services and facilities that are provided by others in the ports. The Authority exercises such control in accordance with the provisions of the Act, by means of agreements, licences and permits. The Act and Port Rules issued by the Authority in terms of section 80(2) of the Act and the Authority's Guidelines of Agreements Licences and Permits (25 April 2008), specify the degree of regulation that is being exercised in this regard. The type of regulation is illustrated in Diagram 3:

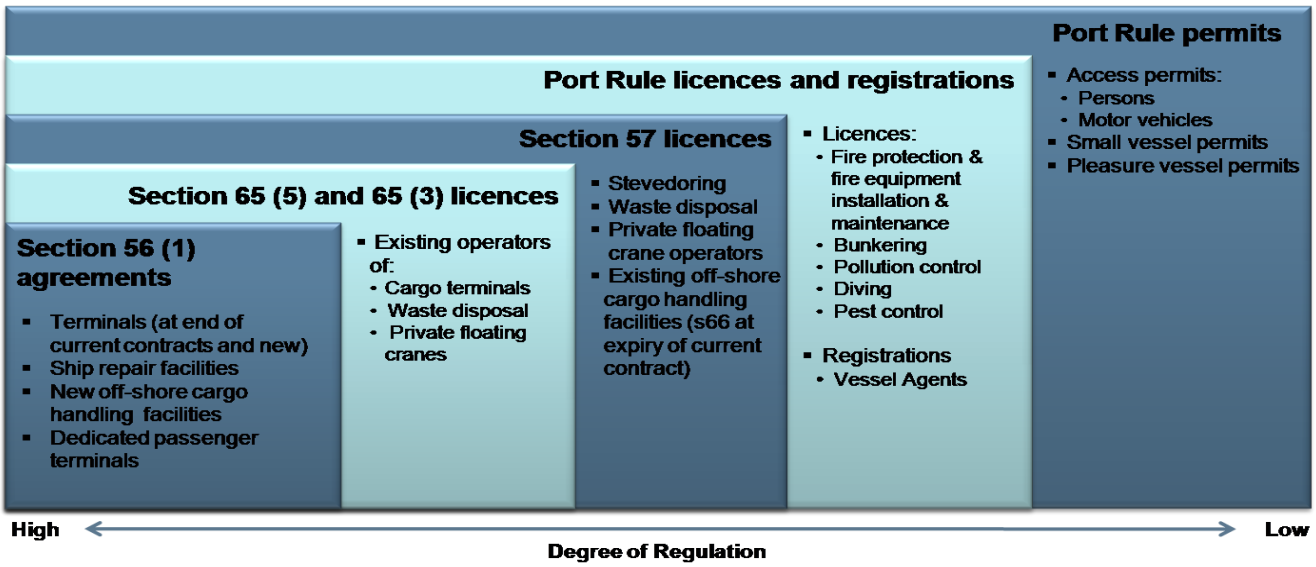


Diagram 3: Types of regulation

Section 73(1) (c) and (d) provide that the Authority may charge fees for the granting of concessions and licences and for any services provided by the Authority in the performance of its functions. The Authority has created a separate section in the Tariff Book, Section 5, where the licence, registration and permit fees are specified. This is summarized in the following table:

Fees	Service rendered	Application
Port Service Licence, Port Rule Licence, Port Rule Registrations and Port Rule Permit Fees	Fees payable for licences, registrations and permits in accordance with section 57 of the Act and with Port Rules issued in terms of section 80(2) of the Act.	Raised as a fee for the respective licences, registrations and permits issued (Tariff Book Section 5)

Table 6: Licence fees

2.4 Ship Repair in South African ports

The Authority operates ship repair facilities[4], whilst repair activities are carried out by private entities. Ship repair completes the total service offering at the South African ports and brings economic benefits to the ports and the country. The Authority has re-evaluated its involvement in ship repair facilities and the operation thereof. The decision has been taken that the Authority will withdraw from operating repair facilities itself and allows private operators to perform this function. The contracting structure between the Authority and future operators will be in the form of agreements entered into in terms of section 56 of the Act ("section 56 agreements").

It is anticipated that over time, all of the current (and future) repair facilities will be operated by private operators. Ship repair tariffs currently included in Section 7 of the Tariff Book will be phased out.

The withdrawal of the Authority being the existing operator goes together with the potential transfer of existing personnel to a new (to be appointed) operator. This must be done in accordance with existing Transnet policy and guidelines. It is anticipated that this process, especially where it may include the transfer of existing staff, will take time and the Authority is therefore not able to give a firm commitment that the phasing out of existing repair facilities will be completed by March 2013.

[4] Ship repair facilities - drydocks, slipways, shiplifts, graving docks, floating docks

3. Port infrastructure development plan and capital expenditure required

3.1 Port investment planning

Section 11(1) of the Ports Act lists the main functions of the Authority, and Section 11(1) (a)-(f) lists the responsibilities with respect to the provision of port infrastructure:

'11. (1) *The main function of the Authority is to own, manage, control and administer ports to ensure their efficient and economic functioning, and in doing so the Authority must:*

(a) *plan, provide, maintain and improve port infrastructure;*

(b) *prepare and periodically update a port development framework plan for each port, which must reflect the Authority's policy for port development and land use within such port;*

(c) *control land use within ports, and has the power to lease land under such conditions as the Authority may determine;*

(d) *provide or arrange for road and rail access within ports;*

(e) *arrange for such services such as water, light, power and sewerage and telecommunications within ports;*

(f) *maintain the sustainability of the ports and their surroundings;'*

3.2 Transnet's medium-term Port Development Plan

The Authority's key role is to manage and develop national port infrastructure assets. Transnet Capital Projects have prepared a set of Development Framework Plans for the Authority's ports, in conjunction with the Authority. These framework plans identify the long-term development options for the ports in South Africa, based on a strategic evaluation of the available sites for port development. The port capacity requirements for each of the ports have been estimated for the next 30 years based on long-term cargo forecasts. From this work, a number of port development scenarios and schemes have been identified.

The costs of each of the specific port development schemes have been estimated and a long-term investment programme has been set out for each alternative scenario. This has been referred to as the unrestrained investment programme, i.e. it is not limited by Transnet's ability to raise funds for capital works. . The plan covers all the ports, but two thirds of estimated investment costs, over the first ten years, relate to the ports of Durban and Richards Bay.

A complementary Rail Development Framework Plan has also been prepared. The two plans have been coordinated and harmonised to ensure that they use consistent sets of traffic forecasts and estimates of capacity requirements. This is essential for the development of an optimally deployed investment in South Africa's ports and freight corridor networks.

The National Ports Development Plan provides a framework within which the medium-term detailed investment plans can be developed for the next five to ten years. The Authority's executive committee has endorsed this medium-term Port Development Plan.

The Authority has an investment plan for the next five years, approved by the Transnet Board. This investment plan shows the Authority has planned investment expenditure averaging approximately R4.65 billion per annum.

The medium-term Development Plan envisages a massive increase in this level of expenditure to an average of nearly R8billion per year over the next 10 years. These steep increases in port capital investment are both a consequence of under investment in the past and the fact that the limits of capacity are being reached at our ports. Large-scale schemes are needed at new sites to accommodate projected traffic volumes.

The medium-term Development Plan is based on a set of long-term forecasts of cargo throughput at each port, for each of the main categories of cargo. The cargo forecasts for containers were prepared using statistical trend analysis, relating container growth to a number of macroeconomic indicators. Forecasts for break bulk, dry bulk, liquid bulk and motor vehicles were developed from industry interviews. These provided information to develop commodity profiles and to identify the key drivers of growth for each type of commodity, on which judgement-based forecasts were developed.

The projections of port capacity needs were based on estimates of cargo handling capacity of the existing facilities, and proposed new facilities given known terminal handling rates. A specific analysis of container handling capacity was carried out for the existing and proposed new facilities, using international benchmarks throughput comparisons. These estimates indicated a wide range of possible capacity outcomes, depending on the methods used and conditions pertaining in different locations.

The assumed efficiency of cargo handling and the utilisation of available berths are critical to the assessment of future capacity needs and hence investment costs. Cargo handling efficiency can be expected to improve over time, although the Port Development Plan assumes constant berth capacity throughput rates. This is a realistic planning procedure, to allow for the provision of infrastructure, which by its nature has a long lead-time, just ahead of demand. It must be borne in mind that there is

a balance between the capital costs to the port, and the capital costs to the ship. The lowest overall logistics cost should determine the optimum berth occupancy.

The demand forecasts and berth capacity estimates were used to estimate the additional berth and cargo handling equipment requirements, for each type of cargo, at each port. A variety of schemes and port layout options were considered at each port to provide the required capacity for each cargo type, and the interaction between the options were considered, to develop feasible options. The costs of each of the possible port schemes was estimated, including both the Authority's port infrastructure costs and terminal handling equipment costs. Complementary work on the rail investment requirements for the port corridors is being carried out. A broad evaluation of the cost effectiveness of the various port development scenarios was carried out to evaluate the possible sequencing of the options.

On this basis, a number of possible long-term port development strategies were identified for each port and overall strategic options were proposed. A review of the Port Development Plan is being performed taking into account the potential for achieving higher levels of efficiency in cargo handling rates and Transnet Group Integrated Planning is in the process of producing a revised investment plan. The Authority takes comfort from the fact that its approved investment program is complementary to that contained in the current Port Development Plan, which is used in stakeholder discussions in order to plan and invest appropriately in port infrastructure ahead of demand.

3.3 The Authority's capital investment program

The Authorities capital investment program is carried out in terms of Transnet's Capital expenditure policy, which requires projects over R300m to be managed internally by Transnet Capital Projects (TCP) and projects below R300m, by the respective division or TCP if there are divisional resource constraints. In table 13 a split of the budgeted costs to be paid to TCP for the management of the various projects is shown, project management costs are estimated at 15% of the projects annual cash flow.

The tables below reflect the budget and forecast information and analysis contained in the Authority's approved investment programme:

Description	Budget 2011/12 Rm	Forecast 2012/13 Rm
Corporate Plan	2,444	3,281
Real Estate Investment	670	1,042
Capital without Real Estate	1,775	2,238

Table 7: Capital investment programme

Five – year capital investment plan by objective		Budget 11/12 Rm	Projections 12/13 Rm
Strategy	Strategic objectives		
Re-engineering, Integration, Productivity and Efficiency	To maximise return on investments by obtaining additional volumes	807	490
	To maximise return on investments by improving operating efficiencies	90	402
	To preserve current revenue streams without obtaining additional volumes (i.e. revenue protection)	599	993
Safety Risk and Effective Governance	Ensure Safety Optimisation	184	311
	Optimise Business Enterprise Offerings	42	41
	Optimally Satisfy Social Investments (non economic value creating projects)	53	-
	Environmental	-	-
Human Capital Execution	Optimise Human Resources	-	-
	Total excl. borrowing cost	1,775	2,238

Table 8: Capital Investment Plan by Objective

Asset Type	Budget 2011/12 Rm	Forecast 2012/13 Rm
Buildings and structures	173	101
Aircraft	-	-
Land	0	-
Machinery, equipment and furniture	111	124
Permanent way and works	-	-
Vehicles, Rolling stock & containers	-	-
Port Facilities	1,491	2,012
Other	-	-
Pipelines networks (etc)	-	-
Total	1,775	2,238

Table 9: Capex Requirements and Purpose

Major projects by Estimated Total Cost	
Project	Current ETC Rm
Widening and Deepening of Entrance Channel (Incl. Sand bypass) : DBN	3,360
Reconstruction of Sheet-Pile Quay Walls at Maydon Wharf : DBN	1,594
Operationalise Port for Containers (Prelim & Execution) : Ngqura	3,836
Expansion of Container Terminal : CPT	2,608
Re-engineering of DCT : DBN	785
Reconstruction of Island View berths 2, 5 & 6 : DBN	667
Deepening of Container berths 203 to 205 : DBN	3,300
Acquisition of 3 replacement Tugs : SLD	607
Provision of additional Bulk Liquid berthing capacity : RCB	343
Total	17,099

Table 10: Major Projects by Estimated Total Cost

Brief motivation for key port projects	
Description	Motivation
Widening and deepening of entrance channel (incl. sand bypass)	Widen port entrance channel to a minimum navigation width of 220m and deepen to a depth of 19m in outer channel to cater for larger vessels expected in future and also to improve safe navigation of vessels. Furthermore the Sand bypass system needs to be replicated.
Re-engineering of DCT	Demolition and relocation of existing services infrastructure and construction of new paving to increase stacking capacity at Container terminal. This project will maximise the DCT land space for the stacking of containers and ensure that the berth, stack and equipment capacity is optimised at 2.9m TEU's p.a.
Reconstruction of sheet-pile quay walls at Maydon Wharf	Refurbish and deepen 7 steel sheet-pile quay walls to increase safe operations and extend life of quays.
Deepening of container berths 203 to 205 : Dbn	Deepening of container berths in the port to accommodate larger vessels already calling.
Reconstruction of Island View berths: Berths 2, 5 & 6	Reconstruction of decommissioned berth 5 at Island View to ensure continued liquid bulk capacity and refurbishment of various Island View berths to improve operational efficiencies.
Bayhead Road Upgrade (From Langeberg Road to Pier 1) and Truck Staging Areas	This project involves the rehabilitation of the dual carriage way section of the road as well as the widening of the single carriageway. Two additional lanes will be provided to cater for increased traffic volumes and truck staging areas will be provided to accommodate trucks which allows for controlled arrivals into the Container and Bulk liquid precinct.
Operationalise port for containers (Prelim and Execution) : Ngqura	Construction of 2 additional container berths - additional 1.2m TEU's capacity. Total capacity of 4 berths container terminal 2.0m TEU's.
Expansion of container terminal : CPT	Upgrade and deepening of 4 container berths with increase in capacity from 0.7m TEU's to 1.0m TEU's and ultimately to 1.4m TEU's on completion of entire project.
Acquisition of 3 replacement tugs : SLD	Acquistion of 3 replacement tugs to cater for current and future demand for marine services. Existing tugs are over 30yrs old and replacement is aligned to Marine Fleet Management plan.
Provision of additional Bulk Liquid berthing capacity : RCB	The construction of an additional Bulk Liquid berth to cater for increased demand. Future capacity 2.7m tons.

