

NATIONAL ENERGY REGULATOR OF SOUTH AFRICA (NERSA)

In the matter regarding

REVIEW OF THE GUIDELINES FOR MONITORING AND APPROVING TRANSMISSION AND STORAGE TARIFFS IN THE PIPED-GAS INDUSTRY IN SOUTH AFRICA

DECISION

On 30 March 2017 the National Energy Regulator of South Africa (NERSA or 'the Energy Regulator') approved:

1. the Final Revised Tariff Guidelines attached hereto as Annexure A **(Annexure A: Final Revised Tariff Guidelines)**;
2. that a transitional of two months will apply in relation to the implementation of the Tariff Guidelines from period from 01 April to 31 May 2017;
3. that the revised Tariff Guidelines are effective from 01 June 2017; and
4. the Reasons for Decision attached hereto as Annexure B **(Annexure B – RfD Revised Tariff Guidelines)**.

Reasons for Decision

1. APPLICABLE LAW

1.1 The legal basis for the National Energy Regulator of South Africa (“NERSA” or “the Energy Regulator”) to regulate tariffs is derived from the National Energy Regulator Act, 2004 (Act No. 40 of 2004) (‘the National Energy Regulator Act’), read with the Gas Act, 2001 (Act No. 48 of 2001) (‘the Gas Act’).

2. BACKGROUND

2.1 Section 4(h) of the Gas Act provides that the Energy Regulator must “monitor and approve and, if necessary, regulate” transmission and storage tariffs.

2.2 According to the Gas Act a tariff means the ‘charge for gas services’ to any customer. Furthermore, the Gas Act defines a service as any service relating to the ‘transmission, distribution, storage, trading, liquefaction or re-gasification of gas.’

2.3 In terms of Section 2(e), a crucial object of the Gas Act is to ‘ensure that gas transmission, storage, distribution, trading, liquefaction and regasification services are provided on an equitable basis and that the interests and needs of all parties concerned are taken into consideration’.

2.4 In line with the above requirements, the National Energy Regulator of South Africa (“NERSA”) reviewed the Guidelines for Monitoring and Approving the Transmission and Storage Tariffs in South Africa (Tariff Guidelines).

- 2.5 NERSA has undertaken a review of these Tariff Guidelines to assess their effectiveness, efficiency and appropriateness and to ensure they are periodically updated to reflect best international practice. The revision of the Guidelines took place in two phases.
- 2.6 Phase one focused on the identification of gaps through an internal review process of the current Tariff Guidelines and by incorporating recommendations from a cross-sectoral tariff methodology harmonisation exercise and available information. In this process NERSA has identified some areas for improvement in the current Tariff Guidelines.
- 2.7 Phase two involved the development of a consultation document and a public consultation process.

3. RATIONALE FOR REVIEW

- 3.1 The revision of the Guidelines has been necessitated by issues that need to be addressed in order to ensure that the Energy Regulator fulfils its mandate with regards to tariffs as provided for by the Gas Act. In summary, the issues that prompted the Energy Regulator to revise the Tariff Guidelines can be categorised into the following:
- A. Identified Gaps In The Current Tariff Guidelines
 - B. Inclusion of Harmonisation findings
 - C. Inclusion of Compressed Natural Gas (CNG) and LNG regasification tariffs
 - D. Claw back rules enhancement
 - E. Legal status of the Tariff Guidelines
- 3.2 A summary of each of the above issues is provided below, and is discussed a detail in paragraph 4.

A. Identified Gaps In The Current Tariff Guidelines

3.3 The summary of the issues not included in the 2009, Tariff Guidelines included the following:

- **Regulatory Asset Base (RAB):** The issues listed below are not adequately discussed in the current Tariff Guidelines. These issues are included in the current reviewed document:
 - Inclusion of the Allowance for Funds Used During Construction;
 - Treatment of cross border assets;
 - Inclusion of LNG and CNG assets; and
 - distribution assets

- **Other Items of Allowable Revenue** – Further enhancement and amplification was conducted on the operating expenses, treatment of risk premium to account for cross-border assets, depreciation and taxes.

