



Port Tariff Methodology
For Tariff Years 2018/19 – 2020/21

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Methodology review context

Introduction

The most recent Tariff Methodology (applicable from 2015/16 – 2017/18) has allowed a significant smoothing of the National Ports Authority’s (“NPA”) return. At the same time, it has allowed the Ports Regulator of South Africa (“the Regulator”) to establish a lower tariff trajectory whilst still ensuring that the NPA remains profitable, as can be seen in Figure 1 below.

This review of the Methodology has incorporated four rounds of public consultations in order to ensure sufficient input from stakeholders was received on the various elements of the Methodology. Interested parties were provided the opportunity to make input through oral representations during public hearings held in September and October 2016, as well as multiple rounds of requests for written comments, the latest of which closed on 20 March 2017.

Figure 1: Return on Equity (last 5 years)



Significant strides have been made since the first Regulatory decision in 2009/10 and the determination of a multi-year tariff methodology in 2015/16 was yet another step in the process towards regulatory certainty. Whilst retaining the fundamental elements of earlier determinations, the last tariff methodology was multi-year in its approach, applicable to the 2015/16-2017/18 tariff years, and resulted in increased levels of transparency and consistency in the tariff setting process. This Tariff Methodology, applicable to the 2018/19 – 2020/21 tariff years, seeks to continue and strengthen the transparency and effectiveness of the regulatory tariff setting process whilst expanding its scope and providing greater focus on the embedded incentives inherent to the Tariff Strategy published in July 2015.

Background: The Regulator's Mandate

The Regulator's approval is required for the tariffs charged for services and facilities offered by the NPA in accordance with the National Ports Act, 12 of 2005 (the Act).

In terms of Section 72(1) of the Act, and Chapter 7 of the Directives of 2009 promulgated in terms of Section 30(3) of the Act as amended in 2010, the NPA must submit to the Regulator an application regarding the tariffs it proposes to charge for the services and facilities that it offers. The Regulator's approval of such tariffs is subsequently required. The Act, its Regulations, and the Directives constitute the South African Ports' Economic Regulatory Framework which, amongst other instruments, allows for a transparent tariff setting process.

On an annual basis, the NPA submits its tariff application to the Regulator. The Regulator takes into consideration the Application, all subsequent submissions, written and oral comments received during the consultation process, including the responses thereto, as well as conducts its own research prior to publishing a Record of Decision (ROD).

Since the commencement of economic regulation with the 2009/10 ROD, the Regulator has issued, on an annual basis, a ROD for each application year in which an assessment of the NPA's compliance with the Regulatory Framework has been made. All RODs have contained an outline of corrective action required.

Furthermore, the Regulator has formulated a long term Tariff Strategy which is based on a 'use and benefit' approach to cost allocation. The Strategy depends on the adapted Revenue Requirement (RR) approach to allocate costs to specific user groups. Tariffs from 2017/18 onwards will be adjusted in accordance with the consulted and adopted Tariff Strategy.

The Multi-Year Methodology in Context

The "multi-year" Tariff Methodology in the current instance refers to the calculations of tariffs for the period 2018/19 - 2020/21 based on a single methodology with an extended treatment of the Capital Works in Progress in the Regulatory Asset Base calculations.

The multi-year tariff application has different calculations for each tariff year in the tariff period, consisting of forecasts and calculations of each of the components of the Required Revenue (RR) approach. Annual adjustments to the values of the components will be taken into account through a claw-back (or give-back) mechanism.

The NPA publishes a revised tariff book of all prices reflecting the decisions of the Regulator as set out in the Record of Decision (ROD), for the first year of each rolling multi-year period. In addition, the NPA is required to submit, as part of the application, any proposed changes to the existing tariff book that will reflect increases (or decreases) different from the average tariff increase applied for.

Port Tariff Methodology - for Tariff Years 2018/19 – 2020/21

Methodology Period

The Regulator has previously allowed for an annual review and an annual adjustment of tariffs within a three-year period as opposed to fixing the prices for the period; this is intended to protect users from possible large step changes in the tariff. In addition, unlike other regulated industries such as electricity or oil and gas pipelines, there are large variations in the users and usage of port infrastructure and services. Therefore, an annual review allows a more efficient and appropriate allocation / distribution of prices to port users rather than an adjustment after three years.

