NATIONAL ENERGY REGULATOR OF SOUTH AFRICA

METHODOLOGY FOR THE SETTING OF PIPELINE TARIFFS IN THE PETROLEUM PIPELINES INDUSTRY VERSION 7

FOR PUBLIC CONSULTATION

30 JUNE 2015

EXPLANATORY MEMORANDUM

Introduction

1. On 22 September 2014 the Energy Regulator approved steps towards the harmonisation of methodologies applied by the Energy Regulator in determining tariffs for all industries (Electricity, Piped-Gas and Petroleum Pipelines).

2. The changes required for the Tariff Methodology for the setting of Pipeline Tariffs in the Petroleum Pipelines Industry - Version 7 concern:

   2.1. deferred tax; and

   2.2. changes to the period of data for market risk premium and risk-free rate from 25 years to 30 years.

Public Participation and Stakeholder Comments

3. The proposed changes to the Methodology will be published on NERSA's website for public comment between 30 June 2015 and 30 July 2015. Notices to this effect were placed in the following newspapers:

   - Independent newspapers;
   - Sowetan;
   - Die Beeld; and
   - The Citizen.

Rationale behind Proposed Changes Effected in Version 7

Deferred Tax

4. Deferred Tax has been deleted from the definition of Regulatory Asset Base [RAB] in the methodology because:

   - by deducting a deferred taxation liability from the Regulatory Asset

Base [RAB] the Energy Regulator is effectively taking away an incentive to invest that is awarded by Government in the taxation laws; and

- the Petroleum Pipelines methodology is the only Energy Regulator methodology that deducts deferred taxation liability and adds a deferred taxation asset to the Regulatory Asset Base.

Number of years taken into account when determining the market risk premium and the risk-free rate

5. It is proposed to increase the number of years used to determine the market risk premium and the risk-free rate from 300 months (25 years) to 360 months (30 years). The reasons for this data set change are that whilst there is no fundamental difference between 25 and 30 years:

   - an adjustment had to be made in order to achieve alignment between the petroleum, piped-gas and electricity tariff methodologies; and
   - it is a "rolling" period which will capture recent economic cycles and structural changes in the economy.

Request for Comments

Stakeholders and members of the public are invited to submit any comments in writing to:

Post: Attention: HOD Petroleum Pipelines Tariffs Department
The National Energy Regulator
PO Box 40343
Arcadia
Pretoria, 0007
Email: pipelines@nersa.org.za
Fax: (012) 401-4700

The deadline for comments is **30 July 2015.**

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Tariff methodology for the Setting of Pipeline Tariffs in the Petroleum Pipelines industry

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Proposed changes are shown in track changes

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Version 7

Approved on ____________2015

Tariff methodology for the Setting of Pipeline tariffs in the Petroleum Pipelines industry – Version 7

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Abbreviations and Acronyms

AR Allowable revenue

ARA Allowable revenue adjustment

ARa Allowable revenue approved

ARr Allowable revenue realised

C Clawback(s)

CA Clawback adjustment(s)

CAPM Capital asset pricing model

CPI Consumer price index

CRA Country risk adjustment

D Depreciation and amortisation of inflation write-up for the tariff period under review

Da Depreciation and amortisation of inflation write-up actual

Dp Depreciation and amortisation of inflation write-up approved

DA Depreciation and amortisation of inflation write-up adjustment

d Accumulated depreciation and accumulated amortisation of inflation write-up for the period up to the commencement of the tariff period under review

da Accumulated depreciation and amortisation of inflation write-up actual

dp Accumulated depreciation and amortisation of inflation write-up projected

Dya Actual number of days from the commencement of the period when updates to the operating assets were put into use, decommissioned or disposed of

Dyp Projected number of days from the commencement of the period when updates to the operating assets had been put into use

DSCR Debt service cover ratio

~~dtax~~ ~~Deferred tax~~

Dt Qualifying interest bearing debt used to fund the RAB

E Expenses – actual and accrued operating and maintenance expenses, including provisions for land rehabilitation costs, for the tariff period under review