Table 11: Motivation for Key Projects

Capex :TCP Managed vs Authority Managed Projects	
	Rm
Projects Managed by TCP	880
Projects Managed by the Authority	1,359
Total	2,238

Table 12: Capex Spend TCP Managed Vs. Authority Managed

Capex Internal Vs. External	Port	TCP Fees 12/13	External Fees 12/13	Total 12/13
Widening and Deepening of Entrance Channel (Incl. Sand bypass)	Dbn	23	128	150
Pipe racking expansion at Island View and Fynnland (incl. Feasibility).	Dbn	19	107	126
Reconstruction of Sheet-Pile Quay Walls at Maydon Wharf	Dbn	56	319	375
Reconstruction of Berth 2 at Island View	Dbn	10	59	70
Construct New Port of Ngqura (Marine & Landside Infrastructure)	Ngq	3	17	20
Operationalise Port for Containers (Prelim & Execution)	Ngq	6	34	40
Expansion of Container Terminal : CPT	Cpt	15	83	98
Total		132	748	880

Table 13: Capex spend: internal and external potions of TCP managed projects

Capex Spend By Major Commodities (Excl. Borrowing Costs)	Budget 2011/12 Rm	Projections 2012/13 Rm
Containers	817	598
Liquid Bulk	241	222
Iron Ore	10	-
Coal	-	3
Manganese	44	4
Break Bulk	90	378
Automotive	-	-
Fleet - craft	178	459
Other (incl DRS&LHS)	396	573
Total (incl. borrowing cost)	1,775	2,238

Table 14: Capex Spend By Major Commodities

Capex Spend By Major Commodities (Excl. Borrowing Costs) Per Port	TNPA Budget 2011/12 Rm	RCB Budget 2011/12 Rm	DBN Budget 2011/12 Rm	ELS Budget 2011/12 Rm	NGQ Budget 2011/12 Rm	PLZ Budget 2011/12 Rm	MSB Budget 2011/12 Rm	CPT Budget 2011/12 Rm	SLD Budget 2011/12 Rm	LHS Budget 2011/12 Rm	DRD Budget 2011/12 Rm	HO Budget 2011/12 Rm
Containers	817	-	59	-	334	-	-	424	-	-	-	-
Liquid Bulk	241	40	195	-	-	-	-	6	-	-	-	-
Iron Ore	10	-	-	-	-	-	-	-	10	-	-	-
Coal	-	-	-	-	-	-	-	-	-	-	-	-
Manganese	44	-	-	-	-	44	-	-	-	-	-	-
Break Bulk	90	-	90	-	-	-	-	-	-	-	-	-
Automotive	-	-	-	-	-	-	-	-	-	-	-	-
Fleet - craft	178	12	24	-	-	-	-	57	85	-	-	-
Other (incl DRS&LHS)	396	74	59	34	-	42	1	29	31	61	16	48
Total	1,775	125	427	34	334	86	1	516	126	61	16	48

Table 15 Capex Spend By Major Commodities Per Port Budget 11/12

Capex Spend By Major Commodities (Excl. Borrowing Costs) Per Port	TNPA F/Cast 2012/13 Rm	RCB F/Cast 2012/13 Rm	DBN F/Cast 2012/13 Rm	ELS F/Cast 2012/13 Rm	NGQ F/Cast 2012/13 Rm	PLZ F/Cast 2012/13 Rm	MSB F/Cast 2012/13 Rm	CPT F/Cast 2012/13 Rm	SLD F/Cast 2012/13 Rm	LHS F/Cast 2012/13 Rm	DRD F/Cast 2012/13 Rm	HO F/Cast 2012/13 Rm
Containers	241	40	195	-	-	-	-	6	-	-	-	-
Liquid Bulk	10	-	-	-	-	-	-	-	10	-	-	-
Iron Ore	-	-	-	-	-	-	-	-	-	-	-	-
Coal	44	-	-	-	-	44	-	-	-	-	-	-
Manganese	90	-	90	-	-	-	-	-	-	-	-	-
Break Bulk	-	-	-	-	-	-	-	-	-	-	-	-
Automotive	178	12	24	-	-	-	-	57	85	-	-	-
Fleet - craft	396	74	59	34	-	42	1	29	31	61	16	48
Other (incl DRS&LHS)	1,775	125	427	34	334	86	1	516	126	61	16	48
Total	-	-	-	-	-	-	-	-	-	-	-	-

Table 16: Capex Spend By Major Commodities Per Port Forecast 12/13

Capex investment Per port	Budget 2011/12 Rm	Projections 2012/13 Rm
Richards Bay	125	170
Durban	427	956
East London	34	57
Ngqura	334	66
Port Elizabeth	86	32
Mossel Bay	1	4
Cape Town	516	299
Saldanha	126	394
Dredging Services	16	183
Lighthouse Services	61	39
Other	48	39
Total (excl. borrowing cost)	1,775	2,238

Table 17: Capex Investment per Port

Capex Spend per Port Service / Facility	Capex 12/13 Rm
Infrastructure	1,557
Marine services	459
Lighthouse services	39
Dredging services	183
Total	2,238

Table 18: Capex spend per port service/Facility

Feasabililty Studies included in Capex Plan	Port	Current ETC Rm	Budget 12/13 Rm
Feasibility to establish a Coal terminal	RCB	3	3
Feasibility Maydon Wharf channel deepening	DBN	8	3
Feasibility: Upgrade IV sea walls	DBN	6	5
Feasibility:Replace Water Pipelines & Billing System	DBN	6	6
Feasibility: DCT berth deepening 203 to 205	DBN	60	10
Total		83	27

Table 19: Feasibility study costs

3.4 Port Consultative Committees (PCC's)

All Ports have established Port Consultative Committees as prescribed in terms of Section 81 of the National Ports Act.

The committee consists of:

- Harbour Master of the relevant port and
- Two persons representing the Authority;
- Three persons representing the local port users;
- Two persons representing the local and provincial governments, respectively, of the area in which the port is situated;
- Two persons representing organised labour;
- One person representing the South African Maritime Safety Authority.

The function of the Port Consultative Committee is, with regard to any matter concerning a port:

- To provide a forum for the exchange of views between the Authority and other interested parties; and
- To advise the Minister of Transport

The Authority must consult the Port Consultative Committee regarding

- Any major scheme relating to the expansion or development of a particular port;
- Any other matter on which the Minister or the Shareholding Minister may require the Authority to consult the Committee.

National Port Consultative Committee

Section 82.

1. The Minister of Transport must appoint a National Port Consultative Committee consisting of at least:

(a) one representative from each Port Consultative Committee;

(b) four representatives of national government departments;

(c) a representative of the National Port Users Forum;

(d) a representative of organised labour; and

(e) a representative of the Authority.

2. The functions of the National Consultative Committee are

(a) to advise the Minister on national commercial ports policy matters;

(b) to advise the Minister on measures that need to be taken to improve the

regulatory framework governing management and operations of ports;

(c) to consider any proposed substantial alteration to the Authority's tariffs; and

(d) to consider any other matter that the Minister or the Shareholding Minister

may require the Committee to consider.

3. The Minister must appoint an official of the Department of Transport as chairperson of the National Port Consultative Committee.

The PCC's are at various stages of progression at the different ports. Below is a summary of the status at each port.

Port	Port Development Framework Plan	Capex Plan
Richards Bay	8th November 2010	TBC
Durban	9th November 2010	TBC
East London	23rd November 2010	TBC
Ngqura	8th April 2011	TBC
Port Elizabeth	11th November 2011	11th November 2011
Mossel Bay	26th November 2011	TBC
Cape Town	TBC	TBC
Saldanha	1st June 2011	1st June 2011

Table 20: PCC's Summary

The Authority is still awaiting the appointment of the National Port Consultative Committee members.

4. Tariff application approach

The methodology applied in this tariff application is guided by the tariff methodology discussion papers submitted by the Authority in 2010 and 2011 with the exception of determining the opening regulatory asset base and depreciation. Per this methodology, the revenue requirement approach is as follows:

1. Calculation of a revenue requirement in the tariff review year
2. Conversion of the revenue requirement into a tariff increase taking into account estimated revenue for the current financial year.

Real Estate has been excluded from the calculation of a revenue requirement (the impact of including Real Estate is dealt with under Section 8)

The calculation of a revenue requirement is dealt with in section 5. The following formula calculates the revenue requirement:

Revenue requirement$_1$[5] = (cost of capital x regulatory asset base ("RAB")) + operating costs + depreciation + taxation expense – claw back – financing requirements costs previous year x (1 + cost of capital previous year) + financing requirements costs current year

From time to time, the Authority's allowed revenues may be insufficient to meet its financing requirements as a stand-alone entity, particularly in periods when the business has had to raise substantial capital (for instance, to undertake large investments). Since access to capital is essential to investment and the effective provision of port services, the Authority may apply financing requirement costs for additional revenues sufficient to allow it achieve key financial ratios that would be consistent with those of a business that is able to maintain a rating that is comfortably investment grade, i.e. A-/A3. This was not considered necessary for this tariff application hence a financing requirements cost factor was not required.

The second step involves the conversion of the revenue requirement into tariffs and is detailed in section 7.2. This requires calculating a percentage increase that is to be applied to 2012/13 tariffs by taking into account the required revenue for 2012/13, the expected revenue for 2011/12 and the expected volume increase in 2012/13. The adjusted tariffs that the Authority proposes to be effective in 2012/13 are reflected in **Annexure E:** The authority's proposed tariff book for 2012/13.

1.[5] The individual components of the Required revenue calculation are discussed in section 6.

5. Revenue Requirement

5.1 The RAB

As the landlord port authority, the Authority is responsible for the management of the South African national ports system. The Authority owns, develops and maintains port land infrastructure. Land includes all land within the port limits and unless it is occupied or utilised by the Authority, it is excluded from the RAB because returns on real estate assets are derived through property lease income.

Port infrastructure development plan has been presented in section 3. These assets form the majority of the RAB used to calculate the revenue requirement for the year 2012/13.

In determining the Tariff Application RAB of the Authority, owing to the non-finalisation of the tariff model, we commence with the audited asset base excluding real estate assets at 31 March 2011, which results in a deviation from the Authority proposed methodology discussion papers.

Below we illustrate the steps taken in calculating the RAB.

a) The RAB value used in the allowed revenues formula reflects the expected average RAB value over the tariff period (i.e. the average between closing and opening values) for the review period.

b) The RAB value for the review period, y, is calculated using the following formula:

$$RAB_y = \frac{1}{2}\left(RAB_{C,y} + RAB_{O,y}\right)$$

Where:

- $RAB_{O,y} = RAB_{C,y-1} \times (1 + CPI_y)$
- $RAB_{C,y} = (RAB_{O,y} - WC_y) \times (1 + CPI_y) + CI_y + WC_y - D_y$

Where:

- CPI_y is the annual rate of general inflation expected over the review period;
- CI_y is the value of expected capital investment over the review period, expressed in closing year prices;
- WC_y is the required working capital over the review period, expressed in closing year prices;
- D_y is the depreciation allowance for assets within the RAB over the review period;
- $RAB_{O,y}$ is the opening Regulatory Asset Base over the review period in closing year prices; and
  - $RAB_{C,y}$ is the closing Regulatory Asset Base over the review period in closing year prices.

Table 20 illustrates the calculation of the RAB and its individual components are discussed below:

Details	R m	References
Net Book Value (NBV) – Total TNPA Assets @ March 2011	52,405	Refer to Section 5.1.1 and Annexure D
NBV Inflated to 31 March 2012 terms	55,445	Refer to Section 5.1.3
Less: Depreciation for Financial Year 2011/12	(1,043)	Refer to Section 5.1.4
Add: Capital Spending for Financial Year 2011/12	1,780	Refer to Section 5.1.5
Closing NBV 31 March 2012	56,182	
Opening NBV inflated to 31 March 2013 terms	59,215	Refer to Section 5.1.3
Less: Depreciation for Financial Year 2012/13	(1,130)	Refer to Section 5.1.4
Add: Capital Spending for Financial Year 2012/13	2,278	Refer to Section 5.1.5
Closing NBV 31 March 2013	60,364	
Average of opening and closing NBV	58,273	Refer to Section 5.1 (b)
Add Working Capital for the review period	218	Refer to Section 5.1.6
RAB for Tariff Application 2012/13	58,490	Refer to Section 5.1

Table 21: Calculation of the RAB

5.1.1 ASSET BASE DATA

The asset base data is obtained from the audited financial accounts for the year ending 31 March 2011. Table 22 starts with the total Asset Base excluding Real Estate assets.

5.1.2 CWIP AND CAPITAL SPENDING

CWIP refers to assets that are under construction. Such construction ties up scarce capital and Port facilities typically take between 24 and 36 months to construct. In order to arrive at the complete required return on assets, a return on CWIP must be included in the revenue requirement, as the construction of these assets must be financed.

5.1.3 INFLATING THE ASSET BASE

In our Revenue Requirement methodology (Real vanilla WACC x RAB), it is a requirement to inflate the Asset base as we are applying a Real Vanilla WACC. Estimated inflation figures have been obtained from the Bureau of Economic Research (BER) as shown below.

01 April 2011 – 31 March 2012	01 April 2012 – 31 March 2013
5.80%	5.40%

Table 22: Inflation Forecast

5.1.4 DEPRECIATION

In accordance with IAS 16, the following principles are applied:

- Depreciation commences when the asset is declared available for its intended use after the commissioning of the asset.
- The useful lives and residual values of assets are reviewed and adjusted annually, in accordance with IAS 16.
- An asset's carrying value is written down immediately to its recoverable value if the asset's carrying value is greater than its estimated recoverable value.
- Assets in the course of construction are not depreciated.

The forecast depreciation that has been used to calculate the revenue requirement amounts to R1, 130 m, using the IAS principles described above.

In the absence of an agreed methodology, the above method of determining depreciation has been used to approximate depreciation for determining the required revenue. This results in a deviation from the Authority's proposed methodology discussion papers.

5.1.5 THE INVESTMENT PROGRAM

The nature of the Authority's investment program for 2012/13 financial year is such that the majority of the projects either have been sanctioned or are in the final stages of sanctioning.

5.1.6 WORKING CAPITAL

Net working capital comprises of inventory, receivables plus operating cash, less trade payables and forms part of the RAB. The detailed explanation of the components of Net working capital is discussed below:

Current Assets:

- Inventory

Inventories on hand are required to maintain the port facilities, which are charged as tariffs. Average of the opening and closing balance has been used for this purpose with the expected change estimated at R33, 4m.

- Average Operating Cash

Operating cash is that which remains in the Authority's institutional bank account (i.e. not sweeped into Current account held between Transnet Group and the Authority at year-end). Average of the opening and closing balance has been used for this purpose with the expected change estimated as R11m.

- Trade receivables

Revenue is assumed to be earned equally over the financial year and in terms of business practice is usually settled 30/31 days from statement date. Therefore Trade Receivables has been based on the revenue requirement calculated in the tariff application inflated for 14% VAT divided by 12 months to account for the 1 month delay in receipt of cash.

Less:

Current Liabilities:

- Trade Payables :

This is informed by Operating Costs (excluding Labour Costs) and Capital Expenditure incurred by the business. Labour is excluded as this is paid within the month of incurrence.

- Operating expenses (excluding Labour Costs) are usually settled within 30/31 days from invoice date and assuming they are incurred evenly throughout the year that contained in the tariff application inflated by 14% VAT should be divided by 12 to account for the 1-month delay in payment by the Authority.

- Capital expenditure payables - in terms of the revenue requirement determination the Authority includes the Capital expenditure (CAPEX) for the coming year in the determination of the regulatory asset base. Hence, the financing effect of the terms extended by creditors relating to capital expenditure needs to be included in current liabilities. This Capex can be split into that expected to be paid 30/31 days from incurrence and the balance to be settled within a period greater than a year (retention monies to address latent defects and disputes).

    - Payable within 30/31 days- 95% of the Capex spend in the Tariff Application should be used, inflated by 14% VAT and divided by 12 on the assumption that this is incurred evenly throughout the year.

    - Retentions to be included is calculated by taking into account the balance of 5% Capex spend as contained in the Tariff Application inflated by 14% VAT.

- VAT Liability

This represents the Input VAT element contained within Trade receivables offset by Input VAT arising from Trade payables, Capital expenditure payable and retentions determined from above. As this provided the Authority with some form of financing on a day to day basis the sum of these components, assumed accrued evenly, should be calculated on a 22 days financing basis informed average earning in the month (15 days) + 7 days for payment by the 7th in terms of SARS requirement.

- Current Tax Liability

The tariff application makes provision for a current tax expense in terms of the revenue requirement. The financing element of the current tax liability should therefore be considered as part of the current liabilities. The current tax system requires provisional tax payments at 6-month intervals; we have hence averaged the liability over the period of the financing, which

equates to an effective quarter of a year financing assuming we accrue the tax evenly throughout the financial year.

- Provision for Leave Pay

This represents leave pay accrued for our employees but has not yet been settled and therefore suggests a form of Financing. The average leave pay for the application period has been estimated at 2.5% on the labour costs for the period.

Details	R Million
Trade Receivables	916
Inventories	33
Operating cash	11
Operating Expenses	(133)
Capital Expenditure Payables	(335)
VAT Liability for Trade Receivable	(80)
VAT Asset for Trade Payable	12
VAT Asset for Capital Expenditure Payables	29
Less: Net Vat Liability	(39)
Less: Provision for leave pay	(40)
Less: Current Tax Liability	(196)
Net Working Capital	218

Table23: Calculation of Working Capital

5.2 WACC

A vanilla WACC has been used in this tariff application (refer to Annexure B, for a full explanation on the calculation of the WACC) with the key components contained in the table below:

Components of WACC	Percentage / factor
Asset Beta	0.83
Equity Beta	1.31
Estimated annualised inflation.	5.60%
Tax Rate	28.00%
Risk Free Rate	2.89%
MRP	7.20%
WACD (nominal)	10.36%
Cost of Equity	12.62%
WACD (real, pre-tax)	4.51%
Gearing	45.00%
Debt/equity ratio	0.82
Vanilla WACC	8.97%

Table24: Calculation of WACC

The table above summarises the calculation of the WACC used in the calculation of the Authority's revenue requirement, which is a vanilla WACC of 8.97%

5.3 Operating costs

5.3.1 Operating expenditure

The Authority's operating expenses are accounted for in accordance with International Financial Reporting Standards. The Authority is a landlord port authority and therefore its operations are capital intensive. Consequently, most of the Authority's operating costs are of a fixed nature. The Authority's focus is to increase efficiency that translates to increased spending on labour (implementation of Marine quad shift), maintenance and research and development costs. The ramping up of the port of Ngqura has also resulted in an increase in operating costs of approximately R 33 million in R 2012/13.