This Tariff Methodology allows for an annual review and adjustment of tariffs within a three-year period, the NPA will be required to apply for a fixed tariff adjustment for the year under review and provide two indicative tariffs for the outlying years. This in turn allows the Regulator, and port users, to take a medium term view of the operational expenses, volume, and tariff trajectories, whilst at the same time provides the Regulator with the flexibility to adjust in the short term for economic or other external impacts. Capital Works in Progress “CWIP” will however be treated in a different manner as an extended period of fixed capital expenditure will be allowed, with a RAB reset implemented only after a six-year period, or shorter periods if formally requested by the NPA. This will allow the NPA long term certainty regarding their CAPEX allowances. *See Section on Regulatory Asset Base.*

Proposed Tariff Methodology: An Overview of the Elements

Rate of Return Regulation - Revenue Required (RR) Methodology/Revenue Cap

The Rate of Return regulation method is often used to determine fair and reasonable prices for all parties. The prices are reasonable as they allow a company the opportunity to recover its costs, as well as earn a fair return on capital employed. At the same time, the method protects customers from paying excessive monopolistic prices, with the argument being that monopolistic firms should be required to charge the price that would prevail in a competitive market.

The Revenue Required¹ methodology is one such method that uses the Rate of Return as it enables the firm to make a reasonable return on their assets after covering all operating costs, depreciation and taxes.

This approach further satisfies the requirements of the Act which states that the Regulator must ensure that the approved tariff allows the NPA to:

¹ The inclusion of a claw back mechanism results in the Required Revenue approach closer reflect a Revenue Cap. For purposes of consistency in terminology we continue to use the term Revenue Requirement (RR).

- Recover its investment in owning, controlling and administering ports and its investment in port services and facilities;
- Recover its costs in maintaining, operating, controlling and administering ports and its costs in providing port services and facilities; and
- Make a profit commensurate with the risk involved in ports services and facilities.

An assessment of the various components of the RR formula are required in order to determine a feasible outcome. In regulatory practice, tariffs for far-lying future years are based on forecasts of various considerations. As a general rule, the longer the forecast period is, the less accurate the forecasts towards the end of the period are likely to be. In time, forecasts can be replaced with actual data for the forecasted variables and when sufficient actual data is available for a tariff year, the tariff is recalculated. Claw-backs or give backs are then calculated to offset any differences. This calculation and subsequent claw-back will be completed each year of a multi-year tariff decision, as has been the practice of the Regulator. As actual data for tariff Year One will only be available in tariff Year Two, the applicable claw back or giveback, if any, will only be fully implemented in tariff Year Three.

Actual volumes will replace estimates for the calculation of claw backs or give backs. For future years, more up to date forecasts may be more accurate and in turn lead to smaller tariff adjustments. Such newer forecasts could be implemented each year at the same time that changes as a result of claw backs or give backs are implemented. In years when there are large volume changes, using more recent volume forecasts may reduce the size of the claw back or give back. However, annual volume forecasts will make the calculation of claw backs or give backs much more complicated involving multiple claw backs for a particular year, and thus more prone to human error. However, the use of a three-year period in the current methodology includes a mid-period adjustment, that should, in theory, reduce the volatility over the period as a result of the claw-back.

As the Regulator has utilised the RR approach for determining tariff amendments in response to the NPA's annual tariff applications. The Regulator proposes a continuation of this approach for the 2018/19 - 2020/21 financial years, with some changes as set out below.

The formula for the RR methodology is as follows:

Revenue Requirement

$$\begin{aligned}
 &= \text{Regulatory Asset Base (RAB)} \times \text{Weighted Average Cost of Capital (WACC)} \\
 &+ \text{Operating Costs} + \text{Depreciation} + \text{Taxation Expense} \pm \text{Clawback} \\
 &\pm \text{Excessive Tariff Increase Margin Credit (ETIMC)} \\
 &\pm \text{Weighted Efficiency Gains from Operations (WEGO)}
 \end{aligned}$$

The above formula reflects a standard building block approach to setting the revenue requirement of a regulated service provider and has been used by the Regulator in a similar manner in previous tariff determinations. This approach accords with the rate-of-return revenue requirement calculations by Regulators in South Africa as well as internationally (as modified in the ports regulatory practice over time) and has been used as the basis for assessments by the Regulator in preceding tariff periods.

The Methodology requires that the NPA estimate its operating costs, depreciation, taxation expenses, and return on capital (a product of the Weighted Average Cost of Capital (WACC) and the value of assets in the RAB for the period under review).

In addition, the Methodology contains a claw-back mechanism that corrects for over or under recoveries in previous tariff periods, as well as the Excessive Tariff Increase Margin Credit (ETIMC). The ETIMC mechanism allows for large increases in required revenue and/or tariffs that may arise from volume volatility or substantial capital expenditure programmes in future years to be partly offset by moderately higher tariff increases in the short-term.

Whilst the Methodology as set out below contains an efficiency variable (the Weighted Efficiency Gains from Operations) and will incentivise operational efficiencies, the Regulator still retains the right to include, at any time during this methodology period, positive incentives in support of any national objectives or positive operational or financial outcomes in the Records of Decision.