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EA	Operating and maintenance expense adjustment
Ea	Operating and maintenance expense actual
Ep	Operating and maintenance expense projected
EBIT	Earnings before interest and taxes
EBITDA	Earnings before interest, taxes, depreciation and amortisation
Eq	Shareholders equity
F	Approved revenue addition to meet debt obligations for the tariff period under review
FA	Revenue addition to meet debt obligation adjustment
GA	General adjustment
Kd	Cost of debt – post-tax, real
KdA	Cost of debt adjustment
Ke	Cost of equity – post-tax, real
KeA	Cost of equity adjustment
LP	Liquidity premium to accommodate assets which are not publicly traded
MRP	Market risk premium - post-tax, real
NRBTA	Net revenue before tax allowance
Oe	Operating efficiency
OeA	Operating efficiency adjustment
OpexA	Operating and maintenance expense (Opex) per unit for period one (P_{-2})
OpexB	Operating and maintenance expense (Opex) per unit for period preceding period one (P_{-3}), adjusted for inflation
PPE	Value of original and inflation write-up of operating assets (property, plant and equipment)
PPE-d	Net value of original and inflation write-up of operating assets (property, plant and equipment)
(PPE-d)A	Allowable revenue adjustment on $(PPE\text{-}d)_{updates}$
$PPE_{updates}$	Net value of the operating assets that will be commissioned, decommissioned or disposed of during the tariff period under review
RAB	Regulatory asset base
Rf	Real riskfree rate of interest

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SSP	Small stock premium
T	Tax expense
TD	Tariff design
t	Prevailing corporate tax rate of the licensee
Tff(s)	Tariff(s)
TOC	Trended original cost
Tr	Tax rate of relevant country
w	Net working capital
WACC	Weighted average cost of capital
α	Project specific risk
β	Beta: The systematic risk parameter for regulated entities providing pipeline, storage and loading facility services
WA β	Weighted average β of the proxy firms' asset betas

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1 Introduction

1.1 This methodology must be used to set tariffs for pipelines in the petroleum pipelines industry.

1.2 It is intended to accommodate existing assets in the industry that are of long standing, the need for large new investment required in the industry, the diversity in the nature and size of the expected investors, anticipated competition and the limited size and nature of the petroleum pipelines market in South Africa.

1.3 Clarifications on some aspects of the Methodology are given on the website of the National Energy Regulator of South Africa (NERSA or 'the Energy Regulator') in the form of Frequently Asked Questions (FAQ).

2 Legal Basis

2.1 The legal basis for this tariff methodology lies in the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003) ('the Act'). Section 28 (2) of the Act requires that tariffs must be:

(i) based on a systematic methodology applicable on a consistent and comparable basis;
(ii) fair;
(iii) non-discriminatory;
(iv) simple and transparent;
(v) predictable and stable; and
(vi) such as to promote access to affordable petroleum products.

Further, Section 28(3) of that Act requires that:

The tariffs set or approved by the Authority must enable the licensee to:

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(a) *recover the investment;*

(b) *operate and maintain the system; and*

(c) *make a profit commensurate with the risk.*

2.2 Naturally, the Energy Regulator's mandate flows from the entire Act, including the objectives, powers and duties, and not merely the two subsections quoted above.

2.3 Regulations also influence the way in which tariffs are set. The current Regulations in terms of the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003) ('the Regulations'), were published in Government Notice R342 *GG* 30905 of 04 April 2008.

3 Allowable Revenue (AR)

3.1 Allowable Revenue (AR) must be determined by applying the AR formula.

3.2 The following formula must be used to determine the AR:

$$AR = (RAB \times WACC) + D + E + F \pm C + T$$

Where:

AR = Allowable revenue

WACC = Weighted average cost of capital

D = Depreciation and amortisation of inflation write-up: the charge for the tariff period under review

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E = Expenses - actual and accrued operating and maintenance expenses, including provisions for land rehabilitation costs, for the tariff period under review

F = Approved revenue addition to meet debt obligations for the tariff period under review

C = Clawback adjustment(s)
(to correct for differences between actual allowable revenue and approved allowable revenue for a preceding tariff period or periods.

T = Tax expense - estimated notional or flow through tax expense for the tariff period under review

Note**:**
Further detail on each of the elements of this formula are provided below.