This section provides an analysis of the material operating expenditure items:

Cost Category	Actual 2010/11 R Million	Budget 2011/12 R Million	Forecast 2012/13 R Million	Deviation R Million	Deviation %	% of Operating Cost 2012/13
Labour Costs	1,146	1,257	1,427	170	13.5%	54.4%
Rates & taxes	7	6	6	0	6.0%	0.2%
Maintenance	460	533	559	27	5.0%	21.3%
Contract Payments	164	69	66	(3)	-4.7%	2.5%
Energy	215	279	336	57	20.4%	12.8%
Professional services	47	64	62	(3)	-3.9%	2.4%
Material	63	75	80	5	7.3%	3.0%
Computer & Info systems	50	72	73	1	0.8%	2.8%
Rental	44	51	54	3	6.8%	2.1%
Security costs	49	54	57	4	6.8%	2.2%
Research & development	(2)	29	57	28	94.7%	2.2%
Sundry operating costs	(165)	(141)	(155)	(14)	10.0%	-5.9%
Total operating cost (excluding depreciation)	2,078	2,349	2,623	275	11.7%	88.0%

Table25 (a): Operating Costs Excluding Group Overheads

Cost Category	Actual 2010/11 R Million	Budget 2011/12 R Million	Forecast 2012/13 R Million	Deviation R Million	Deviation %	% of Operating Cost 2012/13
Labour Costs	65.0	154.2	158.6	4.4	2.9%	44.3%
Rates & taxes	-	-	-	-	0.0%	0.0%
Maintenance	-	-	-	-	0.0%	0.0%
Contract Payments	-	-	-	-	0.0%	0.0%
Energy	(0.3)	0.2	0.3	0.0	13.0%	0.1%
Professional services	42.6	41.6	40.4	(1.2)	-2.9%	11.3%
Material	-	-	-	-	0.0%	0.0%
Computer & Info systems	-	-	-	-	0.0%	0.0%
Rental	-	-	-	-	0.0%	0.0%
Security costs	-	-	-	-	0.0%	0.0%
Research & development	53.0	186.0	51.7	(134.3)	0.0%	14.4%
Sundry operating costs	80.7	111.4	107.2	(4.2)	-3.8%	29.9%
Total operating cost (excluding depreciation)	241.0	493.4	358.1	(135.3)	-27%	100%

Table25 (b): Group Overhead Costs

Cost Category	Actual 2010/11 R Million	Budget 2011/12 R Million	Forecast 2012/13 R Million	Deviation R Million	Deviation %	% of Operating Cost 2012/13
Labour Costs	1,211	1,411	1,585	174	12.3%	53.2%
Rates & taxes	7	6	6	0	6.0%	0.2%
Maintenance	460	533	559	27	5.0%	18.8%
Contract Payments	164	69	66	(3)	-4.7%	2.2%
Energy	215	279	336	57	20.4%	11.3%
Professional services	89	106	102	(4)	-3.5%	3.4%
Material	63	75	80	5	7.3%	2.7%
Computer & Info systems	50	72	73	1	0.8%	2.4%
Rental	44	51	54	3	6.8%	1.8%
Security costs	49	54	57	4	6.8%	1.9%
Research & development	51	215	109	(107)	-49.5%	3.7%
Sundry operating costs	(84)	(29)	(48)	(18)	62.8%	-1.6%
Total operating cost (excluding depreciation)	2,319	2,842	2,981	139	4.9%	100.0%

Table25 (c): Operating Costs Including Group Overheads

Operating costs above of R2, 981m for 2012/13 exclude expenditure related to real estate.

The following table shows Forecasted Operating costs split per service:

Cost Category	Infrastructure 2010/11 R Million	Infrastructure 2012/13 R Million	Infrastructure 2011/12 R Million
Labour costs	712	887	792
Rates & taxes	6	6	6
Maintenance	404	492	469
Contract payments	121	49	51
Energy	145	244	197
Professional services	64	73	76
Material	40	51	47
Computer & Info systems	35	52	51
Rental	31	38	36
Security costs	46	53	50
Research & development	37	63	147
Sundry operating costs	(137)	(114)	(97)
Total net operating cost (excludes depreciation)	1,506	1,894	1,824

Table26: Infrastructure Costs

Cost Category	Marine Services 2010/11 R Million	Marine Services 2012/13 R Million	Marine Services 2011/12 R Million
Labour costs	464	650	576
Rates & taxes	0	0	0
Maintenance	48	58	56
Contract payments	43	17	18
Energy	67	88	79
Professional services	23	26	27
Material	19	24	22
Computer & Info systems	13	20	20
Rental	8	10	10
Security costs	0	0	0
Research & development	13	42	63
Sundry operating costs	70	85	85
Total net operating cost (excludes depreciation)	769	1,021	956

Table27: Marine Costs

Cost Category	Lighthouses 2010/11 R Million	Lighthouses 2012/13 R Million	Lighthouses 2011/12 R Million
Labour costs	34.3	48.2	42.8
Rates & taxes	0.4	0.4	0.3
Maintenance	7.3	8.9	8.5
Contract payments	1.0	0.4	0.4
Energy	2.4	3.5	3.0
Professional services	2.4	2.8	2.9
Material	4.3	5.5	5.1
Computer & Info systems	0.9	1.3	1.3
Rental	4.7	5.9	5.5
Security costs	2.9	3.3	3.1
Research & development	1.1	3.9	5.7
Sundry operating costs	(17.9)	(18.5)	(16.9)
Total net operating cost (excludes depreciation)	44	66	62

Table28: Lighthouse Costs

5.3.1.1 LABOUR COST

Labour costs are the largest expense for the Authority contributing 54, 4% to the total operating costs. A component of salaries is negotiated with labour unions and historically this escalation is above or equal to the inflation rate. The salary increase for these employees for the 2011/12 financial year was greater than what was budgeted. Included in Group overhead labour cost for FY 11/12 and FY12/13 is an incentive provision for the Authority which has been account for in the actuals of the Authority for FY 10/11.This in conjunction with additional skills required to meet objectives of the growth strategy and to support delivery in key focus areas have increased labour costs significantly. Critical skills identified are as follows:

- Port engineering;
- Risk management competencies (environmental ports);
- Tariff and regulatory competencies;
- Contracts and vendor management;
- Oversight management
- Project managers; and
- Staffing the port of Ngqura.

The number of employees at the Authority is planned to increases from 3535 in 2010/11 to 3874 in 2012/13.

5.3.1.2 RATES AND TAXES

Rates and taxes relate to municipal rates and are based on the methodology employed by the municipalities in accordance with the Municipality Rates and Taxes Act. The rates and taxes as reflected in the table above mainly relates to the ship repair business as the bulk of rates and taxes has been allocated to the Real Estate business.

5.3.1.3 MAINTENANCE

Notwithstanding the critical role of performance management in ensuring operational efficiencies as described above, The Authority's focus shall also include broader fundamental aspects of asset management affecting operational efficiencies i.e.
infrastructure maintenance planning, fleet management and associated procurement aspects of supply chain management.

With regard to the infrastructure maintenance plan, key strategic elements will include the revision, roll-out and continual training of ports on asset maintenance procedures (AMPs) and execution of AMP compliance audits, to ensure the high standard of maintenance, emphasis on strengthening the resource base will also receive greater attention through proper development, retention and attraction of competent skills. The long-term strategy of sustaining berth infrastructure quality will be to assess remaining useful life (RUL) of infrastructure assets and to align these to the AMP and capital investment processes to ensure efficient management of assets and that operations are not compromised.

In terms of the fleet aspect of asset management, the Authority will be guided by key elements of its fleet management plan. These include amongst others:

- Monitoring fleet utilisation across all ports and assessing opportunities for fleet redeployment to achieve optimal utilisation;
- Assessing quality of fleet maintenance undertaken; and
- Assessing the remaining useful life (RUL) of fleet assets and financial planning for future acquisitions.

It is worth noting that effective execution of the infrastructure maintenance and fleet management processes is dependent largely on the efficiency, timeliness and integration of the procurement processes within the broader supply chain structures. In this Regard the Authority will focus on process integration, supplier development and strategic sourcing in line with Transnet's goals.

Maintenance costs also include Dredging charge outs which are usually set off against the recoveries in "Sundry operating costs" ,excluding this, maintenance costs are R281m for 2012/13 (Actual 10/11 R247m) (Budget 11/12 R282), the additional asset base and a strategic focus on improving maintenance across the ports has contributed to this increase.

5.3.1.4 CONTRACT PAYMENTS

Contract payments mainly relate to the rental of outsourced dredging work and contract payments related to three helicopters used for pilotage services at the ports of Richards Bay and Durban. The supplementary dredging costs included in contract payments reduced since the introduction of the 4200 m^3 Trailing Suction Hopper Dredger in December 2011.

5.3.1.5 ENERGY

Increases in these costs can be explained by fuel price increases, greater vessel activity and increased internal dredging work by the current Authority dredgers. The main driver for increased energy cost is electricity and is linked to electricity tariff

increases implemented by municipalities and Eskom. The trend of higher fuel and electricity costs are expected to continue into the immediate future as global markets experience higher oil prices and the local economy gears up for increased capital expenditure by Eskom, resulting in higher tariffs. Electricity costs include a margin charged by municipalities who are the source of supply to the ports.

5.3.1.6 PROFESSIONAL SERVICES

The majority of professional fees relate to internal and external audit fees (financial and operational/ environmental) and legal fees whilst the remainder relates to consulting fees and other professional services expected. The Authority business warrants the use of subject specialists from time to time, which in some cases, may have to be sourced abroad at higher than normal consulting rates.

5.3.1.7 MATERIAL

These costs are influenced by material price increases and exchange rate fluctuations on maintenance material used for the marine fleet and civil maintenance. Higher material costs are attributed to the Authority focusing on maintenance.

5.3.1.8 COMPUTER AND INFORMATION SYSTEMS

A computer and information systems cost includes network costs, software licenses, information system support, and development cost, computer consumables and on-going maintenance hereof. The increase from 2010/11 to 2012/13 is mainly due to increased network and support cost influenced by the roll out of a security and CCTV project.

5.3.1.9 RENTAL

The majority of rental costs relate to the hire of land and buildings; non-revenue earning vehicles; and telecommunications equipment.

5.3.1.10 SECURITY

The Authority is using private security firms in the ports. The cost increases relates to contract obligations and additional security arising from ISPS obligations, which require stringent compliance to international standards.

5.3.1.11 RESEARCH AND DEVELOPMENT

These costs relate to desktop studies for future capital investments in a pre-feasibility phase to determine the merits or viability of a project and different options available. The feasibility phase is funded from the capital programme for final research and design. Costs will vary from year to year depending on the future capital programme. The main driver for research and development is the feasibility study for the Durban International Airport Site.

5.3.1.12 SUNDRY OPERATING COST

Dredging charge-outs R279m, which are usually set off against the recoveries in sundry operating, costs have been grouped under maintenance costs (see 5.3.1.3 above). This causes Sundry operating costs to reflect a negative balance. Other large increases emanate from water, insurance, transport costs, refuse removal and miscellaneous expenses as well as an increase in miscellaneous income.

5.3.1.13 TAXATION

The cost of capital includes an allowance for tax so that the total revenue requirement is sufficient to leave a profit equal to the Authority's post-tax cost of capital.

The Authority has used a vanilla WACC in the revenue requirement calculation and consequently has reflected taxation as an expense in its revenue requirement.

As noted above, if a vanilla WACC is used, a separate allowance has to be made for tax. The Authority is not the legal entity for which tax is calculated and paid. Furthermore, any attempt to estimate a pro rata share of actual tax paid by Transnet may be quite unrepresentative of the tax burden that would have be borne by the Authority had it been a separate corporation. Under these circumstances, a pragmatic solution is to make a notional tax allowance that is as close an approximation as is reasonably possible to the actual tax that TPNA would have paid. The calculation of the notional tax expense uses the following formula:

$$T_{\text{notional},} = t \times \begin{pmatrix} \text{AR} - k_{d,\text{nominal, pre-tax}} \times g \times RAB \\ -D_{\text{tax}} - E_{\text{tax}} \end{pmatrix}$$

Where:

AR is the allowed revenue; excluding any claw-back term, C, or financing factor, F, or recovery of a previous financing factor Fy-1. Depreciation

D_{tax} is the value of depreciation of the business's assets for tax purposes, the tax allowance for wear and tear has been assumed to be approximated by the depreciation charge.

E_{tax} is the value of expenses for tax purposes.

Transaction type	R m
RR	9,645
Less: Operating costs	2,981
Less: Depreciation	1,130
Less: Cost of debt	2,727
Taxable income	2,807
Statutory Tax Rate	28%
Taxation Expense	786

Table29: Taxation expense

All else equal, allowed revenues under this specification would be mathematically identical to allowed revenues set using a pre-tax WACC and no explicit adjustment for tax

6. Revenue Claw Back calculation

6.1 Revenue Claw back

Realised revenues in any given year could deviate from revenues allowed by the Regulator for that same year if outturns of volumes, expenses, etc. do not match the Regulator's forecasts. Such deviations would represent either over-recovery or under-recovery of required revenues. Either scenario would call for some form of ex post adjustment to the Authority's allowed revenues.

For reasons related to information timing issues, the claw back mechanism can only operate with a two-year lag. When an application for tariffs applicable to year y is being prepared in year y-1, information on over or under recovery will only be available in respect of the last completed year, namely y-2.

With these considerations in mind, the value of any claw-back for over-recovery or under-recovery of revenues for year y may be calculated as:

$$C_y = \Delta AR_{y-2}(1+WACC_{y-1})(1+WACC_{y-2})$$

- where, Cy is the value of the claw-back to correct for the effect of outturn revenues for period y-2 differing from forecast revenues, which is to be applied in the calculation of allowed revenues in review period y;
- ΔARy-2is the difference between actual revenues observed in year y-2 and the revenues that the Regulator ought to have set in that period, had it enjoyed perfect foresight over volumes, expenses, tax obligations and depreciation (i.e. the elements of allowed revenues for which it is possible to observe ex post values after the fact);
- WACC y-1 and WACC y-2 are the rates of profit allowed to the Authority over review periods y-1 and y-2, respectively. Differences between forecasts and actuals for y-2 are compounded forward two periods within the claw-back to account for the approximate time value of money over these years.

The claw back relating to financial year 2010/11 has been calculated with the benefit of hindsight to determine the true over-recovery of revenue using the proposed methodology, see table 31.

The revenue requirement is calculated as follows:

Description	R m
RAB	58,490
Real post-tax WACC	0
Return on Capital ("ROC")	5,245
Plus: Depreciation	1,130
Plus: Operating Expenses	2,981
Plus: Taxation Expense	786
Total revenue requirement before claw back	10,142
Less: Claw back	(497)
Total revenue requirement after claw back	9,645

Table30: Revenue requirement calculation

Description	Based on Actuals (Using Regulator WACC) Rm
Allowed revenue 2010/11	6,811
Actual revenue 2010/11	7,375
Post-Tax WACC 2011	10.91%
Post-Tax WACC 2012	10.66%
Clawback	693
Less: 2010/11 Clawback taken in 2011/12	196
Net Clawback for 2012/13 application	497

Table 31: Claw back calculation for 2012/13

The Record of Decision ("ROD") for the 2011/12 tariff application included a claw back of R186m, which has been adjusted, in terms of the proposed methodology above, for a WACC factor of 10.66% resulting in a R10m increase to the original R186m.

WACC for Clawback Calculation	2011	2012
Asset Beta	0.50	0.50
Equity Beta	0.79	0.79
Estimated annualised inflation.	4.70%	5.40%
Tax Rate	28.00%	28.00%
Risk Free Rate	8.81%	8.81%
MRP	5.80%	5.80%
WACD (nominal)	10.89%	10.13%
Cost of Equity	13.42%	13.42%
WACD (nominal, post-tax)	7.84%	7.29%
Gearing	45.00%	45.00%
Debt/equity ratio	81.82%	81.82%
Post Tax WACC	10.91%	10.66%
Real Post Tax WACC	5.93%	4.99%

Table 32: WACC used for Claw back calculation

The Authority has used the Port Regulators 2011 WACC parameters, except for the Inflation factor and the Weighted Average Cost of Debt, which has been updated to reflect the actuals given the benefit of hindsight.