The exposition of the Revenue Requirement approach is:

$$RR = (v - d + w) r + D + E + T \pm C \pm ETIMC \pm WEGO$$

Where:

<i>RR</i>	=	<i>Revenue Requirement</i>
<i>v</i>	=	<i>Value of the assets used in the regulated services</i>
<i>d</i>	=	<i>Accumulated depreciation on such assets</i>
<i>w</i>	=	<i>Working Capital</i>
<i>r</i>	=	<i>Regulated Return on Capital</i>
<i>D</i>	=	<i>Depreciation accounted for in the period of the tariff</i>
<i>E</i>	=	<i>Operating costs (OPEX)</i>
<i>T</i>	=	<i>Taxation expense</i>
<i>C</i>	=	<i>Claw-back</i>
<i>ETIMC</i>	=	<i>Excessive Tariff Increase Margin Credit</i>
<i>WEGO</i>	=	<i>Weighted Efficiency Gains from Operations</i>
$(v - d + w)$	=	<i>Regulated Asset Base</i>

Regulatory Asset Base (RAB)

The RAB represents the value of those assets the NPA is allowed to earn a return on. As the return earned on these assets is expressed in real terms, the value of total assets in the RAB is indexed to inflation each year - the Trended Original Cost (“TOC”) approach. Each year, estimated capital expenditure (CAPEX) and depreciation is added to the closing balance for the previous year to arrive at an updated closing balance for the current year. The expected working capital balance is added to arrive at a total RAB estimate, which is averaged over the year to account for the progressive spending of capital works in progress (CWIP) over the period.

Calculation and Adjustment of the RAB

In the previous tariff determinations, the Regulator accepted the Depreciated Optimised Replacement Cost (DORC) method used by the applicant for certain assets to determine an opening RAB. However, the Regulator retains the low level of confidence in the RAB determined through the 2008 DORC method. Whilst this method gave rise to a steep increase in the asset values, regulatory certainty was required in the absence of any alternative. The Regulator retains these concerns and has since commenced an independent process that will form subsequent RAB assessments. The process is intended to assess the application and appropriateness of these valuations and valuation methodologies for major assets.

As such, the development of a Regulatory Valuation Methodology will compliment this Methodology and will provide rules for future valuations of the RAB as well as the rebasing of the NPA’s RAB. These rules will not only determine the applicable valuation methodologies for the different asset classes, but will guide the treatment of CWIP, depreciation, as well as “end of useful life” concerns. The finalisation of a valuation methodology will allow the Regulator to make ongoing adjustments to the RAB as independent views on the values in the asset base becomes available over the regulatory period.

The Regulator may finalise an assessment on any asset or part of the RAB during the period and will reflect the appropriate changes in the next ROD to affect the RAB value in the following tariff year.

The RAB value for the period under review is be determined using the following formulas:

$$RAB_y = \frac{1}{2} [RAB_{c,y} + RAB_{o,y}] + w_y$$

$$RAB_{c,y} = RAB_{o,y}(1 + CPI_y) + CWIP_y \cdot (1 + CPI_y) - D_y$$

Where:

RAB_y	=	value of the RAB used to determine the returns for the period y
$RAB_{o,y}$	=	opening value of RAB for the period y
$RAB_{c,y}$	=	closing value of RAB for the period y
w_y	=	forecast average net working capital over period y
$CWIP_y$	=	value of expected capital investment over the period y
D_y	=	depreciation allowance for assets over the review period y
CPI_y	=	annual rate of general inflation expected over the period y

Depreciation

The fundamental contextual decision for the Regulator in determining the appropriate application of depreciation centres around the aim of regulation, specifically the intention to satisfy the principle of financial capital maintenance. Currently, to fully take into account capital expenditure and inflation, the following formula is used in the calculation of depreciation:

$$Depreciation = (RAB_{(o,y)} + (RAB_{(o,y)} \cdot CPI_{(y)}) + (Capex_{(y)} / 2 \cdot CPI_{(y)})) / 40$$

It must be noted that the completion of the Asset Valuation Methodology and on the implementation thereof, the Tariff Methodology might see more asset specific depreciation rates being used as opposed to an average asset life of forty years. The treatment of assets that have exceeded their expected lifespan and/or depreciation periods will be articulated in the Valuation Methodology which will be published for public comment in the 2017/18 Tariff Year.

Inflation Trending

The inflation rate for calculating the trend in the value of assets between rebasing periods will be the appropriate Price Index forecast for each asset type in each financial year during the tariff period. The same inflation rate is used in the calculation of the Weighted Average Cost of Capital (WACC).

Due to the Regulator finalising a ROD by 01 December, it will not be possible to utilise a final National Treasury published CPI figure. The Regulator will therefore utilise estimates from the National Treasury's October/November publication of a CPI figure, the South African Reserve Bank, the Bureau of Economic Standards, other institutions, as well as its own economic forecasts in its assessment of future price changes.