B. Inclusion of Harmonisation findings

3.4 A harmonisation project was conducted within NERSA to align elements used in the methodologies of the three regulated industries (i.e. Piped-gas, Petroleum Pipelines and Electricity) to ensure coherence and consistency where possible.

3.5 Table 1 below indicates the elements that were harmonised and how this will be treated in the Piped-gas Tariff Guidelines.

Table 1: Harmonisation recommendations

Elements	Harmonisation recommendations
Cost of Debt Formula	The formula currently being used will remain as follows:

Elements	Harmonisation recommendations
	$Kd \text{ post-tax real} = \frac{1 + Kd \text{ pre-tax nominal}(1 - t)}{1 + CPI} - 1$
Bonds Maturity for risk free rate	The divisions agreed that government bonds with a remaining maturity of at least 10 years will be used by all industries.
Deferred Tax	Was removed from the methodologies and flow through tax is the preferred methodology.
Operational costs	Prudency and Efficiency checks should be used by all industries
Operational Efficiency	Show that benchmarks should be done against best practises where possible or benchmark against themselves over time.
Working Capital	It was agreed that for receivables, 30 to 45 days as benchmark should be used for consistency reasons, and 45 days for payables. A lead lag study should be submitted by licensees that would like to claim operational cash to show that there is a difference between receivables and payables. The operational cash should be a maximum of 45 days of operational costs.
Period for Equity Proxy	30 years
Equity proxy	JSE all share
Period for RFR	30 years
Mean Calculation	Arithmetic mean

C. Inclusion of Compressed Natural Gas (CNG) and LNG regasification tariffs

- 3.6 The current Tariff Guidelines do not cater for CNG and LNG regasification tariffs. The Reviewed Tariff Guidelines have been amended to include the principles to be applied in calculating tariffs for CNG and LNG activities.

D. Claw back rules enhancement

- 3.7 Enhanced the section by elaborating the steps and processes that NERSA will take in calculating a claw back. An extensive discussion of clawback rules including how this will be calculated for a multi-year tariff and how each element should be calculated is included in the reviewed Tariff Guidelines. The use of the audited financials and how these are utilised to calculate the claw back is also clearly spelt out.

E. Legal Status of the Tariff Guidelines

- 3.8 During the public consultation process, it was inter alia asserted that the Tariff Guidelines are self-imposed without statutory authority because no provision in the piped-gas legislation calls for their development by NERSA; and that they are therefore not legally binding and may not be applied rigidly as per the well-established principle in our law.
- 3.9 In response, it is submitted that section 4(n) of the Gas Act imposes a duty upon NERSA to perform any other activity not expressly listed in the Act if such is incidental to the performance of its other functions. These Tariff Guidelines are therefore such unlisted activity in relation to the function of tariff monitoring, approval and regulation which is explicitly listed in section 4(h) of the Gas Act; and are for this reason considered lawful and legally binding.
- 3.10 NERSA is also aware of the judicial principle condemning the rigid and inflexible application of guidelines by decision-makers. However, it is clear

from consulted judicial precedent that this principle does not suggest that the decision-maker, (i.e. NERSA in this case), must abandon and/or re-evaluate its own guidelines each time it is presented with an alternative proposal that is alleged to be equally effective since doing so will suggest that NERSA's function in terms section 4(h) is being reduced to merely adjudicating on the adequacy of tariff methodology approaches proposed by the regulated industry without an entitlement to initiate and enforce its own tariff methodology approaches or guidelines. What this principle allows, instead, is for NERSA to use these Guidelines when evaluating every relevant tariff application it receives; be competent to decide on such application using these provided it is independently satisfied that they are well suited to the tariff application concerned; and only depart from them, to the extent necessary, if it finds something exceptional in the tariff application that cannot be adequately dealt with in terms of the guidance already contained in these Guidelines.