Description	Based on Actuals (Using PR Adj. WACC) Rm
Opening NBV 31 March 2010	43,246
Less: Depreciation for Financial Year 2010/11	(890)
Add: Capital Spending for Financial Year 2010/11	1,872
Port facilities revaluation	-
Closing NBV 31 March 2011	44,228
Average of opening and closing NBV	43,737
Working Capital (Actual)	(3)
RAB final	43,734
WACC	
Real Post Tax WACC	5.93%
OPEX Explanation	
Labour	1,146
Rates	7
Maintainance	460
Contract	164
Energy	215
Professional	47
Material	63
Computer	50
Rental	44
Security	49
R&D	(2)
Sundry	76
Total Costs	2,319
RR Calculation	
Return on Assets	2,594
Opex	2,319
Depreciation	890
Taxation	1,009
Total RR	6,811
Working Capital	
Current Assets	679
Trade Receivables (31 day 2010/11 Revenue)	647
Ave Inventories at 2010/11 YE	27
Ave Operating Cash at 2010/11 YE	5
Current Liabilities	683
Opex (excluding Salaries)	111
95% of 2010/11 Capex spend	169
Ave Retention creditors at 5% of CAPEX for 2010/11	107
Vat Liability	24
Current Tax Liability	252
Bank O/draft	-
Average Provision for leave pay	20
Net working Capital	(3)

Table 33: Recalculation of required revenue with the benefit of hindsight

7. Tariffs

It is necessary to convert the revenue requirement into a tariff increase. In order to achieve this, the effect of volumes must be taken into account as this effect has a major influence on the final tariff increase.

7.1 Volumes

The main volume drivers for the Authority are cargo and marine services.

7.1.1 CARGO

The Authority has various categories of cargo that traverse port infrastructure and therefore generate revenue in the form of cargo dues. Cargo types are categorised according to the manner in which they are handled, i.e. dry bulk, liquid bulk, break bulk, containers and roll-on roll-off ("RoRo").

These cargo types are further differentiated between imports, exports, coastwise and transhipments.

- Imports are classified as cargo emanating from an international destination destined to South Africa.
- Exports are cargo shipped from any South African port destined for an international destination.
- Coastwise cargo is cargo emanating from within the borders of South Africa shipped from one South African port and destined to another South African port.
- Transhipment cargo is cargo emanating from an international source destined for another international destination (except South Africa), but which is handled at a South African port. This cargo could be termed "cargo in transit".

7.1.2 MARINE SERVICES

Marine volumes comprise the number of ships arriving at South African ports and their associated Gross Tonnage (GT). The size of the vessel and the number of days spent in the port dictates how much the vessel will be charged for utilizing basic port infrastructure and marine services operational charges, i.e. tugs, berthing and pilot assistance.

The forecasted volumes are derived from various sources and translated into the Authority's future revenue expectation. The volumes are subjected to intense evaluation during the budget cycle, periodically reviewed and updated when necessary. The Authority gathers cargo volume and vessel forecasts primarily from terminal operators and shipping lines. These volumes are compared to past trends and reviewed relative to economic forecasts.

The weighted average forecasted volumes increase for the year 2012/13 is 4.65%. This was derived based on 2011/12 latest estimated revenues, compared against 2012/13 revenue projections at 2011/12 tariffs.

7.2 Required tariff

The revenue required from tariff book tariffs for the financial year 1 April 2012 to 31 March 2013 is R9, 645. This is converted into a tariff increase for the period 2011/12 as follows:

Description	R Million
RR12/13	9,645
ER11/12	7,807
EVI %	4.65%
ER 12/13 including volume increase	8,170
Tariff adjustment (%)	18.06%

Table34: Conversion of revenue requirement to a tariff increase for 2012/13

Tariff increase = [(RR12/13 /ER12/13) -1

Where:

- RR12/13 is the revenue requirement for 2012/13
- ER11/12 is the estimated revenue for 2011/12
- EVI is the expected increase in volumes in 2012/13
- ER12/13 is the estimated revenue for 2012/13 before tariff adjustments

8. Real Estate

Section 73 (1)(b)(i) of the Act makes reference to land rentals for which the Authority may charge a fee to be determined in accordance with Section 72 of the Act. The past tariff applications submitted by the Authority excluded its Real Estate business resulting in the decision by the Regulator, in its Record of Decision dated 20 January 2011, not to accept any further applications prepared on this basis.

The Authority remains of the view that the tariff determination for the business should for now continue to exclude the Real Estate business and the rationale for which is as follows:

The nature of port services, the logical flow of which is summarised in Diagram 2 of the Tariff Application (Adaptation of UNCTAD model on Port Services), is very much port service/ facility orientated facilitating the movement of cargo. Therefore, all services and infrastructure provision covered in the earlier part of this Tariff Application is directly related to facilitating the movement of cargo expected to pass over a quay inbound or outbound. Whilst services and infrastructure provision contained in the Real Estate business undoubtedly contributes to the facilitation of such cargo trade flows; this is not true of all assets contained therein:

8.1 Port boundaries and inventory of real estate assets

Section 11 (1) of the Act calls on the Authority in terms of subsections:

(a) to prepare and periodically update a port development framework plan for each port, which must reflect the Authority's policy for port development and land use within such port;
(b) to control land use within ports, and has the power to lease land under such conditions as the Authority may determine;

In order to deliver on the above mandate, the Authority has gone along and defined port boundaries for each of its ports and has registered parcels of land contained within these boundaries. This has provided the Authority with the flexibility of developing 30 year framework plans as to what each port landscape within South Africa would resemble taking into account the cargo volume demand outlook, evolving hinterlands and other logistic imperatives on a complementary port by port basis.

Given the above, it's a understandable that the Authority is in possession of currently unutilised land needed for future development, which does not contribute in the short to medium term to current cargo trade flows.

8.2 Environmentally sensitive land

The environmental sensitivities around some of the land parcels contained within each of our ports varies and is managed on a case by case basis particularly as we embark upon development per the long term development framework plan together with the Department of Environmental Affairs. In certain ports such as Richards Bay large tracts of land cannot be developed but remain within the port inventory. Here again these parcels of land do not contribute in the short to medium term to current cargo trade flows.

8.3 Non-import/export cargo related business occupation of port land (Legacy issues)

Owing to legacy issues and business evolution over time, there exists a contingent of tenants who occupy valuable prime parcels of land within certain ports but in no way have direct contribution to the existing exchange of cargos across the quayside. These businesses have inherited leases with abnormal tenures and have entered into sub-letting arrangements with nature of operations leaning towards storage of goods.

The Authority has made headway in the eradication of sub-letting arrangement and its lease commercialisation efforts have impacted negatively on the some of these businesses desire to continue to operate within the port boundaries However this is a process of negotiations which remains an on-going initiative.

8.4 Non-import/export cargo related occupation of port land

Within the Real Estate business, various leases have been concluded with organisations that have no linkage to the cargo flows within the ports. These include the likes of recreation clubs and fast food cafés an example of which is the B.A.T. Centre at the port of Durban. The very nature of such organisations does not always result in the Authority being able to fetch market related rentals from them.

8.5 Valuation of Real Estate business

The current Real Estate tariff model is premised on typical land valuation approaches without much regard to the nature of the business operated thereon. Furthermore, by virtue of Transnet Port Terminals being a division of Transnet Ltd, assets leased to this organisation by the Authority are not recorded at fair value as these are considered owner occupied in terms of the accounting standards. Hence, a calculated revenue requirement of the real estate business on this basis and combining the outcome with the balance of the authority's business, one runs the risk of uninformed cross subsidisation which could result in unintended consequences, which inadvertently could encourage low productivity and inefficiencies.

The Revenue Requirement approach adopted by the Authority for tariff determination calls for amongst other components the need to earn a fair return on investment. Lease agreements by their very nature are contractual arrangements, arising from past negotiations, with fixed rentals and agreed periodic escalations. Hence any over/ under recovery of lease revenue when applying the Revenue Requirement model to the Real Estate business cannot be collected from nor is it refunded to tenants. Thus, the intended allocation by the Regulator of this over/under recovery to the rest of the business runs the risk of uninformed cross-subsidisation across the organisation. The consequence of which could be advantaging underperforming areas of the Authority at the expense of efficient areas.

Details	R m	References
Net Book Value (NBV) – Total TNPA Assets @ March 2011	7,522	Refer to Section 5.1.1 and Annexure B;
NBV Inflated to 31 March 2012 terms	7,958	Refer to Section 5.1.3
Less: Depreciation for Financial Year 2011/12	(184)	Refer to Section 5.1.4
Add: Capital Spending for Financial Year 2011/12	670	Refer to Section 5.1.5
Closing NBV 31 March 2012	8,443	
Opening NBV inflated to 31 March 2013 terms	8,899	Refer to Section 5.1.3
Less: Depreciation for Financial Year 2012/13	(200)	Refer to Section 5.1.4
Add: Capital Spending for Financial Year 2012/13	1,042	Refer to Section 5.1.5
Closing NBV 31 March 2013	9,742	
Average of opening and closing NBV	9,092	Refer to Section 5.1 (b)
Add Working Capital for the review period	(73)	Refer to Section 5.1.6
RAB for Tariff Application 2012/13	9,019	Refer to Section 5.1 (c)

Table 35: Calculation of the RAB for Real Estate

Details	R Million
Trade Receivables	127
Inventories	0
Trade Payables	(11)
Capital Expenditure Payables	(153)
VAT Liability for Trade Receivable	(11)
VAT Asset for Trade Payable	1
VAT Asset for Capital Expenditure Payables	13
Less: Net Vat Liability	3
Less: Provision for leave pay	(2)
Less: Current Tax Liability	(38)
Net Working Capital	(73)

Table 36: Calculation of Working Capital for Real Estate

Description	R million
RAB	9,019
Real post-tax WACC	8.97%
Return on Capital ('ROC")	809
Plus: Depreciation	200
Plus: operating expenses	181
Plus: taxation expense	151
Total revenue requirement	1,341
ER11/12 (R million)	1,495
Premium escalation (%)	9.90%
ER 12/13 including escalaltion	1,643
Lease premium difference	(302)

Table 37: Net revenue requirement calculation for Real Estate

Based on the above it would appear that the Authority's required revenue from Real Estate is exceeded by R302m. This is misleading as assets leased to Transnet Port Terminal are not at fair market value. Allocating the R302m as per Table 37 results in a revised taxation expense with the commensurate change in the net working capital, reflected in the tables 38 to 42.

Components of WACC	Percentage / factor
Asset Beta	0.83
Equity Beta	1.31
Estimated annualised inflation.	5.60%
Tax Rate	28.00%
Risk Free Rate	2.89%
MRP	7.20%
WACD (nominal)	10.36%
Cost of Equity	12.62%
WACD (real, pre-tax)	4.51%
Gearing	45.00%
Debt/equity ratio	81.82%
Vanilla WACC	8.97%

Table 38: Calculation of WACC

Description	R million
RAB	58,483
Real post-tax WACC	8.97%
Return on Capital ('ROC")	5,244
Plus: Depreciation	1,130
Plus: operating expenses	2,981
Plus: taxation expense	668
Total revenue requirement	10,024
Less: Claw back	(497)
Total revenue requirement after claw back	9,527
Less: Lease Premium difference	(302)
Total revenue requirement after Lease Premium difference	9,224

Table 39: Net Revenue Requirement Calculation Excluding Real Estate after the Lease Premium Difference Adjustment

Details	R m	References
Net Book Value (NBV) – Total TNPA Assets @ March 2011	52,405	Refer to Section 5.1.1 and Annexure B; Section 2
NBV Inflated to 31 March 2012 terms	55,445	Refer to Section 5.1.3
Less: Depreciation for Financial Year 2011/12	(1,043)	Refer to Section 5.1.4
Add: Capital Spending for Financial Year 2011/12	1,780	Refer to Section 5.1.5
Closing NBV 31 March 2012	56,182	
Opening NBV inflated to 31 March 2013 terms	59,215	Refer to Section 5.1.3
Less: Depreciation for Financial Year 2012/13	(1,130)	Refer to Section 5.1.4
Add: Capital Spending for Financial Year 2012/13	2,278	Refer to Section 5.1.5
Closing NBV 31 March 2013	60,364	
Average of opening and closing NBV	58,273	Refer to Section 5.1 (b)
Add Working Capital for the review period	211	Refer to Section 5.1.6
RAB for Tariff Application 2012/13	58,483	Refer to Section 5.1

Table 40: Calculation of the RAB Excluding Real Estate after the Lease Premium Difference Adjustment

Details	R Million
Trade Receivables	876
Inventories	33
Operating cash	11
Operating Expenses	(133)
Capital Expenditure Payables	(335)
VAT Liability for Trade Receivable	(76)
VAT Asset for Trade Payable	12
VAT Asset for Capital Expenditure Payables	29
Less: Net Vat Liability	(36)
Less: Provision for leave pay	(40)
Less: Current Tax Liability	(167)
Net Working Capital	211

Table 41: Calculation of Working Capital Excluding Real Estate after the Lease Premium Difference Adjustment

Transaction type	R m
RR	9,224
Less: Operating costs	2,981
Less: Depreciation	1,130
Less: Cost of debt	2,726
Taxable income	2,387
Statutory Tax Rate	28%
Taxation Expense	668

Table 42: Taxation expense Excluding Real Estate after the Lease Premium Difference Adjustment

Description	R million
RR12/13	9,224
ER 11/12	7,807
EVI (%)	4.65%
ER 12/13 including volume increase (R million)	8,170
Tariff adjustment (%)	12.90%

Table 43: Tariff increase calculation excluding Real Estate after the Lease Premium Difference Adjustment

Should this R302m over-recovery be allocated to our earlier calculation for tariff adjustment of 18.06%, the requested tariff adjustment is diluted to 12.90%.

As part of the Pricing Strategy exercise, the authority intends to categorise the Real Estate business into what can be considered port service/ facility related and non-port service/ facility related. In addition, the fair market value of all the underlying leased assets needs to be established whilst in parallel we continue with commercialisation of our rentals to achieve a fair rental-basis for all tenants based on market demand and supply. In this way, we should be able to migrate from what is currently almost a stand-alone Real Estate business into an integrated port business model with commodity pricing informed by all underlying port service/ infrastructure provisions taking into account aspects such as volumes and productivity. This comprehensive approach could then facilitate the lowering of other Authority tariffs on an informed basis which the Pricing Strategy would seek to achieve.

9. Tariffing

Directives 22(1) and 22(2) requires the Authority to annually submit proposed tariffs for approval by the Regulator for all regulated services and allow the Authority to apply for adjustments of tariffs from time to time. In Directive 22(3), the Authority is further required to include with any submission; the manner and methodology in which tariffs are calculated. Further-on Directive 23 states the factors the Regulator will consider in assessing any application, including, a systematic model, fairness and avoidance of discrimination save where it is in the public interest.

In this application the Authority is applying for a single and uniform tariff adjustment for all its' regulated Tariffs. The Authority details the methodology in which the overall revenue increase has been calculated, in sections 5-7. The following provides an explanation for that called upon by the Directives 22(3)/23 and the progress made by the Authority in this regard:

9.1 The Authority's Historical approach to Cargo Dues (Wharfage)

Prior to the introduction of cargo dues in May 2002, the key revenue source for the Authority was wharfage. Wharfage was applied to all cargo (bulk, breakbulk and containers) passing over the berths in the harbours and was payable by the cargo owner. Wharfage charges were raised to cover the cost of the provision and maintenance of land-based infrastructure – such as berths, cargo sheds, back-up facilities, rail tracks and roads within the precincts of the harbours. In the case of imports and exports, wharfage was based on the value of the cargo whilst in the case of coastwise and transhipment cargo wharfage was charged per harbour ton.

The application of wharfage charges at April 2002 were as follows:

- Imports at R1.70 per R100 ad valorem pro rata based on the Customs value of the cargo
- Exports at R0.85 per R100 ad valorem pro rata based on the FAS (Free Alongside Ship) value of the cargo

These were subject to a minimum value of R214 per 1 000kg and a maximum of R9 423 Customs value per harbour ton (HT). A harbour ton meant 1 cubic metre (m3) or 1 000 kg whichever yielded the higher tonnage.

Wharfage subsidized nearly every other harbour service i.e.

- Physical marine services (pilotage, tugs, craft assistance)
- Non-physical services i.e. port dues
- Physical cargo handling, cranes and storage
- Cartage
- Ship repair facilities

By its very nature of being an ad valorem charge, wharfage resulted in cross subsidization between high and low value commodities whilst at the same time cross subsidizing export commodities and other services in the ports.

9.2 Current Regime of Pricing and tariffing

Pricing and tariffs are by their very nature complex and depends on various related and unrelated variables such as cost recovery in terms of infrastructure investment and maintenance; volume contribution; support services costs and customer's ability to pay.