Capital Works in Progress (CWIP)

Detailed projections for the tariff period, per asset class, per service, and per project, as well as monthly planned expenditure schedules are to be submitted by the NPA, to the Regulator, with the annual Tariff Application. These projections are to serve as motivation for the inclusion of the CWIP in the RAB. All CAPEX which has been approved and not fully implemented is taken into account as part of the claw-back process and the RAB and its Return are adjusted accordingly. This process will however only take place every six years (or shorter if formally requested by the NPA) in order to allow the NPA the space to implement CAPEX projects set out in the Tariff Application of year one of the Tariff Methodology.

The Regulator has in the past relied on the PCCs to "in principle" approve or support the NPA's CAPEX requirements, however, the extended six-year project plan (to span the review of this Methodology) will require Regulatory approval. The NPA's ability to implement projects, recent CAPEX implementation record, as well as the appropriateness of the CAPEX plan will be taken into consideration. In addition, each project in the application must contain the underlying motivation (business case) for all CAPEX

projects, including volume projections etc. (See Annexure A for Additional Information Requirements). Whilst the NPA will be allowed to approach the Regulator to amend the RAB within the cycle, any amendments will require the same rigorous probity assessment. This is particularly important in the early stages of the implementation of the methodology during the ramp up in terms of business case submissions.

As such, the assessment of determining the final closing balance at the end of the CAPEX period will require an assessment of actual achievement of the approved CAPEX plan. This will require an assessment of the various construction elements including disbursements, actual outputs, and cumulative project specific *Bills of Quantities*. In Year Five of the six-year period, a five-year final output and a latest assessment of the estimated completion for Year Six will be used to establish the starting RAB for Year Seven (2024/25).

Table 1: Tariff Application Process

Tariff Application Process						
2017/18	2018/19	2019/20	2020/21	2021/22	2022/23	2023/24
NPA six-year CAPEX plan presented to PCC's and approved, by the Regulator, for inclusion in RAB, subject to prudency assessments. The 2018/19 RAB assessment will confirm the CAPEX program and RAB annual CAPEX inclusions for 2018/19-2023/24 as per the approved NPA CAPEX Program/plan limited to one year's business cases.	RAB adjusted for Tariff Assessment 2019/20 (including trending estimates, working capital, and inflation impact on depreciation calculation) and claw back calculated. Capital Works in Progress to remain as per 2018/19 Tariff Application limited to two year's business cases.	RAB adjusted for Tariff Assessment 2020/21 (including trending estimates, working capital, and inflation impact on the depreciation calculation) and claw back calculated. Capital Works in Progress to remain as per approved CAPEX plan submitted in 2018/19 Tariff Application limited to three year's business cases.	RAB adjusted for Tariff Assessment 2021/22 (including trending estimates, working capital, and inflation impact on depreciation calculation) and claw back calculated. Capital Works in Progress to remain as per approved CAPEX plan submitted in 2018/19 Tariff Application	RAB adjusted for Tariff Assessment 2022/23 (including trending estimates, working capital, and inflation impact on depreciation calculation) and claw back calculated. Capital Works in Progress to remain as per approved CAPEX plan submitted in 2018/19 Tariff Application	RAB adjusted for Tariff Assessment 2023/24 (including trending estimates, working capital, and inflation impact on depreciation calculation) and claw back calculated. Capital Works in Progress to remain as per approved CAPEX plan submitted in 2018/19 Tariff Application	Starting RAB for 2024/25 adjusted for actual CAPEX performance based on 2018/19-2022/23 CAPEX reviewed performance. Audits will be conducted on physical and financial assessments, E.g. inspections, Bills of Quantities etc.

Working Capital

The regulatory purpose of the RR approach is to determine the revenue required by the NPA to recover its costs and an appropriate return. This must include the concept of the time value of money as in many (most) cases, the time at which a particular cost is incurred is not necessarily matched with the associated tariff. Therefore, capital is required to cover the time delay, however there is a cost associated with the additional capital requirement. In order to correct for the inherent assumption in the RR approach (that expenses and revenues occur at the same point in time), an allowance for the time difference is included.

The estimate of working capital included to adjust for the cash requirements related to CAPEX requirements, equates to the actual *net* working capital as per the latest available NPA annual financial statements (not the change in working capital), consisting of accounts receivable plus inventory less accounts payable (i.e. operating cash is excluded), adjusted by forecast volume growth and CPI inflation for the following year. In addition, CWIP *payables*, which are estimated at 1/12th of the capital expenditure projected for that year is included. Volume and CPI forecasts used in the calculation of outer years' working capital will be updated as and when these numbers become available as part of the claw-back mechanism.

Weighted Average Cost of Capital (WACC) - Vanilla WACC

In general, the WACC represents the risk adjusted opportunity costs of capital, and is the minimum return for an investment in order to continue to attract capital, given the risks.