3.11 The case law considered by NERSA in this regard include *MEC for Agriculture, Conservation, Environment & Land Affairs v Sasol Oil (Pty) Ltd 2005 (6) SA 483 (SCA) at paragraph 9*; *Kemp and Others v Van Wyk and Others [2005] ZASCA 77 at paragraph 10*; *National Lotteries Board v SA Education and Environment Project 2012 (4) SA 504 (SCA) at paragraph 9*; and *Arun Property Development (Pty) Ltd v City of Cape Town [2014] ZACC 37 at paragraph 46*.

4. AREAS OF REVIEW AND REFINEMENT

4.1 The following paragraphs provide detailed information on areas that were either deleted or added to the Tariff Guidelines.

Efficient level of operating and maintenance expenses

4.2 To provide greater clarity to licensees regarding the NERSA's approach to the assessment of the efficient level of operating and maintenance expenses, the following changes to the guidance on operating and maintenance expenses were made:

Additions to the section on data for monitoring expenses

4.3 Operating and maintenance cost data for tariff determinations should be provided in a form consistent with that laid out in the Regulatory Reporting Manual prescribed by NERSA¹ to facilitate comparisons between actuals and projections over the tariff period. The provided costs should be such that there is a clear separation of storage from transmission activities and between individual pipelines as prescribed. In addition, the following should be noted:

- Allowable expenses relate to all expenses that are incurred in relation to the regulated services. These costs include normal operating expenditures, maintenance (excluding refurbishment costs that must be capitalised), manpower or labour costs, and overheads, as stipulated in the Regulatory Reporting Manual;
- Operating expenses referred to as other costs must be unbundled;
- Legal 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;
- Research and development expenses are permitted, subject to adequate justification;

4.4 NERSA will scrutinize these expenses on a case by case basis and consider whether these costs benefit tariff paying customers. The following expenses are not exhaustive but are indicative of costs that may not be allowed into the allowable revenue.

- Advertising and sponsorship services; golf day and fair expenses;

¹ NERSA[2008]: “Regulatory Reporting Manual Volume 3: Piped Gas (effective 1 September 2008)

- Value adjustment, exceeding the amount of 1% of total operating revenue of the operator;
- Occasional awards;
- Annual awards to the members of the Management Board;
- Costs of life insurance premiums, in the total amount;
- Entertainment expenses;
- Internal representation and publicity expenses;
- Gifts (donations);
- Fines, penalties, compensation for damages and expenses arising from the contract, in the total amount;
- Expenditures such as write-offs of tangible and intangible assets if the subject assets are replaced by new assets entered into the regulated assets; and
- BEE and other CSR costs.

4.5 The provision for land rehabilitation or decommissioning costs must be applied for and collected separately. These funds must be kept in accordance with section 34(1) (d) of the Gas Act and regulations 11(4) and 11(5) which require licensees to provide for security in respect of rehabilitation obligation.

Changes to the section on other considerations in efficient O&M expenses

4.6 A number of other factors will be considered by NERSA in assessing the efficiency of the O&M expenses incurred by licensees, these include:

- Expenses must be prudently and efficiently incurred and In assessing whether the expense was prudently and efficiently incurred, NERSA will consider the following factors:

- The cost generally would be recognized as ordinary and necessary for the operation of the licenced activity.
 - The cost conforms to: Sound business practices, Arm's length bargaining, and Laws and regulations.
 - The cost was incurred using the organization's established practices. Significant deviations from established organizational practices may unjustifiably increase the cost.
- NERSA may undertake prudency checks on the efficiency of the expenses including using the previous year's actual values as a benchmark to test reasonableness of the escalation indices to be applied in the following tariff application or period; and
 - In incentive regulation, such as CPI-X regulation, the X factor is referred to as the efficiency factor. This efficiency factor is likely to be different from a simple target set for O&M expenses reduction, for a number of reasons including the X factor represents the change in tariff therefore taking into account total efficiency (e.g. capital efficiency as well as O&M expense efficiency); and often the X factor is calculated to smooth the tariff over a number of years which does not specifically reflect operating cost efficiency in any particular year.