In May 2002, the Authority implemented a tariff reform exercise. The key outputs from this reform exercise were:

-
-
- to migrate wharfage from ad valorem charge to a form of unitised charge – Cargo Dues
- to migrate from charging for containers based on the value of their contents to a unitised charge per container
- to recover Marine Services cost based on an Activity Based approach
- to structure tariffs in terms of a user pays principle i.e. Cargo Owner, Shipping Line and Terminal Operator
- reducing overall tariffs to cargo owners with a portion of the reduction being availed to Marine Services and Terminal Operators so as to improve their recovery rates

This major reform exercise was then followed by the following tariff amendments/ discount arrangements:

- a three year program to align import and export tariffs for the automotive industry
- a five year program seeking to equalise breakbulk citrus and deciduous fruit cargo dues charges
- equalisation of breakbulk hot rolled steel coils and cold rolled steel coils tariffs
- introduction of a single, same charge, across-the-board automotive cargo dues tariff with an across-the-board volume incentivised discount scheme, which effectively replaced OEM, based contractual arrangements.

Initiatives to commercialise old, out-dated long-term leases was implemented and together with the above has evolved into the 2011/12 tariff application with harmonisation of tariffs for certain commodities such as coal, magnetite and some liquid bulk.

In the past, the Authority had played a part in the export led growth industrial policy of the government by having differential cargo dues for exports and imports. Our engagements with industry and cargo owners suggest that there is little/ no objection with the approach adopted and in fact, this continues to provide an incentive for local industrial development. A significant number of our export and import tariffs for like commodities however are the same and should there be a complete move away from differentiation the Authority would not object to equalising the balance of our charges.

9.3 Update on Tariff Review Project

Over the course of the last year the Authority has refined the outcome of costing exercise undertaken for the business and has segmented the business into lowest and practical service/ facility offering. This has led the organisation to formulation of a Pricing Strategy for the Authority with the following draft principles:

- No unfair discrimination and non-excessive pricing
- Network-based costing on a commodity level as a basis for pricing, with informed and transparent cross-subsidisation within ports and across ports
- Full economic cost recovery through consideration of full, but optimized economic cost base including existing assets, based on Depreciated Optimised Replacement Cost (DORC), and future capital and operational expenditure

- Cash-flow-based price calculation for the service in question
- Appropriate risk to account for project-related risks in order to support economic robustness and stability
- Capacity-based pricing using practical resourced capacity rather than forecast volumes
- "Modifiers" to adjust network-based price to allow for the specific nature of the business or operations
- Predictable annual escalation (particularly for long-term contracts) using the OD cost driver for the service (e.g., PPI)

The emerging tariffs, informed by the respective cost base, have modified for contribution of the facilities used and currently being subjected to volume throughput assessment before leading to commodity value. All of this is being undertaken with the understanding that at an Enterprise level, South Africa Inc. level and Customer and Community level tariffs determined render a sustainable model for the long term.

The Authority is striving to have its Pricing Strategy adopted at the Enterprise level by 1st quarter of 2012 before engaging with various stakeholders on that which is being proposed, the rationale for change and the timeline for implementation. However, the deliverable of a tariff review and Pricing Strategy is highly dependent on bedding down a tariff methodology with the Ports Regulator, which has not progressed as expected.

10. Port Efficiency

In accordance with the Ports Act, the Authority has to ensure efficient port services and this has been incorporated into the strategy of the business. The following are the key areas of focus for the Authority:

10.1 Maritime Operations Management

The Authority is committed to ensuring a seamless service are provided to vessels entering or exiting South African ports.

This will include a process of stringent monitoring and measurement of the causative factors, which could result in ships being delayed due to Pilotage, Tugs or Berthing Services (which are under the direct control of the authority). Approved targets have been set for each of the aforementioned categories and are monitored at various managerial platforms.

- **Pilotage**

Pilotage delays are caused due to pilot license restrictions or the pilot being occupied with other shipping at service time

In order to reduce the abovementioned type of delay the following initiatives are currently being implemented:

- On-going focus of ensuring that pilots are qualified to higher license levels (up to open license) thereby ensuring an appropriate spread of experience across all shifts;
- On-going proficiency training which will include simulator training as well as in class training sessions;

- **Tugs**

Tug delays are caused due to tugs not being available at the service time due to mechanical breakdown, the tugs being busy with other shipping, or due to a shortage of tug capacity (which will include manning levels)

In order to reduce the abovementioned type of delay, the following initiatives are currently being implemented:

- The on-going upgrade of its existing marine fleet which includes the delivery of new tugs in the which are now operational in the various ports
- On-going focus on the Tug Maintenance regime to ensure maximum availability
- Due to the significant skills scarcity of Chief Marine Engineers to man the tugs, the Authority had to substantially invest in programmes to ensure future availability of this skills base through:
- The establishment of a structured Chief Marine Engineering Officer(CMEO) training programme which will ensure standardized assessment criteria and training across all ports;
- Finalisation of a fixed term training contract to ensure the CMEO qualification is obtained within a prescribed period.
- Continuous engagement with the South African Maritime Safety Authority to address changes to the CMEO training requirements.

- **Berthing Services**

Berthing delays are caused due to the berthing gangs not being at the allocated berth or not being available at the service time

In order to reduce the abovementioned type of delays a quad shift system at the ports of Cape Town, Durban, Saldanha and Richards bay have been implemented which will ensure that the berthing services shift patterns are aligned with the pilotage and tug operations.

An operational improvement initiative is currently underway, which is reviewing all marine operational processes, which includes marine operational planning, resourcing, technology infrastructure, as well as it functional structure. It is expected that this project will also further ensure that the current number of shipping delays are even further reduced, thereby further enhancing the overall efficiency of the ports system.

10.2 Terminal Operations Oversight

As part of the increased focus on the authority's oversight responsibility, the Authority has completed the licensing of various port activities and is currently in the process of concluding Terminal Operating Licence Agreements with terminal operators.

The Terminal Operating licence, establishes the conditions that the Authority prescribes for terminal operators within its port premises. Some of the key components of the licence include the Safety, Health and Environmental Management protocol, Maintenance regime for its assets, as well as the operational performance requirements.

To ensure the conditions in the licence is conformed to by licensees, the authority will also establish an internal oversight function that will monitor and ensure compliance to the requirements of the operating licence. This function will therefore significantly contribute to the overall operational efficiency of the port system as the terminal oversight responsibility will be executed in a proper and regulated manner.

11. Conclusion

A tariff increase is necessary in order for the Authority to achieve the required revenues translated into the respective tariffs, guided by the Directives, to allow the organisation to:

a) recover its investment in owning, managing, controlling and administering ports and its investment in port services and facilities;
b) recover its costs in maintaining, operating, managing, controlling and administering ports and its costs in providing port services and facilities; and
c) make a return commensurate with the risk of owning, managing, controlling and administering ports and of providing port services and facilities.

The Authority is applying for a single year tariff increase of 18.06%, excluding the Real Estate business, across all regulated tariffs for the Financial Year 2012/13. Including the Real Estate business the tariff increase translates to a 12.90% increase, across all tariffs. However, owing current categorization and valuation approaches in the Real Estate business the Authority proposes that this approach not be followed for this application.

ANNEXURE A

REAL ESTATE MANAGEMENT

TRANSNET NATIONAL PORTS AUTHORITY

FY 2012/13

1. Real Estate Management

The Authority is the custodian of all properties within the defined limits of all our ports. The real estate portfolio comprises a diverse mix of properties including; land, improvements, various infrastructure, common facilities and other installations that support the operational activities that make up a port.

The role of the Authority as the landlord is well established as manager and controller of our port system in the country. The mandate of the Authority regarding the management of its real estate portfolio derives from the main objectives set out below.

1.1 Key Objectives:

As part of its key functions as set out in the Act, the Authority must:

(a) control land use within ports and has the power to lease land under such conditions as it may determine;
(b) ensure that adequate, affordable and efficient port services and facilities are provided;
(c) exercise licencing and controlling functions in respect of port services and facilities;
(d) ensure that any person who is required to render any port services and port facilities is able to perform efficiently;
(e) promote the achievement of equality by measures designed to advance persons or categories of persons historically disadvantaged by unfair discrimination in the operation of facilities in the ports environment.

In exercising its duty and mandate, the Authority has set itself the following **strategic objectives**, to align with these legislative functions, in the management of its real estate, at ports:

(a) Optimise the use of all our real estate assets at ports to increase the productive utilization of all property holdings under the control of the Authority;
(b) Improve the strategic management of our real estate, to ensure full compliance with the provisions of the National Ports Act;
(c) Introduce commercial best practices in terms of our commercial leases;
(d) Develop a long term land use plan for all ports, to attract business growth at ports to support the national growth strategy for our local economy;
(e) Develop and implement preventative measures that would foster a culture of safety and compliance by leaseholders and minimize all operational risks associated with activities at the ports;
(f) Ensure that the transformation objectives of the Authority and set BBBE compliance targets are met and sustained by all stakeholders at our ports.

1.2 Profile of Portfolio

The Authority has positioned itself as a landlord ports authority, managing all fixed assets under its control in a responsible and productive manner.

Real Estate Management is driven by key principles that seek to support the vision of creating a world-class port system in South Africa, that supports the development goals of our country and the region as a conduit for import and export trade between South Africa and the world. The Authority leases out its limited land to achieve the highest and best uses that can be accommodated within the port limits.

Third party tenants enter into long-term leases to enable them to invest on available land, by developing facilities for their operations.

A diverse mix of terminal, handling and warehousing facilities have been developed at ports, inter alia : container terminals; automotive terminals in Durban, East London and Port Elizabeth; multi-purpose terminals for a variety of commodities; liquid bulk storage and tank farms for storage of products ranging from petrochemicals, oils, chemicals, etc. Dry bulk facilities for coal; iron ore, steel, manganese, etc. cold storage facilities for Fruit, fish and other perishables. Some ports have other significant installations like the petroleum refinery in the port of Durban; the coal terminal in Richards Bay and Pier 2 in Durban. The infrastructure invested in such facilities by tenants amounts to billions of rand, on massive footprints. The Authority complements these developments by continually investing in port infrastructure to support and anticipate increasing demand by the market.

The salient details of the Authority's real estate portfolio are summarized below to give a concise (consolidated) overview of the portfolio

Salient Features of Real Estate business	
No of Ports	8
Net Book value of Real Estate assets as at 31 March 2011	R7,522m
Gross Lettable Area	Approx.' 22 million m^2
No of Tenants	737
Internal	4
External	733
Total No. of Terminal Operators	70
Split Ratio of leased land :	
Internal	55%
External	45%
Vacancy Factor	9%
Average Term of Leases	5 – 25 years
Total Revenue [*as at 31 March 2011*]	R1,304m
Estimated Revenue – 2011/12	R1,495m
Estimated Revenue – 2012/13	R1,643m
% of Real Estate Revenue to Total Turnover [*as at 31 March 2011*]	18.0%

Table1: Salient features of Real Estate Business

The Real Estate Portfolio comprises of a body of tenants and operators that make up a varied mix of uses and services at each port. The port of Durban is the largest port in the portfolio by occupied footprint, number of tenants and concentration of terminal operation resulting in Durban contributing the most significant portion of the Real estate income to the share of higher revenue than other ports.

The new port of Ngqura in Port Elizabeth has Transnet Port Terminals as an anchor tenant. The Port of Richards Bay also provides growth opportunities for our Real Estate business. The Authority has conducted open competitive processes for this port to select other operators and further proposal calls are planned in this financial year to identify and select new operators.

1.3 Governance and Control Environment

The Real Estate business of the Authority is managed through a framework of approved policies and operational procedures that align with the provisos in the Act, as it applies to the management and control of its land and leasable facilities.

The following governance framework guides the manner in which the Authority manages its Real Estate portfolio:

Transnet Board – empowers the Group Chief Executive through a Delegation of Authority, to approve Agreements of Lease and sub delegate certain powers to the Chief Executive of the Transnet Ports Authority to approve Real Estate Agreements and Licences.

Transnet Executive Committee –the lease management policy and procedures for lease Agreement.

Chief Executive of the Authority – is the final approver within the Authority of all significant Agreements and Leases that are motivated through to Head Office by the ports. The Chief Executive also recommends lease agreements beyond his delegated authority to the Transnet Group Chief Executive or his delegate.

The Authority has also put in place, as part of its improvement strategies, a number of measures that ensure the effective and efficient management of its Real Estate and a sound control environment that allow the systems employed to provide a robust control mechanism and mitigate inherent risks that are associated with the size of its operations as defined in its mandate.

1.4 Act Alignment Process

The Authority has embarked on steps to complete the alignment of its operations with the requirements in the Act by initiating the licencing process of all qualifying Terminal Operators at the ports in line with their status as Deemed Licence holders, in terms of section 65 of the Act.

The licensing of operators would assist the Authority to manage and exercise its oversight role as a landlord and regulate the compliance standards that are desired, which old historical leases fail to address. This process would serve as a risk mitigation instrument that properly defines the obligations of all parties and their activities at our ports.

1.5 Challenges

The historical management of the Authority's real estate portfolio has over the years evolved with numerous challenges that require certain interventions, which the Authority is currently undertaking.

Some of the challenges include:

(a) Historical lease agreements that have onerous terms for the Authority and are heavily in favour of Tenants;
(b) Land historically leased out to Tenants with no direct link to the services or operations of the port;
(c) Inadequate Agreements that do not adequately define the roles, responsibilities and obligations of tenants and operators at the ports;
(d) Lack of performance management and enforcement for operators who occupy port land and facilities;
(e) Weak controls to ensure the compliance of Operators in line with new laws.

These challenges have also presented a lot of opportunities for the Authority to redesign its strategic objectives for its property portfolio to align with its mandate and play an effective role of being a landlord ports authority that provides an enabling environment for the optimal use of port land and facilities (which are limited), to benefit and unlock value for the economy of our country.

The Act, which now drives the business and operations of the Authority, has also provided an appropriate instrument for the Authority to effect changes and improve the management of its real estate, to align with the objectives set out in a regulated environment.

1.6 Opportunities:

The challenges outlined above provide the Authority with the following opportunities, in the management of its real estate:

(a) Land use planning that is driven by a medium to long term strategic vision for its ports;
(b) Third party investment on port land and facilities to complement the infrastructure investment undertaken and planned by the Authority to ensure growth ahead of demand;
(c) Employ best practices and international benchmarking on the performance of its operators at the ports;
(d) Increase its real estate revenue in line with acceptable best market practices;
(e) Play an effective oversight role to ensure tenants and operators comply and adhere to the safety of the marine and eco systems and therefore maintain a sustainable port environment with managed risks and sound controls;
(f) Ensure that the port system meets its transformation objectives and current operators comply with the objectives of broad based black economic empowerment and the Authority enhances the growth of the regions in which it operates.