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4 Regulatory Asset Base (RAB)

4.1 Formula for determining the value of the regulatory asset base

4.1.1 The following formula must be used to determine the value of the regulatory asset base (RAB):

RAB = (PPE – d) + w ± ~~dtax~~

Where:

PPE = Original cost and inflation write-up of operating assets (property, plant and equipment)

d = Accumulated depreciation and accumulated amortisation of inflation write-up for the period up to the commencement of the tariff period under review

w = Net working capital

~~dtax = Deferred tax~~

4.2 Operating Property, Plant and Equipment (PPE)

4.2.1 The value of prudently acquired[1] operating property, plant and equipment (PPE) that are used or will be used in the tariff period under review comprises only non-current assets as per the categories presented in the Regulatory Reporting Manuals (RRM)[2].

4.2.2 Non-current operating assets, reduced by the values contemplated in sections 4.2.10 and 4.2.11, are to be valued on the trended original cost (TOC) basis or in accordance with sub-regulation 4(7)(b) of the Regulations.

4.2.3 The inflation adjustments to the PPE (trending of the original historical cost) must be based on the actual annual Consumer Price Index (CPI) for the year as at 12 months prior to the commencement of the tariff period under review. Note that this annual CPI is the same actual annual CPI included in the calculation for converting the ~~25~~ 30 year average risk-free rate and market risk premium (MRP) from nominal to real values[3] as well as for converting the actual interest bearing debt from nominal to real.

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[1] Regulation 4(7)(c) states that 'The regulatory asset base contemplated in Regulation 4(6)(e) must -
(a)……..
(c) include only those assets that are prudently acquired.'

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[2] These manuals are intended for general regulatory reporting by licensees and outline the format and content of information required to inform tariff applications.

[3] See Section 5.2.2 for a discussion on the market risk premium (MRP).

4.2.4 PPE is calculated for each asset category and summed to arrive at the total PPE value.

4.2.5 Plant, property and equipment under construction are excluded from PPE.

4.2.6 Non-current operating assets applicable in the tariff period under review are assets of a long term economic lifespan (more than one year).

4.2.7 Changes to PPE are implemented on a pro rata basis when the asset concerned is/will be commissioned, decommissioned or disposed of in the tariff period under review.

4.2.8 Changes to the PPE will be in proportion to the share of the tariff period under review during which they will be implemented. If the period or value of an asset in the PPE is different to the period or value estimated when the tariff was set, a claw-back adjustment is made in a subsequent tariff period after the information becomes available.

4.2.9 Other expenses of an unusual/infrequent nature, for example major storm damage repairs not insurable and recoverable from insurance, may be included in PPE if the licensee decides to capitalise these expenses.

4.2.10 Non-refundable contributions by customers to the licensee are deducted from PPE.

4.2.11 Contributions to a licensee such as equity, grants and deposits, will be deducted from PPE. This deduction will take the relevant taxation, if any, into account, and only the after-tax portion will be deducted. For the purposes of this paragraph, 'contributions' mean contributions collected by means of Government-imposed taxes, levies and the like that are collected from customers of that licensee and/or only from petroleum consumers that utilise or will utilise petroleum transported by that licensee's pipeline/s.

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4.2.12 Contributions received, charges representing non-refundable funds, are deducted from PPE.

4.2.13 Leasehold improvement expenses borne by the licensee means an investment in a property and is admitted to the PPE.

4.2.14 The value of the F-factor is to be trended.

4.2.15 The cumulative values of the F-factor (revenue addition to meet debt obligations for the tariff period under review) from previous tariff review period(s) will be deducted from PPE.

4.3 Accumulated historic depreciation and accumulated amortisation of inflation write-up for the period up to the commencement of the tariff under review (d)

4.3.1 Accumulated historic depreciation and accumulated amortisation of inflation write-up is the cumulative depreciation against operating property, plant and equipment in service.

4.4 Net Working Capital (w)

4.4.1 Net working capital refers to various regulated activities or business operations funding requirements other than property, plant, vehicles and equipment in service. These funding requirements include inventories, pre-payments, minimum bank balances, cash working capital and other non-plant operating requirements. Working capital funding requirements funded by investors are legitimate Regulatory Asset Base allowances on which a return may be granted.