Prudency Assessment on investments

4.7 NERSA will perform prudency test on the investment to be included in RAB for the tariff determination. Prudency means that the investment is reasonable based on cost – minimisation to avoid unnecessary over investment. When determining prudency the following assessment will be undertaken;

- The investment is prudent if it was prudent at the time the decision was made. Meaning that this requires accurately assessing what information management had available and used to make its decision.

- The investment is prudent if management acted to minimize cost by fully considering changing the conditions that would affect the investment. This requires assessing what management should have known and should have considered in making this decision.

- Aligned to prudence is the used and useful concepts. Used and useful means that the plant is actually being used to provide service and that it is contributing to the provision of the service.

NERSA may review the prudence provision should the need arise in order to align it with approach followed in other regulated energy industries.

The tax approach

4.8 NERSA allows the licensee a choice between the flow-through and normalised tax approaches. However, once a licensee has chosen an approach, it is not permitted to change. However, the flow-through tax approach is the Energy Regulator's preferred tax methodology.

4.9 Although the flow-through tax methodology is preferred, the Energy Regulator may upon request allow a licensee to use the normalised² tax approach under one of the following conditions:-

- Where a licensee has been using the normalised tax approach in the past and has obtained approval from the Energy Regulator to continue using this approach. In this case, the deferred taxes are deducted from the RAB because the licensee would have collected the funds necessary to meet its deferred tax liability obligations in its tariff in advance. In addition, the licensee must maintain adequate records for

² The normalized tax approach is a method in which a licensee collects more revenue from tariff payers to cover its tax obligation early in the life of a depreciable asset than the licensee is obliged to pay in taxes in the early tariff period(s). This arises from the fact that the licensee would ordinarily use a straight-line depreciation method to determine depreciation expenses charged against operating income for tariff making purposes while in contrast, *accelerated* depreciation deductions are permitted by the tax authority for determining corporate income taxes. Deferred taxes for this asset are built up in a deferred tax account, and then drawn down to zero over the asset's life as lower tax charges during the asset's early years are followed by higher taxes during its later years. The fundamental aspect of "normalization" accounting is that the deferred tax account must "zero out."

the assets creating the deferred tax liability and the tariff application must include a schedule disclosing the year-on-year deferred tax liability and expected year-on-year reversal of the deferred tax liability until the time that such a deferred tax liability “zeros out.”

- Any other licensee wishing to use the normalised tax approach must motivate to the Energy Regulator before using the normalised approach and provide sufficient undertakings that detailed records must be kept as indicated as well as proof that sufficient funds will be set aside to be available in the later years to pay the taxes when the deferred taxes start reversing.

4.10 The main disadvantage of the Flow-through approach is the potential complexity arising from calculating the accelerated depreciation allowances for each of the regulated entity’s assets. This calculation, to some extent would also be required under the Notional tax approach for the calculation of the deferred tax assets and liabilities, which are added/deducted to the RAB. However, deferred tax assets and liabilities are reported separately in statutory accounts, making it possible to obtain these values without detailed calculations.

4.11 The advantage/disadvantage of the normalised tax approach is the inverse of the advantage/disadvantage of the Flow-through approach described above, i.e. it is simple to administer but allows for the over-recovery of the taxation allowance in the early years of an asset’s life. In addition, given that the tax allowance is calculated with reference to straight line depreciation, the normalised approach allows for a more smoothed tariff profile compared to the flow-through approach.

Additions to the Regulatory assets/liabilities

4.12 Regulatory assets/liabilities result from a tariff approval decision in a particular period that results in an allowable revenue that differs from the amount that would have been allowable if the full allowable revenue was earned in that same period. See excerpt from the Regulatory Reporting Manuals below:

145 Regulatory Assets

This account shall include the amounts of regulatory-created assets, not included in other accounts, resulting from the ratemaking actions of the Energy Regulator.

The amounts recorded in this account are to be established by those charges which would have been included in net income, determinations in the current period under the general accounting norms are being deferred and to be included in a different period(s) for purposes of developing rates that the Licensee is authorized to charge for its regulated services. The amounts recorded in this account are generally to be charged, concurrently with the recovery of the amounts in rates, to the same account that would have been charged if included in income when incurred.