1.7 Financial Information relating to Real Estate Business

Description	Budget 2011/12 Rm	Forecast 2012/13 Rm
Corporate Plan	2,444	3,281
Real Estate Investment	670	1,042
Capital without Real Estate	1,775	2,238

Table2: Capital investment programme

Five – year capital investment plan by objective		Budget 11/12 Rm	Projections 12/13 Rm
Strategy	Strategic objectives		
Re-engineering, Integration, Productivity and Efficiency	To maximise return on investments by obtaining additional volumes	349	419
	To maximise return on investments by improving operating efficiencies	-	50
	To preserve current revenue streams without obtaining additional volumes (i.e. revenue protection)	252	391
Safety Risk and Effective Governance	Ensure Safety Optimisation	45	88
	Optimise Business Enterprise Offerings	6	5
	Optimally Satisfy Social Investments (non economic value creating projects)	-	-
	Environmental	7	-
Human Capital Execution	Optimise Human Resources	11	89
	Total excl. borrowing cost	670	1,042

Table3: Five year Capital investment plan by objective

Capital investment plan by asset type		
Asset Type	Budget 2011/12 Rm	Forecast 2012/13 Rm
Buildings and structures	313	630
Aircraft	-	-
Land	12	76
Machinery, equipment and furniture	25	25
Permanent way and works	20	62
Vehicles, Rolling stock & containers	5	-
Port Facilities	295	249
Other	-	-
Pipelines networks (etc)	-	-
Total	670	1,042

Table4: Five year Capital investment plan by asset type

Capex investment Per port	Budget 2011/12 Rm	Projections 2012/13 Rm
Richards Bay	32	185
Durban	343	516
East London	12	26
Ngqura	2	4
Port Elizabeth	-	31
Mossel Bay	5	-
Cape Town	251	253
Saldanha	12	27
Dredging Services	-	-
Lighthouse Services	-	-
Other	13	2
Total (excl. borrowing cost)	670	1,042

Table5 Five year Capital investment plan per port

Capex :TCP managed vs Authority Managed Projects	
	Rm
Projects Managed by TCP	383
Projects Managed by the Authority	659
Total	1,042

Table6: Capex Spend TCP Managed Vs. Authority Managed

Capex Internal Vs. External	Port	TCP Fees	External Fees 12/13	Total 12/13
Salisbury Island (acquisition)	Rcb	11	65	76
Re-engineering of DCT	Dbn	6	32	38
Fire fighting infrastructure at berth 9 Island View	Dbn	6	34	40
Expansion of Container Terminal : CPT	Dbn	34	194	229
Total		57	325	383

Table7: Capex spend: internal and external potions of TCP (Transnet Capital Projects) managed project

Cost Category	Actual 2010/11 R Million	Budget 2011/12 R Million	Forecast 2012/13 R Million	Deviation R Million	Deviation %	% of Operating Cost 2012/13
Required Revenue	(1,305)	(1,495)	(1,643)	-148	9.9%	112.4%
Labour Costs	42	56	62	6	9.9%	-4.2%
Rates & taxes	183	164	174	10	6.0%	-11.9%
Maintenance	3	3	3	0	5.0%	-0.2%
Contract Payments	0	0	0	0	-4.7%	0.0%
Energy	0	0	0	0	22.0%	0.0%
Professional services	12	15	14	-1	-3.6%	-1.0%
Material	0	0	0	0	7.3%	0.0%
Computer & Info systems	5	7	7	0	0.8%	-0.5%
Rental	8	10	10	1	6.8%	-0.7%
Security costs	0	1	1	0	6.8%	0.0%
Research & development	6	30	20	-10	-32.9%	-1.4%
Sundry operating costs	(114)	(101)	(111)	-10	9.9%	7.6%
EBITDA	(1,158)	(1,310)	(1,462)	-152	11.6%	100.0%

Table8: Operating Costs

ANNEXURE B

WACC DETERMINATION PREPARED BY FRONTIER ECONOMICS FOR THE AUTHORITY

TRANSNET NATIONAL PORTS AUTHORITY

FY 2012/13

1. Estimating the cost of capital for TNPA

1) Introduction

1. We have been asked by Transnet National Ports Authority ("TNPA") to provide an independent estimate of its Weighted Average Cost of Capital ("WACC"). WACC is an important input into the calculation of the TNPA's revenue requirements, which in turn will determine its approved tariffs in any given review period.

2. In May 2011 TNPA submitted to the Ports Regulator ("the Regulator") a discussion document, prepared by Frontier Economics, which set out a proposed methodology for the determination of approved tariffs. The document included a proposed approach for the determination of WACC for the purposes of calculating TNPA's revenue requirements. This note sets out our estimation of TNPA's WACC for the 2012/13 review period.

3. There is one area where the approach we have used to estimate TNPA's WACC departs from the methodology proposed to the Regulator. This relates to estimation of the risk free rate. There is also one other area in which we have adapted the methodology to work with the available data. These two issues are explained in more detail in this note.

4. We begin by providing a brief overview of the WACC and then go on to estimate each of its major components: the cost of equity and the cost of debt.

2) The Weighted Average Cost of Capital

5. The cost of capital represents the minimum return that a company must make on its investment in order to continue to attract capital, given the risks investors bear when they commit funds to the business. In the allowed revenues formula, the cost of capital represents the rate of profit TNPA is permitted to earn on its regulatory asset base. The product of the WACC and the RAB represents the total allowed profits (in Rand terms), before debt service, for the review period.

6. The cost of capital is typically measured using the Weighted Average Cost of Capital (WACC). The WACC takes into account main sources of possible funding for a company, debt and equity, and the relative gearing of the company, in order to determine a (weighted) average cost of capital for the firm.

7. Allowed revenues must be sufficient to cover, among other things, the company's tax expenses. The simplest way to reproduce the revenues required to cover the company's tax obligations is to apply the vanilla WACC and make a separate allowance for actual tax expenses.

8. The vanilla WACC formula is calculated as follows:

$$WACC = k_e(1-g) + k_d g \,,$$

where:

- k_e is TNPA's estimated post-tax cost of equity;[6]
- k_d is TNPA's estimated pre-tax cost of debt (i.e. the cost of debt free of any adjustment for the tax shield on interest); and
- g is TNPA's gearing (defined as the ratio of the value of debt to the value of debt plus equity).

REAL VS. NOMINAL

9. As the RAB is to be indexed to inflation and re-valued in nominal terms over time, the WACC to be applied to the RAB, in order to calculate the minimum allowed level of profit for the review period, must be expressed in real terms.

TAX TREATMENT

10. Interest on debt (unlike payments to equity investors) is a tax-deductible expense. This provides the business a 'tax shield' on debt, which effectively lowers its financing costs. This tax shield needs to be accounted for in allowed revenues.

11. The simplest way to do this is directly through the tax expense term, T, in the allowed revenues formula. A forecast of the company's actual tax expense would, in expectations, automatically account for the effect of the tax shield. With this specification, the WACC used in the allowed revenues formula must, as described above, be the vanilla WACC.

12. Under this approach, no tax adjustment should be made to either the cost of equity or to the cost of debt. For the avoidance of doubt, the cost of equity in the vanilla WACC should be interpreted as a post-tax rate, and the cost of debt should be interpreted as a pre-tax rate.

[6] Note, in order to achieve a post-tax cost of equity, no tax shield adjustment should be made to any of the elements within the cost of equity, including the risk-free rate.

3) Cost of equity

13. The real cost of equity to be used in the WACC formula, k_e, has been estimated using the Capital Asset Pricing Model (CAPM). The CAPM formula (which produces a post-tax cost of equity) to be applied for this purpose is usually expressed as:

$$k_e = r_f + \beta \times MRP$$

where,

- r_f is the real risk-free rate;
- β (beta) measures TNPA's exposure to market (non-diversifiable) risk; and
- MRP, the market risk premium, measures the premium (over and above the risk-free rate) that investors might expect to earn by investing in a fully diversified portfolio of all risky assets in the economy (i.e. "the market").

14. The exact way in which returns are measured and therefore the precise meaning of this formula is subject to some variation in the literature. The application of the CAPM needs to reflect the nature of the data used to estimate its parameters. This topic is discussed in more detail in the subsection on the MRP.

RISK-FREE RATE

15. The cost of equity calculated using the CAPM is a post-tax return. Therefore, no further tax adjustment to the elements within the CAPM formula, including the risk-free rate, is required to arrive at a post-tax return.

16. There are essentially two ways in which the real risk free rate can be estimated:

- One approach uses the average of historical bond yields adjusted for contemporaneous historic inflation; and
- The other uses a current bond yield (or recent average of bond yields) adjusted for forecast inflation.

Both have been widely used by regulators and in this note we describe the results of applying both approaches.

ESTIMATE BASED ON HISTORIC AVERAGES

17. The May methodology paper proposed that the real risk-free rate be calculated by averaging 25 years of South African Reserve Bank ("SARB") bond yield data of monthly frequency, on bonds with maturities of 10 years or more, adjusted contemporaneously for inflation.

18. The methodology proposed that nominal yields be deflated using the rate of inflation measured using the Consumer Price Index (CPI), which is available from Statistics South Africa.

19. The paper proposed that the real risk-free rate to be used in the CAPM is to be calculated using the following formula:

$$\text{Real risk} - \text{free rate} = \frac{1}{300}\sum_{m}^{300}\left(\frac{1+R_{f,m}}{1+CPI_m}-1\right)$$

where,

- $R_{f,m}$ is the nominal risk-free rate, expressed as an annual rate, observed in month m; and
- CPI_m is the contemporaneous rate of annual inflation, as measured by the CPI.

20. We understand that bond yield data published by SARB are "quoted in units of %pa NACS (Nominal Annual Compounded Semi-annually)". Although interest on Government bonds is compounded at six-month (semi-annual) intervals — call this six-monthly rate x — the annual yield quoted by SARB is calculated by simply multiplying the six-monthly rate by two, i.e. $2x$.

21. In other words the yields quoted by SARB are annual un-compounded nominal yields and not the effective (compounded) nominal yields that an investor in these Government securities would earn. Effective, rather than quoted, yields should be used when estimating the cost of equity because quoted yields ignore the effect of compounding (and therefore, the time value of money).

22. The equation for converting a quoted yield to an effective annualised yield involves compounding the six-monthly (semi-annual) yield over two periods:

$$\text{Effective yield } = (1+x)^2 - 1$$

We have employed this formula in the calculation of the nominal risk-free rate prior to deflating to obtain a real rate.

23. The methodology set out above uses monthly nominal yields in order to calculate the risk-free rate. However, the monthly observations of nominal yields obtainable from SARB are expressed as annual yields. In order to calculate a monthly yield it is necessary to solve for the rate, which if compounded over 12 months, would result in the observed annual yield. Hence, if the effective annual yield in month m were R_m, then the appropriate monthly yield for month m should be calculated as follows:

$$\text{Monthly yield}_n = (1 + R_m)^{\frac{1}{12}} - 1$$

24. To re-annualise the monthly yields, the yields calculated for each month within the year need to be compounded forward as follows:

$$\prod_{n=1}^{12}(1 + \text{ Monthly yield}_n) - 1$$

25. The estimate of the risk-free rate to be used in the CAPM formula is simply the average across 25 so annualised yields.

26. Applying this approach using the relevant data to April 2011 would produce an estimated real risk-free rate of **4.40%**.

FORWARD-LOOKING ESTIMATE

27. In its 2011/12 tariff application, TNPA used the yield on a 20 year South African government bond, R186 10.5% 2026, as a proxy for the nominal risk-free rate. The nominal yield used in the 2011/12 tariff application was 8.81%.

28. We have used latest available yield from April 2011 for the same bond as a proxy for the nominal risk-free rate. The yield to maturity on this bond as at 29 April 2011 was **8.65%.**

29. Ideally, the deflator used to convert this nominal yield into a real interest rate would be the expected inflation over the same term. However, there is no reliable estimate of longer term inflation available. The alternative is use a forecast of shorter term inflation. This approach involves the same conceptual mismatch between the inflation term and the bond term as the historic calculation. In the historic approach, there is an implicit assumption that the errors arising from this mismatch will average out over the period chosen. While the forecast approach loses the benefit of averaging, it has the advantage of being forward looking (and therefore consistent with the concept of the cost of capital).

30. The forecast of inflation for the review period used to deflate this nominal yield was derived using data from the Bureau of Economic Research (BER), which provides annual forecasts of inflation using the CPI index for 2012 and 2013. We took the mean of these two values in order to obtain an average forecast inflation rate for 2012/13. This produced a forecast inflation rate of approximately **5.6%**. These data are summarised in **Table 9** below.

Table 9. ***CPI inflation forecasts***

Inflation	2012	2013	Average over 2012/13
CPI (headline)	5.4%	5.8%	**5.6%**

Source: Bureau of Economic Research (2011); Frontier analysis

31. Applying the current nominal rate and forecast rate of inflation to the Fisher formula produced an estimated real risk-free rate of **2.89%.**

32. We note that if longer term inflation were expected to move towards the mid-point of the target range, which is 3-6%, then the implied real rate would be materially higher. In this respect, the estimate of 2.89% is likely to be on the low side.

SUMMARY OF RESULTS

33. In summary:

- An estimation approach that uses historic averages of contemporaneously deflated nominal yields produces a real risk-free rate estimate of 4.40%.
- A forward-looking estimation approach, which involves deflating current nominal yields using a forecast of inflation, suggests a real risk-free rate of 2.89%.

34. TNPA has asked us to use the lower estimate of 2.89% in these WACC calculations.

MARKET RISK PREMIUM

35. The MRP is the premium demanded by investors for investing in the market portfolio comprising all risky assets in the economy, instead of a riskless asset.

36. The MRP cannot be observed directly; it must be estimated.

37. Even though MRP is normally applied as though it is a forward-looking premium, its likely future size is typically inferred from long-run historical data. In particular, a common approach to estimating the MRP is to examine average historic excess returns on the market (i.e. the average spread between historic returns on a market proxy and the return on government securities) over a long period of time.

38. One of the best datasets available for this purpose is the one compiled by Professors Dimson, Marsh and Staunton (DMS), and published annually in the *Credit Suisse Global Investment Returns Sourcebook*. This dataset provides annual risk premium estimates for 19 countries, including South Africa, using historical returns data from 1900.

39. The main advantages of the DMS estimates are that they are independent, calculated in a consistent manner over time, and generally tend to be sensible values that are fairly stable from year to year.

40. When using DMS MRP estimates, there are two important choices that need to be made:

41. Firstly, should the excess market returns underlying the calculation be averaged using an arithmetic or geometric approach? The arithmetic mean measures the average of the annual returns for the period under consideration, whereas the geometric mean measures the constant annual return that compounded would be produce the same total return over the relevant period. For forward-looking analysis, and for the purposes of the CAPM, the arithmetic mean is the more appropriate measure.

42. Secondly, should the MRP be measured against bills or bonds? Excess market returns (i.e. market returns minus the appropriate risk-free rate) can be calculated either against short-run bills (i.e. with maturities of 12 months or less) or longer-dated bonds (i.e. with a maturity of 10 years). Since the risk-free rate to be used in the CAPM is measured using bonds rather than bills, it is appropriate for consistency to measure the MRP against bonds.

43. We have taken as the relevant MRP estimate for South Africa the 2011 DMS estimate of the arithmetic MRP measured against bonds for South Africa, **7.2%**.[7]

44. When working with DMS data, it is important to recognise that the excess returns that are averaged over years to obtain an estimate of the ERP are defined as geometric, rather than arithmetic, differences. Specifically, DMS define excess returns on the market as:[8]

[7] Dimson, E., Marsh, P., Staunton, M. (2011), *Credit Suisse Global Investment Returns Sourcebook 2011,* p.23.

$$\text{Real excess returns} = \frac{1 + r_m}{1 + r_f} - 1$$

where r_m is the real return on the market and r_f is the real risk-free rate.

45. In contrast, the CAPM is more conventionally written with an arithmetic specification of excess returns market returns:

$$\text{Real excess returns} = r_m - r_f$$

46. This means that the DMS MRP estimate should not be applied in the conventional CAPM formula as though it represents an arithmetic percentage excess return. Instead, it is necessary to re-write the CAPM in a geometric form that is compatible with the DMS MRP. The necessary formulation of the CAPM is:

$$\text{Real cost of equity } = (1 + r_f)(1 + \beta \times MRP_{DMS}) - 1$$

where MRP_{DMS} is the DMS estimate of the MRP for South Africa.

BETA

47. Since TNPA is not a quoted company, it is not possible to estimate its beta directly from trading data. Under these circumstances, the most feasible approach for estimating its beta is the so-called 'comparator approach'.

48. The comparator approach involves the following steps:

Step 1. Identify a set of peer companies that are traded;

Step 2. Estimate the equity betas of the peer companies. In practice, betas are typically estimated as the coefficient of a regression of the company's returns over a suitable period against the returns on the stock market over the same period. Such estimates can be obtained by sourcing the raw data and running the regressions, or from a number of reputable financial data services;

Step 3. De-lever the equity beta estimates to obtain asset beta estimates for those peer companies, based on each company's gearing and the relevant country's tax rate ;

[8] Dimson, E., Marsh, P., Staunton, M. (2011), *Credit Suisse Global Investment Returns Sourcebook 2011*, p.28.

Step 4. Calculate the average asset beta of the peers as a representative industry asset beta; and

Step 5. Re-lever the industry asset beta, based on TNPA's gearing and the South African corporate tax rate.

IDENTIFICATION OF PEER COMPANIES

49. In its 2011/12 tariff application, TNPA used 11 port companies as comparator firms for the purposes of estimating its asset beta. In its Record of Decision on that tariff application, the Regulator commented that TNPA "did not sufficiently argue the appropriateness of the selection as proxies for the NPA".

50. In response to this feedback from the Regulator, TNPA has asked us to undertake a thorough assessment of possible proxy firms that should be used to estimate TNPA's beta. In providing this assessment, we followed a number of clear steps, which we describe below.

51. Firstly, Frontier obtained from Bloomberg a list of 120 potential comparator firms that might be used to arrive at a beta estimate. All these companies were quoted companies that, prima facie, were involved in the provision of port services.

52. When selecting appropriate peer companies at Step 1, the usual approach is to identify (close-to) pure-play firms operating in the relevant industry that are as similar as possible. The more similar potential comparators are, the more suitable they will be as peers. In addition, it is important that only companies with robust and reliable data are used so as to avoid skewing the final estimates.

53. To ensure that these criteria were met, we applied both qualitative and quantitative filters to screen out unsuitable peers.