~~4.4.1~~4.4.2 The following formula must be used to determine net working capital:

Net working capital = inventory + linefill + receivables + operating cash – trade payables

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Where:

i. Inventory relates to any product or operating and maintenance material relating to PPE. Inventory is to be valued at the lower of cost or net realisable value.

ii. Linefill means petroleum owned by the licensee concerned used to fill a pipeline valued at lower of cost or net realisable value.

iii. Receivables mean accounts receivable in relation to the service rendered in relation to the transporting of product through a licensee's pipeline(s).

iv. Operating cash means the amount of investor-supplied funds needed to finance day-to-day operations. This is finance to bridge the gap between the time expenditures are made to provide a service and the time cash is received for that service. It is the cash supplied by investors to finance operating costs during the time lag before revenues are collected. Included in this operating cash will be the minimum cash balance to be kept as required by a lending institution. A licensee will have to provide proof of such a requirement and, if provided, the amount will be included in the net working capital.

v. Trade payables mean the current liabilities (amounts payable to creditors in relation to the licensed activity) for which the amount to be settled is usually known rather than uncertain (as for provisions).

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~~4.5 Deferred Tax (dtax)~~

~~4.5.1 Any deferred tax arising from accelerated wear and tear allowances is treated as neither equity nor debt. A deferred tax asset is added to the RAB and a deferred tax liability is deducted from the RAB.~~

~~4.5.2 Only items relating to the timing difference of historic depreciation and wear and tear allowances will be deducted/added as deferred tax.~~

~~4.5.3 The addition or deduction of a deferred tax asset or liability only applies when the notional tax method is used. There is no addition or deduction of a deferred tax liability or asset when the flow-through tax method is used.~~

5 Weighted Average Cost of Capital (WACC)

5.1 Formula for determining the weighted average cost of capital

5.1.1 The formula below must be used to determine the weighted average cost of capital.

$$\text{WACC} = \left[\left(\frac{\text{Eq}}{\text{Eq}+\text{Dt}}\right) * \text{Ke}\right] + \left[\left(\frac{\text{Dt}}{\text{Eq}+\text{Dt}}\right) * \text{Kd}\right]$$

Where:

Eq = Shareholders equity.

Dt = Qualifying interest bearing debt used to fund the RAB.

Ke = Cost of equity - post-tax, real.

Kd = Cost of debt - post-tax, real.[4]

Notes:

i. Debt is admitted when the corresponding asset is used or will be used.

[4] First convert from pre- to post-tax and then from nominal to real.

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ii. Equity is calculated as RAB minus Debt (RAB-Dt).

5.1.2 The actual qualifying interest bearing debt and the equity pertaining to the regulated assets used for the tariff period under review will be subject to the Energy Regulator finding the licensee's regulated debt ratio ($\frac{Dt}{Eq + Dt}$) reasonable.

5.1.3 If after conducting reasonableness checks, the Energy Regulator finds the debt ratio ($\frac{Dt}{Eq + Dt}$) to be unreasonable, the Energy Regulator must assume a reasonable debt ratio.

5.1.4 In all instances, a minimum debt ratio ($\frac{Dt}{Eq + Dt}$) of 30 per cent will be assumed.

5.2 Cost of Equity

5.2.1 The cost of equity capital (Ke) must be determined according to the capital asset pricing model (CAPM)[5], as described below and the result must be subjected to reasonableness checks.

5.2.2 The formula for calculating the cost of equity as per the capital asset pricing model (CAPM) is:

Ke = Rf + (β*MRP)

Where:

Ke = Cost of equity - post-tax, real.

[5] The cost of equity (Ke) can also be determined by applying any other appropriate model as per the provisions of Regulation 4(5)(b) of the Regulations in terms of the Petroleum Pipelines Act,2003 (Act No.60 of 2003). However, NERSA must be provided with all the data it might require to calculate the Ke by applying the CAPM.

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Rf = Real riskfree rate of interest.

(This is the average of the real monthly marked-to-market risk-free rate for the preceding ~~300~~ 360 months for all government bonds[6] with at least a 10 year maturity as at 12 months before the commencement of the tariff period under review.)

β = ‘Beta’ is the systematic risk parameter for regulated entities providing pipeline, storage and loading facility services.

(The beta must be determined by proxy. As a proxy, the average of at least six pipeline companies listed on stock exchanges must be used. The value of the proxy is as at 12 months before the commencement of the tariff period under review.)