4.13 Hence the licensees should provide the Energy Regulator with a calculation of the allowable revenue according to the methodology (using the estimated volume projection for instance) as well as the tariffs that the licensee will charge in the relevant tariff periods, so as to determine the regulatory asset to be raised in the accounts, that will be included in future tariff periods (i.e. over the entire multi-year tariff period).

4.14 For example, the licensee is entitled to allowable revenue over the lifetime of the asset of a certain value in real terms. If during the ramp-up of the facility the actual volumes are lower than average for the lifetime of the asset, the licensee can opt to defer some of this allowable revenue to a later year in the multi-year tariff period (indexed with inflation) so as to smooth the tariffs and to arrive at a stable real tariff path. This deferred income must be recovered during the multi-year tariff period that the licensee has applied for or in successive tariff applications in the case of a one year application that is not yet fully ramped up but the licensee expects to reach full capacity within a foreseeable period in the future. Table 2 below illustrates the deferral of the income as an example;

Table 2: Example of the calculation of deferred income

	Year 1 (ZAR)	Year 2 (ZAR)	Total (ZAR)
Allowable revenue	50	50	100
Volume	25	75	100

Tariff according to methodology	2.00	0.67	130
Adjusted allowable revenue	25	75	100
Adjusted tariff	1.00	1.00	

4.15 Total allowable revenue is 100 Rand over 2 years. The total project volume is 100 GJ, so that in constant terms, 100 Rand must be recovered over 100 GJ, which yields an average tariff of R 1. By charging R1 per GJ in year 1, a total of R 25 revenue is earned and a total of R 75 in year 2. Half of the allowable revenue is recorded as a regulatory asset in year 1, and a liability of the same amount is raised in year 2.

4.16 A licensee can calculate a levelised cost of the infrastructure and calculate stable tariffs in real terms over a longer time frame. Actual tariffs will be inflated.

Cross-border assets

4.17 The following additions are included under the section of cross border assets.

4.18 A cross-border asset is an infrastructure project with activities spanning two or more countries, one of which is the Republic of South Africa, or a domestic infrastructure project that has significant cross-border impact.

4.19 The costs of cross-border assets can equitably be allocated on the basis of the 'Beneficiaries Pays' principle. The beneficiary pays principle entails that each country is allocated the share of the costs according to the size of the domestic market (either capacity utilised or reserved).

4.20 NERSA will treat cross-border asset cost allocation by taking into account the following criteria;

- The determination of whether a cost is prudently and efficiently incurred.
- The cost of the cross-border asset that will be allowed to be included in the RAB of the domestic licensee will be reflective of the capacity

reserved for the domestic market. This will ensure that one country does not subsidise the capacity reserved for another country and also ensures fair allocation of cost. For instance the cost of cross-border transmission pipelines with off-takes in both countries involved, would be split according to the capacity reserved for or utilised by each country's off-take. The estimate of the relative use of the pipeline by both countries must be indicated in the tariff application and may be subject to a claw back provision in a case of substantial deviation between the estimated and actual usage split. Similarly, in the case of capacity additions to existing cross-border infrastructure, the cost for the additional capacity would be split according to the capacity reserved for or utilised by each country's off-take.

- It is acknowledged that country risk premia differ between countries and this is particularly important for cross-border assets. As many infrastructure assets are in fact interdependent and indivisible in nature, the beta (and therefore the WACC) to be applied to the assets will be adjusted according to the country risk premium of the highest risk-premium country. This will ensure that the allowable revenue component is adjusted to reflect the country risk that the project as a whole is exposed to.
- The decommissioning costs for the asset that is located outside the border of South Africa will be split according to the capacity reserved or utilised between the two countries.
- The tax treatment of the cross-border assets will be aligned with the RRM principles and tax laws, including tax treaties. According to SARS, resident companies are taxed on world-wide income and non-residents are taxed on income sourced from South Africa. For cross-border assets that are owned by a South African registered company, the entire tax relating to the asset will be included in the allowable revenue at the South African tax rate. For a non-resident company only the part of the

cross border asset that caters for capacity that is earmarked for the South African market will be included in the allowable revenue at the South African tax rate and the foreign share will be included at the relevant foreign tax rate. The split of the tax dues will be according to the cost allocation principles applied for.