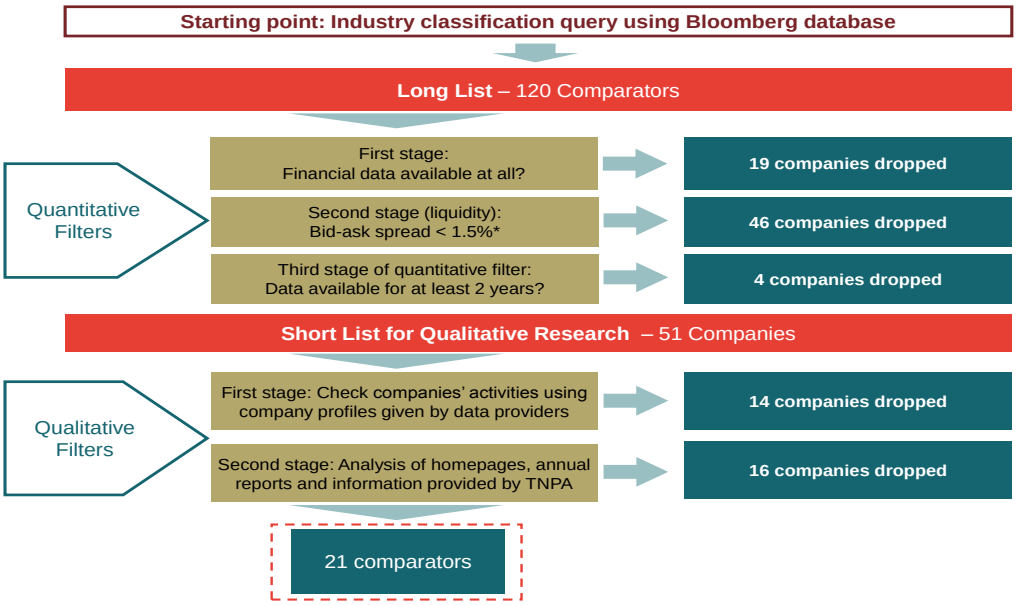
- **Quantitative Filter:** We tested whether all the data necessary for beta estimation were available in the first place. In addition, since the estimated betas of illiquid stocks are known to be potentially distorted downward by thin trading, we checked if the stocks of the potential comparators were traded liquidly enough to ensure unbiased estimates.[9]

[9] Thin trading can arise due to market imperfections and transaction costs. When illiquidity arises for such reasons, measured betas will be artificially depressed: when the market moves, the stock fails to move not because the stock has a low underlying exposure to systematic risk, but because market imperfections prevent investors from trading on the new information.

- **Qualitative Filter:** We tested if the companies have a business model similar to that of TNPA and hence face similar risks. Specifically, we investigated if the potential comparators are engaged in **port services** and **own** significant port-related land assets.

In what follows, the filtering process is described in more detail.

Figure 1. ***Summary of peer selection process***



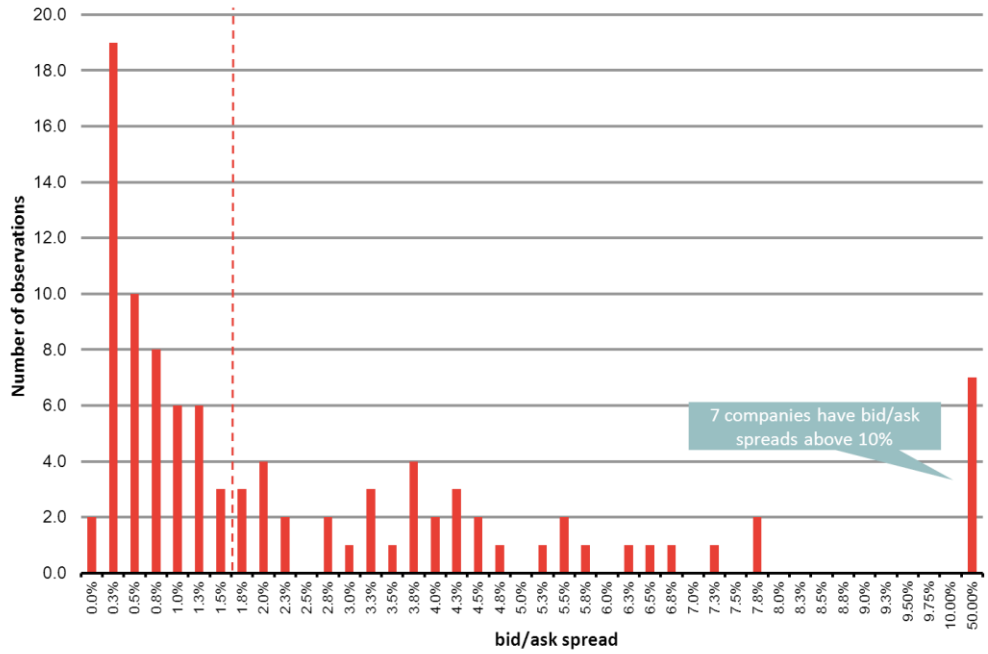
Source: Frontier Economics

QUANTITATIVE FILTERS

- **Data availability:** As can be seen in **Figure 1**, of the 120 companies, 19 either could not be found or had no price data available from Thomson Datastream. This left us with 101 companies.

- **Liquidity:** We then applied a filter to select only those stocks that were adequately liquid. To assess liquidity, we filtered out any stocks with an average bid-ask spread over the last two years (expressed as a percentage) of more than 1.5%. **Figure 2** shows the distribution of bid-ask spreads for the sample of 101 companies identified in the previous step and the 1.5% bid-ask spread cut-off that we employed. Applying this filter left us with 55 firms.

Figure 2. ***Distribution of bid/ask spreads in sample of 101 companies***



Source: Frontier Economics

- **Recent listings:** Next we ruled out any companies that were first listed in the last two year period on the grounds that such recent listings would have insufficient share price data to produce robust beta estimates. There were four such companies. This left us with a sample of 51 potential comparators.

QUALITATIVE FILTERS

- **Business activities:** Next, we researched, using Thomson Datastream and Bloomberg, the activities of these 51 firms to see which were involved in port infrastructure and land ownership, on the grounds that these would be more comparable to TNPA than companies offering ancillary port services. This exercise identified 14 companies that were involved in activities sufficiently unrelated to port infrastructure and land ownership to warrant their exclusion from the peer group.

- **More extensive research**: This left us with 37 companies which we investigated in greater detail using annual reports, material provided by TNPA, and company websites. We found that 21 of the 37 companies on the shortlist are engaged in port operations and own significant port-related land assets

so we included them in our sample. The remaining 16 companies were ruled out. Generally, we found that it was straightforward to establish if a company is engaged in port operations; it was more difficult to identify if the company actually owns substantial port-related land assets.

FREQUENCY OF DATA AND ESTIMATION WINDOW

54. In practice, betas are estimated using daily, weekly or monthly returns data.

55. It is well recognised that estimates based on high frequency (e.g. daily) data tend to be more statistically precise than those based on low frequency (e.g. monthly) data. Low frequency estimates (particularly those based on monthly data) can also be quite susceptible to 'reference-day risk' — the tendency for estimates to vary considerably depending on which day of the month is used to measure returns. The reference day risk problem becomes less severe with higher frequency data. However, betas based on daily data can be subject to biases arising from thin/thick-trading of stocks, which can be mitigated by using slightly lower frequency data.

56. Another important choice is the length of the estimation window used to calculate betas. The window should be long enough to permit sufficient data points, but not so long that it captures irrelevant periods of the company's history. However, care should also be taken to avoid particularly anomalous and transient periods (e.g. stock market bubbles or financial crises) that could bias beta estimates.

57. Ideally, the choice over the frequency of data used to estimate betas, and over the estimation window, should not be mechanical but derived from a careful review of all the pertinent circumstances. However, in the interests of reducing regulatory uncertainty, it is useful to fix upon a certain estimation window, and to depart from that only when there are good reasons to do so.

58. In the present exercise, we have used betas based on weekly data, and measured over the most recent two year estimation window at Step 2.

59. For reasons of simplicity and transparency, we have employed 'off-the-shelf' beta estimates from a reliable, well-recognised data service, Bloomberg. The estimation approach used by Bloomberg is well understood. In addition, this provider also permits some flexibility over the frequency and periodicity of data used to estimate betas.

60. 'Raw beta' estimates (i.e. unadjusted coefficients of a regression of company returns against market returns) may not be good representations of a company's true prospective beta. Firstly, there may be unavoidable imprecision in estimates (even with good data, covering an appropriate period of time). This may call for the use of out-of-sample (prior) information — such as a view about the

size of the industry beta, or a belief that the true beta for the company lies closer to the market beta of one — to adjust the raw estimates. Secondly, there is some evidence that the betas of many companies have a tendency to converge towards the market average of one over time.

61. A common form of beta adjustment employed by commercial beta services is the so-called 'Blume adjustment', which is provided as a feature by data services such as Bloomberg, Value Line and Merrill Lynch.

62. The simple Blume approach adjusts for the possibility that betas are probably mean reverting towards a value of one. It involves weighting the raw estimate with a proportion of 2/3 and the market beta of one with a proportion of 1/3.

63. Two key advantage of the Blume approach are that it is relatively simple to apply, and that Blume-adjusted betas are readily available from a number of well-known data services.

64. We have applied Blume-adjusted betas at Step 2 above.

65. There are several methods available to de-lever and lever betas. One of the most common is the Hamada formula which allows for tax but avoids the complexity and empirical difficulty of having to estimate debt betas. The Hamada de-levering formula should be used at Step 3 to convert the equity betas of comparators into asset betas:

$$\beta_a = \frac{\beta_e}{1+(1-t)\frac{d}{e}}$$

where,

- β_a is the asset beta of the comparator;
- β_e is the equity beta of a comparator;
- d is the value of debt in the capital structure of the comparator;
- e is the value of equity in the capital structure of the comparator; and
- t is the rate of corporation tax in the country of domicile of the comparator.

66. The values of debt and equity to be applied in this formula should, where possible, be expressed as market values and should ideally be representative of the average value of the quantities across the period over which beta has been estimated.

67. In practice, it is difficult to obtain the market value of debt, so it is common to express debt in the de-levering formula in book value terms (as a proxy for market values).

68. 'Debt' in this equation has been calculated as total long-term and short-term interest-bearing liabilities less cash and cash equivalents, i.e. net debt. The market value of equity to be used in this calculation is given by the company's market capitalisation (i.e. the share price multiplied by the number of outstanding shares).

69. Net debt and market capitalisation data for each of the comparator companies (averaged over the two year estimation window) were obtained from Bloomberg. The country tax rates that were applied in the Hamada de-levering formula were sourced from *KPMG's Corporate and Indirect Tax Survey 2010*.

70. The results of the beta estimation exercise for the final list of peer comparators are summarised in **Table 10** below.

Table 10. ***Summary of beta estimates***

Comparator	Equity beta (Two-year, weekly; Blume-adjusted)	Asset beta (De-levered using Hamada)
Xiamen International Port Co Ltd	0.942	0.942
NCB Holdings Bhd	0.602	0.602
Hamburger Hafen und Logistik AG	1.083	1.002
Nanjing Port Co Ltd	1.025	1.005
Mundra Port and Special Economic Zone Ltd	0.995	0.915
Westshore Terminals Investment	1.004	1.004

Table 10. ***Summary of beta estimates***

Comparator	Equity beta (Two-year, weekly; Blume-adjusted)	Asset beta (De-levered using Hamada)
Corp		
Thessaloniki Port Authority SA	0.774	0.774
Forth Ports PLC	0.782	0.605
Shanghai International Port Group Co Ltd	0.912	0.870
Novorossiysk Commercial Sea Port PJSC	0.892	0.889
Piraeus Port Authority	0.714	0.658
Jinzhou Port Co Ltd	0.824	0.708
Wuhu Port Storage & Transportation Co Ltd	1.271	1.096
Jiangsu Lianyungang Port Co Ltd	0.964	0.855
Tianjin Port Co Ltd	0.964	0.835
Rizhao Port Co Ltd	0.999	0.827
Port of Tauranga Ltd	0.872	0.753
Simple (un-weighted) average		**0.826**

Source: Equity beta estimates and other financial data from Bloomberg; Frontier calculations of asset betas

71. The average estimated asset beta across the sample of peer companies was **0.826**.

72. For consistency, we have used the re-levering Hamada formula to transform the average of the comparators' asset betas to an estimate of TNPA's equity beta at Step 5 above:

$$\beta = \bar{\beta}_a\left(1+\left(1-t'\right)\right)\frac{d'}{e'}$$

where,

- β is TNPA's estimated equity beta;
- $\bar{\beta}_a$ is an average of the comparators' asset betas;
- $\frac{d'}{e'}$ is TNPA's debt-to-equity ratio; and
- t' is the rate of corporation tax in South Africa.

73. TNPA, as a division of Transnet Ltd, does not raise its own capital, so it is not possible to observe its capital structure directly. A pragmatic solution to this problem is to assume that TNPA's gearing is consistent with the actual capital structure of Transnet Ltd.

74. We understand from TNPA that, each year, Transnet Ltd resets its gearing (and therefore, by our assumption the gearing of its subsidiaries, including TNPA) to 45%. Therefore, for the purposes of re-levering TNPA's estimated asset beta, and also for the purposes of weighting between the costs of debt and equity, we have assumed a TNPA gearing of **45%**. This is consistent with the gearing figure used by the Regulator in its 2011/12 determination.

75. The rate of corporation tax in South Africa is currently **28%**.

76. Applying the Hamada re-levering to the average of the comparators' asset betas, using the parameters above, resulted in an equity beta estimate for TNPA of **1.313**.

SUMMARY OF THE COST OF EQUITY

77. **Table 3** brings together the various elements inputs to the CAPM formula estimated above and presents an overall estimate of TNPA's real (post-tax) cost of equity.

Table 11. ***Summary of TNPA's estimated real cost of equity***

Parameter	Value	Methodological notes
Risk-free rate (real)	2.89%	Latest available April 2011 effective nominal yield on R186 10.5% 2026 South African government bond, deflated using BER forecast of inflation over 2012/13
MRP	7.20%	Historical average MRP for South Africa derived by Dimson, Marsh and Staunton
Asset beta	0.826	Average Blume-adjusted beta (2 year, weekly) of 21 port peer companies
Equity beta	1.313	Asset beta re-levered using Hamada formula assuming 45% gearing
Cost of equity (real, post-tax)	**12.62%**	$= (1 + \text{Real risk} - \text{free rate})(1 + \text{Equity beta} \times \text{MRP}_{\text{DMS}}) - 1$

Source: Frontier Economics

4) Cost of debt

78. There are two possible approaches to determining TNPA's cost of debt. The first is to obtain a forward-looking estimate of TNPA's cost of borrowing, and the other is to adopt the company's embedded debt costs.

79. Sub-directive 23(2)(b) of the Ports Directives states that the Regulator "must enable" TNPA to "recover its costs in maintaining, operating, managing, controlling and administering ports and its costs in providing port services and facilities". The cost of debt finance is such a cost. The requirement under sub-directive 23(2)(b) suggests that TNPA's actual, embedded debt costs should be used to determine the cost of debt applied within the WACC.

80. The closest observable proxy for TNPA's actual cost of debt is the average embedded cost of debt of its parent, Transnet Ltd. Additionally, using embedded debt costs would be consistent with the use of Transnet Ltd's capital structure as a proxy for TNPA's gearing.

81. We understand from TNPA that Transnet Ltd's projected weighted average cost of embedded debt for 2012/13 is **10.36%**. We have used this as a measure of TNPA's cost of debt for the relevant review period.

82. Since a vanilla WACC is to be used, the cost of debt must be expressed as a pre-tax rate (i.e. free of any adjustment for corporation tax).

83. The nominal cost of debt was converted to a real rate using the Fisher equation:

$$k_d = \frac{1 + K_d}{1 + i} - 1$$

where,

- K_d is Transnet Ltd's embedded cost of debt, which is expressed in nominal terms; and
- i is the forecast of inflation over the coming review period, as derived earlier in **Table 9**, **5.6%**.

84. Applying the Fisher formula to TNPA's expected nominal cost of debt, using the one year forecast of inflation derived above, resulted in an estimated real cost of debt of **4.51%**.

5) The WACC

85. **Table 12** brings together the estimates of the costs of equity and debt derived above, and a gearing assumption for TNPA of 45%, to obtain an overall real vanilla WACC for the business. The overall estimated real vanilla WACC is **8.97%** (which, with a corporate tax rate of 28%, would be consistent with a real post-tax WACC of 7.73%).