A real WACC (the cost of equity and the cost of debt) will be applied and expressed in Vanilla terms (i.e. post-tax cost of equity and pre-tax cost of debt). Accordingly, a separate allowance for the tax expense in the RR formula is required.

$$WACC_{vanilla} = k_d \cdot g + k_e(1 - g)$$

Where:

$$\begin{aligned} k_d &= \text{pre-tax cost of debt} \\ k_e &= \text{post tax cost of equity} \\ g &= \text{gearing, which is debt over total capital} \end{aligned}$$

Cost of Equity (k_e)

The post-tax Cost of Equity is calculated with reference to the Capital Asset Pricing Model (CAPM), which is expressed as:

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

Where:

$$\begin{aligned} R_f &= \text{Real risk free rate} \\ \beta &= \text{Measure of NPA's exposure to market (non-diversifiable) risk} \\ MRP &= \text{The market risk premium measuring the premium over and above the risk free rate that investors might expect to earn} \end{aligned}$$

The exclusion of the return on equity from the claw back calculation ensures that the use of a CAPM calculation establishes a determined risk premium above the RFR, significantly reducing the NPA's revenue risk as well as additional tariff volatility.

Risk Free Rate (r_f) (RFR)

In establishing a risk profile for a regulated entity like the NPA, the main risk facing the business is that of the interest rate. In addition, cost uncertainty and regulatory risk further contributes to their risk profile. With regards to the latter two risks, namely cost uncertainty and regulatory risk, the RR methodology, as implemented by the Regulator in this instance, adequately covers the perceived risk. In the first instance, the granting of operational expenditure as a revenue item and the inclusion of a claw back, together with a transparent tariff methodology sufficiently compensates the NPA for the associated risk. To compensate for the interest rate risk, regulators are generally in agreement that longer dated government bonds should apply for two reasons, firstly to retain consistency in the calculations, the RFR should be set on a basis that is consistent with other variables in CAPM, notably the MRP. Secondly, to ensure alignment with the average length of remaining life of an asset in the RAB or at least the remaining debt maturity periods.

This methodology utilises the South African Reserve Bank's published time series KBP2003M "Yield on loan stock traded on the stock exchange: Government bonds - ten years and over" in order to avoid anomalies in single data series bond as an appropriate measure of the RFR, and is seen to adequately reflects the market's perception of sovereign risk and inflation over the regulatory period. The average RFR is calculated as a monthly average over a five-year period.

The *Real* RFR is deduced by using the Fisher Equation.

$$1 + i = (1 + r)(1 + E(I))$$

Where:

i	=	Nominal rate
r	=	Real rate
$E(I)$	=	Expected inflation

Market Risk Premium (MRP)

The MRP is in essence forward-looking and therefore cannot be observed but must rather be forecasted. A general consensus exists that the historical premium is, in fact, the best estimate of the forward looking MRP. For this purpose, the Regulator uses the latest available Dimson, Marsh and Staunton (DMS) estimate of the mean MRP as measured against bonds for South Africa to determine an MRP for the NPA's cost of equity calculation. The existence of negative serial correlation in the returns on South African equities results in an overestimation of the MRP when using the arithmetic mean. In addition,

the relative (and recent) changes in terms of market diversification, improvements in the regulatory and legal frameworks safeguarding investors points to the appropriate risk premium forecast to be at the lower end of the long term view. As such the Regulator will retain the use of the geometric mean of the DMS MRP.

In addition, the calculation of the MRP average is done over the full period available in the DMS dataset as the cost associated with the larger standard error of a shorter period surpasses any advantages of a more updated MRP.

Beta (β)

As the NPA is not a traded company, there is no published beta (β) which reflects its risk relative to firms listed on the Johannesburg Stock Exchange (JSE). Therefore, a β has to be set in order to reflect the risks faced by the NPA under the RR methodology that will ensure an appropriate return (for the risk faced).

The inclusion of a claw-back mechanism reduces exposure to systematic risk and the existence of an interventionist regulatory regime requires the Regulator to use a β substantially lower than that of large firms listed on the JSE such as the JSE top forty. In addition, the unique nature of the NPA (a regulated monopoly with an implied government guarantee) makes any comparison with other port companies impossible.

As such, the consistent returns allowed by the Regulator and the claw back mechanism that effectively removes systemic risk (mainly through decreasing volumes) combined with the view that the β must be considered as endogenous to the methodology applied, argues for a lower beta. However, due to the complexity of establishing the correct β , the Regulator will apply an asset beta of 0.5 over the period, and will define an appropriate level of the asset β prior to the review of the Tariff Methodology in 2019/20.

The Hamada equation will then be used to re-lever the beta to result in an equity β .

Gearing (g)

The Regulator, taking into consideration previous applications, previous patterns of variation in the applications, various submissions, and its own analysis of the NPA's gearing, has determined that an appropriate gearing for the entity for the period is 50%. Further, this reflects a median position in a sample of ports as well as adequately signalling a required reinvestment of profits into the port system whilst balancing costs with a lower cost of debt.