- Unutilised capacity costs will be allocated pro rata, in accordance with the cross-border cost allocation mechanism outline above.
- Inclusion of a cross-border asset in the RAB by the licensee and allocation of its value between the countries. The cross-border asset will be included in RAB by the licensee when it is available for use according to its intended purpose. The asset will be included in RAB first at cost amortised for the period of assessment and allocated to the country according to the capacity reserved or used by each country.

4.21 The underlying principle in terms of cross border assets is to ensure that asset costs are shared fairly between countries in line with benefits accrued and risks faced by the countries involved.

Allowance for funds used during construction

4.22 In processing tariffs applications, NERSA has permitted the Allowance for Fund used during construction (“AFUDC”) for licensees to be capitalised and included in the allowable revenue. However, the issue is not addressed in the current 2009 Tariff Guidelines. For certainty and predictability, a section is added to the Tariff Guidelines with clear rules on how it will be implemented. Guidance is provided on the AFDUC in the Regulatory Reporting Manuals.³ The following text is added into the Tariff Guidelines:

- The Allowance for funds used during construction (“AFUDC”) refers to the recovery of costs incurred by a licensee during construction of a licensed facility. It includes the net cost for the period of the

³ NERSA. 2008. Regulatory Reporting Manual Volume 3: Piped Gas, pg. 15-16

construction of the borrowed funds and a reasonable rate of return on funds such as equity, when so used. The amount should not exceed, without the prior approval of the Energy Regulator, allowances computed in accordance with the formula prescribed below.

- ✓ The costs should have been incurred on a continuous, planned and progressive basis. The Energy Regulator suggests that the licensee inform the Regulator of potential costs prior to the tariff application, preferably, the applicant should state the costs when the application for a construction licence is submitted.
- ✓ The formula and elements for the computation of the allowance for funds used during construction shall be the approved weighted average cost of capital multiplied by the sum of the following:
 - Average balance in construction work in progress (“CWIP”);
 - Plus average capital inventory balance;
 - Less construction accounts payable; and
 - Less asset retirement costs (if included in the CWIP).

4.23 The weighted average cost of capital rate shall be determined in the manner indicated and approved by NERSA for the applicable year. The resulting amount should be added to the allowable revenue. The AFUDC may, if so directed by the Energy Regulator, be prorated over the appropriate depreciable plant accounts.⁴

4.24 The formula for the AFUDC is calculated as follows:

$$\text{AFUDC} = \text{WACC} \times [\text{Average CWIP} + \text{Average capital inventory balance} - \text{Construction accounts payable} - \text{Asset retirement costs}]$$

⁴ NERSA. 2008. *Regulatory Reporting Manual Volume 3: Piped Gas*, pg. 19

Where:

WACC = Weighted Average Cost of Capital

Average CWIP = $\frac{\{\text{Opening CWIP balance} + \text{Closing CWIP balance}\}}{2}$

Average capital inventory balance = $\frac{\{\text{Opening balance} + \text{Closing balance}\}}{2}$

As the definition of the RAB includes the AFUDC value, it should not be multiplied by the WACC in isolation, but the amount over which the allowance may be earned must be added to the RAB, after which the WACC * RAB value is calculated over the entire value of the RAB including the amount for the AFUDC.