*Table 12. **Summary of WACC parameters and overall real vanilla WACC estimate***

Parameter	Value
Real cost of equity (post tax)	12.62%
Real cost of debt (pre-tax)	4.51%
Gearing	45%
Real vanilla WACC	**8.97%**

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Source: Frontier Economics

ANNEXURE C

TRANSNET

ACCOUNTING POLICIES ON ASSETS AND REVENUE REQUIREMENT

TRANSNET NATIONAL PORTS AUTHORITY

FY 2012/13

1. Accounting Policies on Assets

Regulatory Asset Base ("RAB") at 31 March 2011:

ASSET	NET BOOK VALUE
Property, plant and equipment	50,517
• Land, Buildings and Structures	5,589
• Permanent Ways and Works	373
• Containers	0
• Port Facilities	
○ Port Infrastructure	42,587
○ Floating Craft	1,575
○ Bulk handling equipment	7
• Aircraft	75
• Machinery, Equipment and Furniture	303
• Vehicles	7
Capital Work in Progress ("CWIP")	4,907
Intangible Assets	32
Investment Property	4,469
RAB at 31 March 2011	59,925

Property, plant and equipment

All items of PPE, with the exception of port infrastructure assets within port facilities, are stated at cost less accumulated depreciation where appropriate and impairment losses.

Cost includes expenditure that is directly attributable to the acquisition of the asset and borrowing costs, which are capitalized to qualifying assets.

Port infrastructure assets are carried at revalued amounts. Physical revaluations are carried out every three years by independent experts and appropriate indices are applied in the intervening periods to ensure that the assets are carried at fair value at the balance sheet date. Revaluation surpluses that arise are taken directly to the revaluation surplus in equity, except to the

extent that they reverse a revaluation decrease for the same asset previously recognized as an expense, in which case the surplus is credited to the income statement to the extent of the decrease previously charged. A decrease in carrying amount arising on the revaluation of an asset is charged as an expense to the extent that it exceeds the balance, if any, held in the asset's revaluation surplus relating to a previous revaluation of that asset. Assets that are subject to a revaluation are tested against a discounted cash flow model to ensure that the carrying values of the assets are recoverable. On the subsequent sale or retirement of a revalued asset, the attributable revaluation surplus in the revaluation reserve is transferred to retained earnings.

Useful life and depreciation

Depreciation is charged to the income statement on a straight-line basis over the estimated useful lives of each component of an item of property, plant and equipment. Land and assets in the course of construction are not depreciated. All other property, plant and equipment, are depreciated on a straight-line basis over their estimated useful lives. Depreciation commences when the asset is available for its intended use by management.

Investment Property

Investment property, which is property held to earn rentals and/or for capital appreciation, is stated at its fair value at the reporting date. Gains and losses arising from changes in the fair value of investment property are recognised in net profit or loss for the period in which they arise.

Where an item of property, plant and equipment is transferred to investment property following a change in its use, any differences arising at the date of transfer between the carrying amount of the item immediately prior to transfer and its fair value is treated in the same way as a revaluation under IAS 16 and is recognised in other comprehensive income if it is a gain. Upon disposal of the item the gain, is transferred to retained earnings. Any loss arising from the transfer is recognised immediately in the income statement unless it is a reversal of a previous revaluation surplus in which case the loss is recognised in other comprehensive income and reduces the existing revaluation surplus.

If an investment property becomes owner-occupied, it is reclassified as property, plant and equipment and its fair value at the date of the reclassification becomes its cost for subsequent accounting purposes. When the Group begins to redevelop an existing investment property for continued future use as investment property, the property remains an investment property, which is measured based on fair value model, and is not reclassified as property, plant and equipment during the redevelopment.

Assets are depreciated over the following periods:

	Years
Land improvements	10 – 25
Buildings and structures	10 – 50
Building components	5 – 35
Substations, transformers	25
Bridges, culverts and tunnels	95
Permanent way and works	3 – 95
Containers	10 – 20

Port facilities

Port Infrastructure	12 – 100
Entrance channel, dredged areas and breakwater	100
Quay wall, slipway, jetty	40 – 50
Fenders	12
Floating craft including components	10 - 40
Bulk handling equipment	15
Aircraft (Helicopter)	5 – 8
Vehicles	3 – 7

Capital work in progress

Assets under construction, including capital work in progress, are stated at cost, less any impairment losses where the recoverable amount of the asset is estimated to be lower than its carrying amount. The cost of self-constructed assets includes the cost of materials, direct labour, the initial estimate, where relevant, of the costs of dismantling and removing the items and restoring the site on which they are located, and an appropriate proportion of production overheads. Firm commitments on hedge accounted transactions are included in capital work in progress.

Intangible assets

Software and licenses

Software and licenses are recognized and measured at cost less accumulated amortization and any impairment losses.

Costs associated with researching or maintaining computer software programmes are recognized as an expense as incurred. Costs that are directly associated with the development of identifiable software products controlled by the Transnet National Ports Authority, and that will probably generate economic benefits beyond one year, as well as for which the costs can be measured reliably, are recognized as intangible assets. Direct costs include the software development employee costs and an appropriate portion of relevant overheads. Costs relating to the acquisition of licenses are capitalized and amortized on a straight-line basis when available for use in the manner intended by management.

Estimated useful life

Amortization is charged to the income statement on a straight – line basis over the estimated useful lives of intangible assets. The estimated useful lives are as follows:

Software:	5 years
Licenses:	Term of the license

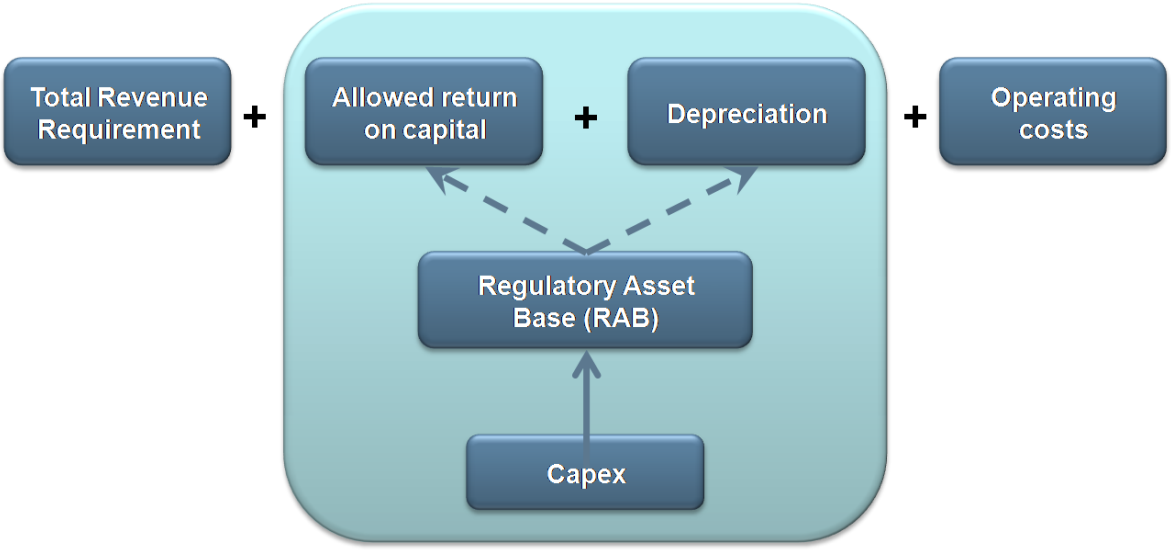
2. Revenue Requirement Explanation

All forms of rational economic regulation of utilities, networks, industries and markets, whether it be rate of return regulation, price-capping regulation or revenue-capping regulation, require the determination of the actual or normative costs of running the particular business. There are the three basic building blocks of any company (whether it is privately owned or owned by the state) namely the recovery of

Investments (through the depreciation charge), costs and profit. This is recognised in the Regulator's Directives, namely Directive 23(2) (as amended by agreement between Transnet and the Regulator) which obliges the Regulator to enable the Authority to:

- Recover its investment
- Recover its costs
- Make a profit commensurate with risk.

This is illustrated schematically as follows:



We note in this regard that section 28(3) of the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003), which forms part of the economic regulatory framework administered by the National Energy Regulator of South Africa ("NERSA"), obliges NERSA to ensure that the tariffs set or approved by NERSA enable the licensee to recover its investment, operating costs and make a profit commensurate with risk. Similarly, Eskom is regulated in this manner. This approach mimics that adopted by regulators around that world, i.e. that such costs must, at a minimum, be recovered by a regulated entity. If these three categories of costs cannot be recovered, the financial sustainability of the Authority would be under threat. The building blocks are used in most regulated entities around the world.

ANNEXURE D

COMPLIANCE REPORT

TRANSNET NATIONAL PORTS AUTHORITY

FY 2012/13

1. Tariff Application Compliance Report

In terms of section 72 subsection (1)a of the National Ports Act of 2005, the Authority must with the approval of the Ports Regulator determine tariffs for services and facilities offered by the authority and annually publish a tariff book containing those tariffs. In order to fulfil this function the Authority in terms of section 22 subsection (1) of the directives, must submit its tariff book containing all its proposed tariff's for the following financial year to the to the regulator for review and approval. This submission has to comply with the requirements set out in Directive(S) 22, 23.

Below is an extract form the Record of Decisions relating to the 2011/12 tariff Application.

"4. Compliance with the Directives, Regulations and National Ports Act

4.1. The application is largely compliant with the Act, Regulations and Directives with some important exceptions. Key among these is the total exclusion of the property business and the lack of a transparent system for determining tariffs.

4.2. The NPA has submitted a tariff increase approval request based on a revenue requirement methodology. Although not articulated expressly by the regulatory framework, it is not specifically excluded. The Regulator therefore decided to accept the methodology that had been used, as amended and applied by the Regulator in this tariff assessment.

4.3. The NPA has excluded the real estate business from its application. Though the Regulator has agreed to accept this for this application, all future applications shall include all aspects of the real estate business, and the Regulator shall assess the application on the basis of the entire NPA business. For purposes of clarity, any future application that does not include the real estate business or any other business of the NPA falling within the ambit of the regulatory framework for assessment by the Regulator, shall be rejected as non-compliant, and shall not be assessed."

The table below lists the said Directives and the degree of compliance by the Authority. Explanations and References accompany the table.

Directives	Compliance achieved?	Comments
22(1) The authority shall within thirty days of the directives coming into effect and thereafter on an annual basis or at such longer periods as the authority and regulator may agree, submit its tariff book setting out its proposed tariff for all its services and facilities offered by the authority for the following financial year of the authority for approval by the regulator	Yes	The Authority has duly submitted the 2012/13 Tariff Application, with the Tariff Book annexed. The Tariff book sets out the regulated tariffs for the Financial Year 2012/13 for review and approval by the Regulator.
The authority shall submit to the regulator a proposal for the amendment of any tariffs or services and facilities offered by the authority at any port from time to time	Yes	The Authority has duly submitted the 2012/13 Tariff Application requesting a single and uniform tariff increase for all regulated tariffs, for review and approval by the Regulator.
22(3) a The authority must reveal to the regulator: the manner in which tariffs have been calculated and the model used.	Yes	The Authority has set out in the Tariff Application document the manner in which it calculates the overall revenue required and the required tariff increase therefore. Section 4 explains the Authority's approach to the revenue requirement model.
22(3)b The authority must also reveal all operating and capital costs, expenses and revenues incurred or generated from the port services or port facilities as well as the value of capital stock	Partially	TNPA has disclosed details of the required information in the Tariff Application document.
22(3)c the authority is further required to reveal the amounts to be invested and the revenues to be utilized in port development safety, security and environmental protection	Partially	To the extent that TNPA invests/ expends in port development, safety& security and environmental protection this information has been provided. However in terms of revenue generated from these investments and return hereon the Authority finds this section of the directive inappropriate, as the Authority does not charge on this basis. Such costs/ investments are recovered through the current revenue streams and will be taken into account as part of the Tariff Review project.
22(4)the regulator may call on the authority to provide any additional information the regulator requires to consider the submission in terms of sub directive 1 or 2 or to approve the proposed tariffs	Yes	If the regulator deems it necessary for the authority to avail any further information the authority is more than willing to comply with this request
22(5) the authority may in its submission made in terms of directive (1) or (2), identify any information the authority might deem as confidential information. Any submission shall be made and dealt with in terms of directive 25	Yes	The Authority has reviewed all the information contained in the tariff application and does not deem anything to be confidential.
22(6) the authority shall maintain such financial and accounting systems as are necessary to for the regulator to verify the pricing principles and models used by the authority to determine and calculate tariffs	Yes	Financial models and accounting systems used in the preparation of the Tariff Application are available and can be availed to the regulator upon request
23 (1) In considering the proposed tariffs the Regulator must have regard to whether the proposed tariffs reflects and balance various considerations as listed in the Directive	Partially	The Authority is applying for a single uniform tariff increase across all regulated tariffs. The methodology used by the Authority in this regard is:

Directives	Compliance achieved?	Comments
		• Systematic and can be applied on a consistent basis; • Fair, with regards to input considerations; The Authority is reviewing a methodology for the calculation of all tariffs as mentioned herewith. The Authority will ascertain that the methodology continues to comply with the above considerations and also: • Predictable and stable • Simple and transparent; and • Fair with regards to outputs; • Avoids discrimination and cross-subsidization, save where it is in the public interest; and • And promotes the access of ports and efficient and effective management of national ports
23(2) In considering the proposed tariffs, and any subsequent proposed significant variations, the Regulator will give due considerations to whether the Authority is able to achieve various financial goals listed under the directive.	**Yes**	The Authority has used the Required Revenues methodology in calculating the required increase in tariffs. This methodology will enable the Authority to: • Recover its' investments in owning and managing the port services and facilities. • Recover costs of owning and managing the port services and facilities • Make a profit commensurate with the risk of owning and managing port facilities
24 The Authority must report annually to the Regulator regarding all agreements entered into with licensed operators, parties to an agreement and port users for the variation in terms of section 72(4) of any tariff published in terms of section 72(1) of the Act. Such report must include details of: (a) the party to the relevant agreement for such variation of the tariff; (b) each tariff in respect of which a variation has been agreed; (c) the nature of the agreed variation; and (d) the duration of the agreement.	**Yes**	The Regulator may access all agreements entered into by the Authority and licensed operators.

Concerns of the regulator raised in the 2011/12 ROD (Section 7)	Compliance achieved?	Comments
The methodology for determining proxy betas for the NPA in particular, needs to be agreed in the 2011 process.	No	The Authority has made submissions in this regard and await the Regulators response thereon
The NPA should ensure a higher level of detail on its capex for the tariff applications, so as to allow a greater scrutiny thereof. The comments and inputs received from the Ports Consultative Committees and the National Ports Consultative Committee, when they are fully operational, needs to be included. A breakdown of the capex programme must show the amount of money that is transferred internally on every project, such as fees that are paid to either Transnet, or any of its subsidiaries/divisions, in addition to other service costs	Yes	The Authority has included a higher level of detail on its CAPEX for the tariff application and the status of the Port Consultative Committees and the National Ports Consultative Committee under section 3.4. TCP managed projects and the related fees have been disclosed under the section 3.3 as well.
All subsequent applications must include all aspects of the NPA business in the application, in particular, real estate. All subsequent tariff assessments shall include all aspects of the NPA business	Yes	The effect of real estate on the Revenue Requirement has been calculated and disclosed under section 8.
Related party transactions, such as internal transfers for services, temporary cash holdings in other divisions or group etc., must be disclosed separately in future tariff applications.	Yes	TCP managed projects and the related fees have been disclosed under the section 3.3.
The 2011 tariff methodology process shall also deliver a standard for regulatory accounts, including depreciation methodologies to be used in the regulatory accounts.	No	The Authority has made submissions in this regard and await the Regulators response thereon
The tariff review project of the NPA must give the detail required and the timeframes over which these shall be achieved	Yes	An update on the tariff review project of the NPA has been included under section 9.4
In future applications, all operating expense items must be fully disclosed, in particular, explanations regarding all increases beyond forecast inflation must show why and how they are increasing. The increases should be broken down by those resulting from additional activity and those resulting purely from inflation. Those expense growth category components resulting from increased activities, must be articulated and not defined purely by reference. The sundry costs element in the operating expenses, the second largest cost category, requires a much greater level of detail and breakdown than is currently provided. The energy expense item should also be justified by forecasts of energy inflation, that are backed by research. A distinction should also be made for overlapping categories in the justifications, such as electricity in the 2011/2012 application that is included under the explanations for both energy and sundry operating expenses.	Yes	The Authority has included a higher level of detail on its operating expenses for the tariff application under section 5.3