MRP = Market risk premium - post-tax, real.
[The proxy used for the market is the Johannesburg Stock Exchange (JSE) All Share Total Return Index (ALSI with JSE Code J203T) for the preceding ~~300~~ 360 months as at 12 months before the commencement of the tariff period under review. The arithmetic average for the ~~300~~ 360 months is used.]

5.2.3 The following adjustments to the Ke will be considered on a case-by-case basis:

i. Country risk adjustment (CRA) = The real CRA will be added to the risk-free rate. The CRA is for assets in a country outside South Africa that are an integral part

[6] Data on government bonds is sourced from the South African Reserve Bank (SARB). Note: The SARB values are annualised in NERSA’s model for calculating the MRP because NERSA uses annual values for all the variables in its model and SARB publishes its bond yields in semi-annual values.)

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of the same asset/s within South Africa. The adjustment is for the other country concerned.

ii. Small stock premium (SSP) = An adjustment to compensate for the lack of specific qualitative abilities of a licensee if warranted.

iii. Project specific risk (α) = An adjustment only if warranted.

iv. Liquidity premium (LP) to accommodate assets which are not publicly traded, if the circumstances warrant such an adjustment.

5.3 Cost of debt (Kd)

5.3.1 The actual cost of debt is the cost of qualifying interest bearing debt incurred by the licensee.

5.3.2 The cost of debt used must be the after-tax, real values determined as follows:

$$Kd_{post\ -\ tax,\ nominal} = \frac{1 + [Kd_{pre\ -\ tax,\ nom} * (1 - t)]}{1 + CPI} - 1$$

Where:

$Kd_{pre\text{-}tax,nominal}$ = Projected cost of debt, pre-tax, nominal, for the tariff period under review.

t = Prevailing corporate tax rate of the licensee.

CPI = Actual annual consumer price index. (The value as at 12 months prior to the commencement of the current tariff period under review.)

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Note:

This annual CPI is the same actual annual CPI used for inflation adjustments to the PPE as well as for converting the ~~25~~30-year average risk-free rate and market risk premium (MRP) from nominal to real values[7].

5.3.3 The actual cost of qualifying interest bearing debt incurred by the licensee converted from pre to post-tax values and from nominal to real values, must be used subject to the Energy Regulator finding it reasonable through the application of reasonableness tests.

5.3.4 The cost of debt percentage must be determined by estimating the weighted average interest charged on qualifying interest bearing debt. Where actual interest rates are not known (for example where interest rates fluctuate) the lender's estimate of interest rates for the tariff period under review must be used.

5.3.5 At the end of the tariff period, the actual interest rates achieved must be compared with the estimated interest rates and any adjustment necessary must be made in the allowable revenue through the claw-back adjustment.

5.3.6 Where the licensee has business activities that are not regulated by the Petroleum Pipelines Act[8], and the licensee raises corporate debt on behalf of the regulated activity/business, the actual cost of debt charged to the regulated activities must fairly reflect causality with:

- the regulated activity; the
- the cost of debt associated with the assets in this risk class; as well as
- the benefits received.

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[7] See Section 4.2.3 on trending of assets

[8] Petroleum Pipelines Act, 2003 (Act No. 60 of 2003)

Note:
The cost of debt charged to the regulated activities is subject to approval by the Energy Regulator.

6 Depreciation and Amortisation of Inflation Write-Up (D)

6.1 The amount for depreciation and amortisation of inflation write-up is calculated on a straight line basis. Depreciation is calculated over the total economic useful life of each of the assets or classes of assets in the PPE for the tariff period under review and is included in the allowable revenue.

Note:
Armortisation is calculated over the remaining economic useful life of the asset (rather than the entire economic useful life), and is included in the allowable revenue.

6.2 The only form of accelerated or decelerated depreciation that is allowed is when there is a change approved by the Energy Regulator in the estimated economic useful life of the asset.

6.3 An appropriate depreciation rate must be used when computing depreciation charges to reflect the different estimated economic useful lives of the respective assets in each class of accounts.

6.4 The depreciation rate must be based on the estimated total economic useful life of the asset, as developed by a study commissioned by the licensee, using the company's history and experience (taking into account all relevant factors including variations in use, increasing obsolescence or inadequacy) and such engineering, economic or other depreciation studies and other information as may be available with respect to future operating conditions.

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6.5 A statement on the basis and the methods employed in computing the depreciation rate must be included in the tariff application.