Cost of Debt (k_d)

NPA's *actual*, embedded (adjusted for an *effective weighted*) debt costs should be used to determine the cost of debt applied within the WACC. The use of the Transnet Group short term vs long term debt structure will be applied to determine an efficient deemed short term vs long term debt ratio for the NPA.

The NPA is required to submit the initial calculation of the variable as well as revised average embedded debt costs based on the average embedded **NPA allocated** Transnet Group cost of debt on a group level, on an annual basis as part of the annual tariff application. This forecast will be corrected on an annual basis based on audited financial information through the claw back mechanism.

Taxation Expense (T)

The Regulator will accept the current corporate tax rate of 28% (t) (to be adjusted if amended by the National Treasury) adjusted for a proportional Transnet Group taxation rate for the period. As the current corporate structure of Transnet enables the Group to offset profits of one operating division against losses elsewhere, a taxation allowance granted to the NPA may result in increased regulated tax revenue, whilst a reduced taxation liability exists on a group level. A proportional tax rate, based on the assumption that the NPA is treated as an operating division, as opposed to a subsidiary of Transnet Group, will be calculated and corrected through the claw back mechanism. The effective rate will be calculated as a ratio of the Transnet taxation liability due under the current corporate structure to a calculated Transnet Group tax liability under an assumption of subsidiaries based on the before tax profits as published annually in the Audited Transnet Group Annual Financial Statements.

The Vanilla WACC will be applied to the average RAB for the period under consideration, less the interest cost of debt, and wear and tear, and other tax allowances.

Any over or under recoveries in terms of the estimated vs actual taxation allowed due to "group effects" will be included or offset in the ETIMC facility.

Operating Costs

The Regulator currently analyses the operating cost estimates for the period on a detailed line by line item basis. The NPA is requested to provide detailed and complete motivation for each of the expenses applied for, especially on large items such as labour and energy costs.

The Regulator continues to allow the inclusion of the Transnet Group costs in the total allowed expenses, subject to the requirement that the NPA submits detailed explanations and motivations for the amounts to be transferred to the Transnet group. These are expected on a level of detail that will allow assessment of its necessity, as well as the actual services/goods received, and for which function of the NPA it will be

utilised. Adjustments are made on an annual basis if and when the Regulator determines any group cost component to be inappropriate based on audited reports.

In addition, the NPA shall provide an externally and independently audited financial report (with all supporting documentation and detailed explanations including basis of allocation and policy documents that support such allocation) on all line items that form part of the group costs that have been expended for the NPA each year. This shall be provided in the year after the close of the financial year or until an alternative methodology or amendment of this methodology is published.

Furthermore, the Regulator reserves the right to claw-back all or any portion of the amount in future tariff decisions, should the Regulator not be satisfied that the expenditure is within the scope and mandate of the NPA, and that the amounts are reasonable, or reasonably allocated to the NPA.

Comprehensive information requirements must be met with for each application. *See Annexure A.*

Claw-Back

The key purpose of applying claw-backs is to ensure that the NPA or any port user is fairly treated and is not subjected to unfair gains or losses that are the result of incorrect forecasting, inaccurate information and system shocks. This includes the reducing and the sharing of risks faced by all port system participants including the NPA. Its main application is to reduce the impact of differences between Allowed Revenue (based on a number of forecasts and assumptions) calculated at the time of the tariff application, and actual audited figures, and is intended to ensure the coherence and integrity of the regulatory regime. The volatility of trade volumes and the difficulty in forecasting imports and exports accurately presents significant problems, especially regarding the prediction of volumes in outer years of a multi-year tariff period.

However, the following variables that are estimated (in line with the Regulatory Manual) on an annual basis, prior to the start of the following tariff year, for claw-back purposes are the:

- RAB (excluding CAPEX): The RAB is adjusted annually to reflect actual working capital requirements in line with AFS numbers and inflation trending;
- Depreciation: Depreciation is recalculated based on the adjusted RAB;
- Volumes: Actual volume numbers are used to calculate the claw back; and
- Inflation (CPI): Whilst the return on equity does not changed, the actual inflation rate is used in the recalculation of a number of variables, including the trending of the RAB, working capital forecasts, and other latest estimates during the assessment.
- Taxation (TAX). The taxation allowance will be corrected to adjust for the “Group effect” based on Transnet Group actual audited financial statements.

The forecast or estimation of these variables is conducted annually and actual data is used in determining the claw-back pertaining to the previous tariff year where the 50% rule applies. The final claw-back is determined in the following year when actual numbers are available.