4.25 The Energy Regulator will consider the following rules in deciding whether to allow the AFUDC to be included as part of the allowable revenue:

- For AFUDC to be allowed, the licensee should demonstrate to the Energy Regulator's satisfaction that the capital expenditure on the project has been incurred and that the activities required for construction completion of the assets are in progress;
- The activities allowed under AFUDC exclude a return on funds used during the preliminary survey and investigation activities required to prepare the construction project for its intended use, unless they are capitalised in accordance with acceptable accounting principles.
- Capital expenditures must have been incurred prudently;
- The company must also retain the records supporting the commencement of AFUDC accruals;
- Piped-gas companies must show that the 'activities', that are necessary to get the construction project ready for its intended use are in progress;
- No AFUDC should be accrued during periods of interrupted construction unless the company can justify the interruption as being reasonable under the circumstances. Capitalisation of AFUDC stops when the facilities have been tested and are placed in, or ready for, service. This would include

those portions of construction projects completed and put into service although the project may not be fully completed;

- When only part of the plant or project is placed in operation or is completed and ready for services but the construction work as a whole is incomplete, that part of the cost of the property placed in operation or ready for service, shall be treated as a gas plant in service and AFUDC as a charge to construction should cease. AFUDC on that part of the cost of the plant which is incomplete may be continued as a charge to construction until such time as it is placed in operation or is ready for service;
- No AFUDC will be included for projects where a 100% contribution has been received up front on a direct assigned project. For those projects where contributions are received up front and no AFUDC is calculated, the contribution would be included in the rate base in the same period as the asset.
- The AFUDC accruals will be subject to scrutiny through audit as well as during the tariff application. Once the project is completed and commissioned, the AFUDC accruals have to cease.

The determination of tariffs for Compressed Natural Gas

4.26 Currently, NERSA regulates the storage and transportation of Compressed Natural Gas as 'mobile' storage. The Gas Act clearly states that Compressed Natural Gas falls under the definition of 'gas' and, as long as the process involves a gas pipeline in the value chain, it is considered 'piped gas' and therefore its tariffs and maximum prices are regulated by NERSA. It is noted that Compressed Natural Gas that originates from a landfill or other facility that does not involve a pipeline is currently not considered piped-gas.

4.27 For compressed natural gas facilities licensed as mobile storage, NERSA's approach to the assessment of tariffs will be guided by the following principles:

- Licensees should be able to recover all efficient and prudently incurred investment and operational costs and make a profit commensurate with risk; and
- Tariffs and trading margins for services should be cost reflective and non-discriminatory except in cases where such discrimination is based on objectively justifiable and identifiable differences as set out in section 22 of the Gas Act..

Changes to the calculation of the weighted average cost of capital

4.28 Cost of Equity

The spot prices of South African government bonds with a maturity of at least 10 years should be used for the expected risk free return when estimating the cost of equity. The value should be based on the arithmetic mean of the returns for a period of 30 years.

4.29 The market risk premium

It should be calculated using the arithmetic mean of the returns on the Johannesburg Stock Exchange All Share Index for a period of 30 years.

4.30 Proxy for the equity beta

International pipeline companies can be used as a proxy for gas transmission and storage licensees. Licensees supplying compressed natural gas can use international compressed natural gas companies as proxies. A total of six international companies should be used to determine the equity beta. The companies included as proxies need to be approved by NERSA.

4.31 The cost of debt

The cost of debt is based on the pre tax rate of return on debt capital. Pre – tax cost of debt is rate before deducting the South African corporate tax

Premia included in the WACC formula

4.32 A number of different premia could be included in the WACC formula to adjust the return to account for additional risks over and above that already factored into the Beta and MRP. The Energy Regulator will only consider allowing premia to be included in the WACC if the costs associated with the additional risk are not catered for elsewhere in the Allowable Revenue formula. The following principles will be applied by NERSA in determining whether to allow a premium to be added to the WACC:

- A small stock premium is an adjustment to the CAPM to account for the other risks associated with small companies that the model does not address. Some of the risks that have been cited in the literature include the often-concentrated ownership of small companies which may imply that investors are not well-diversified; asymmetries of information between small companies and potential investors results in these companies being more difficult to value and hence may be perceived as riskier; small companies may not have access to significant resources to endure external economic shocks and shares issued by small companies tend to be more illiquid than shares issued by large companies (due to higher transaction costs). Generally, regulators that have awarded a premium have done so due to the relative illiquidity of capital in small companies compared to large ones. As these measures are largely subjective, NERSA's approach for awarding a small stock premium will be based on the size of the licensee as explained below:
- This premium is allowed for all companies that fall into the size bands for which small stock premiums are allowed by practitioners as noted in the latest available PwC Valuation Methodology Survey.⁵ The size of the company should be based on the total value of the assets for the regulated activity of the licensee (covering all countries in which the regulated entity has assets relating to the regulated activity). The awarded premium should be the average used by practitioners surveyed in the PwC survey for the particular company size band applicable to a particular licensee. The small stock premium should be added to the cost