7 Expenses – Operating and Maintenance (E)

7.1 Reasonable operational and maintenance expenses will be allowed. The reasonableness of such expenses will be determined by the Energy Regulator on a case-by-case basis.

7.2 These expenses are to be categorised in accordance with the regulatory reporting manuals[9].

7.3 The fully-allocated cost attribution approach for the allocation of costs is used. This approach is as per the methodology contemplated in the regulatory reporting manuals.

7.4 Principles regarding Expenses

7.4.1 Expenses planned for the efficient operation and maintenance of the regulated business will be allowed.

7.4.2 Procurement practices must be prudent.

7.4.3 Internal expense allocations must meet the criteria of being competitive in comparison with appropriate benchmarks.

7.4.4 Research and development expenses are permitted, subject to adequate justification.

[9] Petroleum Pipelines Act, 2003 (Act No. 60 of 2003)

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7.4.5 Reasonable joint costs[10] may be permitted, subject to adequate justification and in accordance with the regulatory reporting manuals.

7.4.6 Provision for land rehabilitation costs are permitted, subject to adequate justification. These funds must be kept in accordance with the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003) sub-regulation 9 of the Regulations made in terms of the Act published under GN R342 in *Government Gazette* 30905 of 04 April 2008;

7.4.7 Operating expenses which are not related to the operations of the regulated assets that are used or will be used in the tariff period under review are not allowed.

7.4.8 Expenses relating to corporate social responsibility and donations are not allowed, unless it can be shown that these costs benefit tariff paying customers.

7.4.9 Litigation costs incurred in the production of income in accordance with South African Revenue Services rules are allowed. The costs of litigation arising from the transgression of laws are not allowed.

7.4.10 Justifiable marketing expenses are allowed, but only those relating to the marketing of regulated activities.

7.4.11 Expenses on mothballed plants that the licensee plans to bring back into use in the near future are admitted. The licensee must have a plan to use them in future.

8 Revenue Addition to Meet Debt Obligations (F)

8.1 The Energy Regulator may approve additional revenue to meet debt obligations in accordance with this methodology.

[10] Although not precisely the same, joint costs are sometimes referred to as shared services, corporate costs or common costs.

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8.2 An application for a tariff adjustment must state whether or not the applicant wishes the Energy Regulator to consider an addition to revenue to meet debt obligations (F). If the applicant does not seek such an adjustment, the Energy Regulator will not consider such an adjustment. If the applicant does seek such an adjustment, the adjustment will be determined as explained below.

8.3 If the allowable revenue excluding the F-factor does not enable the applicant's regulated activity to operate with a debt service cover ratio (DSCR) acceptable to the Energy Regulator, then additional revenue may be allowed.

8.4 When considering acceptable funding requirements and debt servicing requirements, the Energy Regulator will consider various financial ratios such as the debt service cover ratio and the interest cover ratio.

8.5 Acceptable ratios contemplated in paragraph 8.4 must be determined by the Energy Regulator after making appropriate comparisons.

8.6 The Debt Service Cover Ratio is defined as:

$$\text{DSCR} = \left(\frac{\text{EBITDA}}{\text{principal debt due plus interest thereon}_{\text{payable in the tariff period under review}}} \right)$$

Where:

DSCR = Debt service cover ratio

EBITDA = Earnings before interest, taxes, depreciation and amortisation

8.7 The Interest Cover Ratio is defined as:

$$\text{Interest Cover Ratio} = \left(\frac{\text{EBIT}}{\text{interest}_{\text{payable in the tariff period under review}}} \right)$$

Where:

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EBIT = Earnings before interest and taxes

8.8 The Energy Regulator will publish an interest cover ratio range from time to time that will target investment grade risk ratings. Target ratios are intended to be used in determining the value of the F-factor unless the Energy Regulator determines that different ratios would be more appropriate.

8.9 Approved additional revenue (F) will be treated as described in paragraph 4.2.14.

9 Clawback Adjustments (C)

9.1 Through claw-back adjustments, differences between actual allowable revenue and approved allowable revenue for a proceeding tariff period or periods are corrected, for example for changes in asset values, timing of asset movements, capital structure, volumes, expenses, and cost of debt.