Excessive Tariff Increase Margin Credit (ETIMC)

The Regulator regulates in the long term interest of the industry. This requires that the Regulator not only confine itself to the immediate tariff decision, but also considers ways to ease any future shocks to the system. It is generally accepted that capital expenditure may spike at some point in the foreseeable future, but that these projects have not as yet been specified to a level of detail that allows for accurate prediction. In addition, external market related factors such as unexpected (or expected) fluctuations in volumes, inflation, the RFR etc. may result in significant spikes to the tariff as well.

As such, the Regulator has, in the past, considered it prudent to avoid excessive future tariff changes by retaining and increasing the NPA's Excessive Tariff Increase Margin Credit (ETIMC), in order to allow the smoothing of unaffordable tariff spikes over multiple periods in the future.

As the ETIMC is 'revenue collected from port users' before the NPA is entitled to it, it should yield a return for users to compensate them for the opportunity cost of their capital. The ETIMC will therefore earn a return which is equal to the WACC allowed by the Regulator as the opportunity cost of the fund available to the NPA is indeed the WACC. The return on the ETIMC will be factored into the balance and the calculation of the total available under the ETIMC facility will be published annually.

Currently, the Regulator further deems it necessary to define the use of the ETIMC facility in the following way:

"The Regulator may authorise the release of part, or the whole, of the value of the ETIMC facility to influence tariff levels whenever it deems necessary including, but not limited to, spikes in tariffs (defined as an average tariff increase in excess of the CPI inflation forecast) due to a sharp increase in capital expenditure, volume volatility, or any market related factor. Further, the Regulator may consider national objectives when making decision to add to, or to utilise the ETIMC facility to adjust tariffs. "

Volume Forecast

The NPA is required to submit detailed volume forecasts with reasons as well as revenue calculations based on the forecast volumes and current tariff levels as well as proposed tariffs for the period.

Introduction of an Efficiency Incentive

The incentives built into the RR methodology do not favour increased efficiency or competitiveness as the claw back mechanism takes away the gains from higher efficiency with additional market volume effects. This must therefore be addressed in an integrated way through the inclusion of an efficiency

measure within the RR methodology. Whilst the introduction of efficient pricing through the Tariff Strategy will have positive effects, these will only impact over the long term. An approach is then required, on a more urgent basis, to identify and differentiate between volume gains (or volume losses) due to efficiency impacts and market effects. The introduction and continued evolution of the Terminal Operator Performance Standards (TOPS), Rail Operator Performance Standards (ROPS), Road Operator Performance Standards (HOPS), as well as the Marine Operators Performance Standards (MOPS), is of high interest to the Regulator. The measurement and monitoring role that the operator performance standard systems play will produce an input for the tariff system in order to establish more transparent and concrete incentive targets with benefits to both the port owner as well as port users.

In particular, **the inclusion of an efficiency variable Weighted Efficiency Gains from Operations (WEGO) is proposed as set out in the RR formula (page 6&7) where:**

$$WEGO_t = EG_{t-1} \times 0.05 \times Re_{t-1}$$

Where:

Efficiency Gain (EG) = Agreed efficiency gain through operations, excluding the effect of market driven volume growth.

Return on Equity (Re) = return on equity as determined in the ROD.

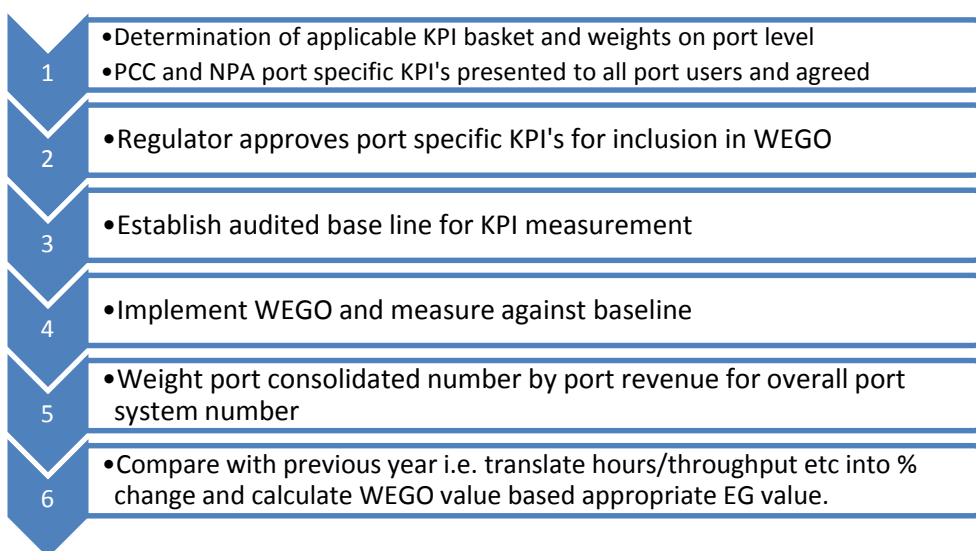
Composite Ports System Efficiency Gain % as calculated	EG for inclusion in the WEGO formula
≥10%	1
9%	0.9
8%	0.8
7%	0.7
6%	0.6
5%	0.5
4%	0.4
3%	0.3
2%	0.2
1%	0.1
0%	0
-1%	-0.1
-2%	-0.2
-3%	-0.3
-4%	-0.4
-5%	-0.5
-6%	-0.6
-7%	-0.7
-8%	-0.8
-9%	-0.9
≤-10%	-1

EG will be a weighted average growth rate of a selected group of audited performance results on a port by port basis. These key performance indicators, as well as the appropriate weightings for every port, will be selected by the Regulator in consultation with port users through the PCC process as well as with the NPA. It will be required that the *WEGO* TOPS and MOPS *results* must be signed off by PCC representatives at a port level and agreed to with the Regulator.

For the calculation of operational efficiency, port revenue contribution will establish the weighted contribution on a per port basis to calculate the overall EG, however, all ports' PCC's must present signed off results to the Regulator for consideration and inclusion in the tariff Assessment.

No cap on efficiency gains will be imposed, however, targets below a previous year's target (the Baseline) will not be allowed. A declining or negative value of *EGt-1* will result in an increased claw back over period *t*.


Operational Performance Calculations



The Regulator will, during the final year of the previous tariff methodology (2017/18), develop and consult on key performance indicators that will form part of the WEGO over the Tariff Methodology period. The approved results from 2017/18 will form the baseline for measurement in the first year of this Tariff Methodology (2018/19).

The process and requirements from of the different role-players in establishing the key performance indicators for inclusion in the tariff setting process is outlined below.

Process	2017/18	2018/19	2020/21
Process for port users	Port by Port KPI determinations presented to port users by PCC.		
Process for NPA	Port by Port KPI determinations presented to port users by NPA. Report on achieved performance to PRSA by year end to establish a baseline.	Report to PRSA on actual performance.	Application to include report on actual Audited KPI performance.
Tariff Setting Process	Regulator to approve final Port by Port and national KPI's.	No action required.	Implement WEGO as per audited KPI performance through the Claw-Back Mechanism.



Mr. Thabadiwa Mufamadi
Chairperson: Ports Regulator of South Africa

30 March 2017

Annexure A: Information Requirements

The following information requirements must accompany the annual application of the NPA.

- All CAPEX projects (infrastructure and capital acquisitions) underway (to include, but not limited to, information pertaining to project stage, tender specifics, construction progress etc.), as well as business cases for all proposed CAPEX inclusive of volume forecasts for the full six-year period under consideration;
- Business cases must be provided on all CAPEX projects in excess of R10 million in the following stages:
 - For the FY2018/19 tariff application, business cases for only one year will be required, i.e. FY2018/19;
 - For the FY2019/20 tariff application, business cases for two years will be required, i.e. FY2019/20 & FY2020/21; and
 - For the FY2020/21 tariff application, business cases for three years will be required, i.e. FY2021/22, FY 2022/23 & FY2023/24.
 - The nature of the content and detail of business will be further defined and developed between the Authority and the Regulator. Furthermore, the nature and content of the business case submissions would be summarised to focus on the more salient aspects including:
 - Objective of project;
 - Demand to be addressed;
 - Alignment to Port Development Plans;
 - Solution alternatives;
 - Project Costing;
 - Financial Returns and Payback periods;
 - Timing of Delivery; and
 - Key Risks.
- All acquisition of land and other Capital Assets (including motivation thereof);
- All disposal/or removal of land and assets (including motivation thereof);
- Lease Register setting out all lease information;
 - Copies of all new agreements and licences entered into or issued in the quarter, as well as the supporting documentation thereof, including Sections 79s, 72s, 56s, 57s,

and lease agreements (inclusive of all annexures, including but not limited to updated rentals and terminal operator tariffs); and

- All applicable B-BBEE certificates for the abovementioned licences and agreements;
- Data, results and progress applicable to the implementation and monitoring of Operator Performance Standards, as per TOPS / MOPS / ROPS / HOPS;
- Key performance indicators relating to port capacity, port performance, volumes and maintenance programmes per port as determined by the Regulator;
- Audited Financial Statements (NPA and Transnet Group);
- Historical information: All NPA relevant annual debt stock levels as well as annual debt redemption payments itemised, as well as the relevant debt instruments and applicable interest/coupon rates since the inception of Regulation;
- Current debt cost information including estimated debt costs (calculation and forecasts) for the current tariff year (i.e. the year that the application is made in) as well as the outlying tariff year. Must reflect the estimated annual change in to NPA relevant debt stock levels as well as annual debt redemption payments itemized, as well as the relevant debt instruments and applicable interest/coupon rates; and
- Itemized maintenance schedules for the next three years for all planned and unplanned maintenance projects above R1 million, categorized as OPEX as well as “capitalized maintenance”.