9.2 The practice generally followed is that claw-backs will be done once the audited financial statements or audited Regulatory Financial Reports of the relevant tariff periods are available. However, interim claw-backs will be effected in cases where the claw-back has a roll-on effect on subsequent tariff periods, for example when the estimated timing and value of taking new assets into operation changes, when the capital structure changes or when the correction of obvious errors occurs.

9.3 Steps to follow when calculating claw-backs:

Step1: Determine the actual allowable revenue collected for a specific tariff period compared to the approved allowable revenue given in the reasons for decision

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(RfD) for that specific tariff period and claw-back the difference to/from the licensee.

Step 2: Make claw-back adjustments to the respective components of the formula applied for determining the Allowable Revenue for that specific tariff period.

Step 3: The notional tax effect for each of the (re)calculations done in Step 1 and 2 above needs to be determined by adding/deducting the effect to or from the Allowable Revenue.

Step 4: Calculate the operational efficiency for the specific tariff period and reward the licensee with 50% in cases where there is a positive operational efficiency value.

9.4 An adjustment for operating efficiency is also considered as an incentive to licensees to increase operating efficiencies. It rewards licensees and customers for improvements in operating efficiency.

9.5 Operating efficiency is achieved when the actual average operating and maintenance expenses per unit in a specific period is less than the previous period's actual average expenses per unit after taking into account the effects of inflation.

9.6 This is determined as the difference between the actual operating efficiency achieved during the tariff period and the inflation adjusted actual operating expenses from the previous tariff period. Improvements in operating efficiency are shared between licensees and its customers on a 50/50 basis – i.e. operating efficiency adjustment x 50%.

9.7 The following formula must be used to determine an adjustment to operating efficiency:

$$OeA = [(OpexA - OpexB) \times \text{actual volumes}] \times 50\%.$$

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Where:

P_0 = The tariff period under review (the tariff period for which a tariff is being set)

P_{-1} = One year prior to the tariff period under review (audited financial results not yet available)

P_{-2} = Two years prior to the tariff period under review (audited financial results should be available)

P_{-3} = Three years prior to the tariff period under review

OeA = Operating efficiency adjustment

OpexA = Operating and maintenance expenses (Opex) per unit for period P_{-2}, which is: actual Opex for period P_{-2} / actual sales volumes in period P_{-2}

OpexB = Operating and maintenance expenses (Opex) per unit for period P_{-2}, adjusted for inflation in P_{-2}, which is:
Actual inflation adjusted Opex for period P_{-3} /actual sales volumes in period P_{-2}

actual volumes = actual sales volumes in period P_{-2}

9.8 Only improvements in efficiency are rewarded. Decreases in efficiency are not penalised.

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10 Tax Expenses (T)

10.1 Each licensee must make a once off election between the use of either (a) 'flow-through' (actual tax) payment, or (b) 'notional' tax payment. Once that choice has been made, the option selected will be used in future for all that licensee's assets.

10.2 If the licensee opts for the 'flow-through' or actual tax payment method, the estimate of the actual tax payment for the tariff period under review will be used. This tax expense will be the estimated actual tax liability calculated for the tariff period under review. The calculation is to be performed by applying the following formula:

Tax = {(NRBTA) / (1-t)}*t

Where:

NRBTA = Net revenue before tax allowance

= {(RAB*WACC) + E + D(historic & write up) + F ± C} –

{E+wear and tear allowances (historic) + Kd(nominal)}.

t = Prevailing corporate tax rate of the licensee

10.3 Notional tax refers to a licensee's estimated notional tax expense with respect to the regulated activity for the tariff period under review. If the licensee opts for the notional tax approach, the calculation is to be performed by applying the following formula:

Tax = {(NRBTA) / (1-t)}*t

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Where:

NRBTA = Net revenue before tax allowance

= {(RAB*WACC) + E + D(historic & write up) + F ±C} –

{E + D(historic)}.

t = Prevailing corporate tax rate of the licensee

Note:

This notional tax option triggers deferred taxation (either as an asset or a liability) as discussed in the section under deferred tax.

10.4 Tax penalties and interest on tax due are not allowed.

11 Tariff Design (TD)

NERSA will set tariffs based on the specific circumstance of a specific licensee while taking cognisance of the requirements of section 28(2) of the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003).

12 Review and Modification of the Tariff Methodology

The Energy Regulator will conduct a review of the Methodology at least every three years.

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