⁵ As at the date of publication of this document, the latest available survey is for 2016/2017.

of equity component of the post-tax WACC calculated based on the approach outlined above.

4.33 A liquidity or marketability adjustment is generally applied to an equity valuation in which a firm's value is discounted to reflect a risk associated with illiquidity of the firm's assets. The Energy Regulator will not permit a liquidity premium to be added to the WACC. Given the relationship between a liquidity risk premium and the small stock premium, awarding both a small stock premium and liquidity premium would result in double counting in correcting for illiquidity.

Clawback principles

4.34 The following has been added into the clawback section in order to provide greater clarity and certainty on the manner in which NERSA will apply the clawback provisions of the guidelines.

4.35 The main purpose of applying a clawback adjustment is to ensure that the licensees do not gain or lose out from differences emanating from the forecasts and assumptions used at the time of submitting the tariff application and the actual values achieved as contained in and proven by the audited financial statements and regulatory reports. When an over-recovery has occurred due to estimation errors, a commensurate downward adjustment will be made to the following year's tariffs (a 'clawback'); when an under-recovery has occurred a commensurate upward adjustment will be made to the following year's tariffs.

4.36 Any differences between the reason for decision (RfD) values and actual values must be recorded in the regulatory deferral accounts as provided for in the Regulatory Reporting Manual.

4.37 Only the audited financial statements and regulatory reports shall be used to determine clawback or upward tariff adjustment calculations.

4.38 The following principles will be applied by NERSA in determining the clawback or tariff adjustment required. These principles are applicable to all methodologies, where appropriate:

- For all tariff applications whether single or multi-year tariffs, the over/under recovery shall be clawed back in the financial year directly following the submission of the audited financial reports;
- The clawback or upward tariff adjustment will be implemented in full in the subsequent year of the tariff period, unless extraordinary circumstances, such as an exogenous economic shock or force majeure events occur, in which case the Energy Regulator may decide to spread the tariff adjustment over several years.
- Non submission of the audited financial reports within six months of the finalisation thereof will result in a forfeit of an upwards tariff adjustment, where warranted. .
- For multi-year tariff applications, the actual data will replace the assumed variables where appropriate, unless compelling reasons are provided for the Energy Regulator not to do so. Hence, if volume growth is estimated at 5% for the tariff for all years in the tariff period and the audited financials for year 1 (submitted in year 2) indicate that the actual volume growth was 3%, the volume assumption in the tariff calculation for year 3 will use actual volume growth of 3% in year 1, escalated by a further 3% in year 2 and projected to increase by 3% in year 3. Should an exogenous factor have caused the discrepancy between the estimated and the actual values according to the licensee, the licensee may provide the Energy Regulator with its revised projections and the reasons therefor. In the example, if the volume growth was lower than expected in year 1 due to a temporary global supply interruption, the volume growth in year 2 may be equal to 5% as previously predicted, in which case the licensee can provide the reasons therefor;

4.39 A clawback or upward tariff adjustment will only be permitted on the following assumptions:

- Volumes: Variances between the forecast and actual sales volumes shall be assessed and analysed to determine the cause of the variance. The Energy Regulator will use the audited regulatory financial reports as the source for the actual volumes;
- Regulated Asset Base: The Energy Regulator will use the audited financial statements and regulatory financial reports to assess the capital expenditure variances. The Energy Regulator will further assess whether the capital expenditure was prudently incurred;
- Operating & Maintenance Expenses: Any differences in the operating and maintenance expenses emanating between the assumptions used at the time of submitting the tariff application and the actual values contained in the audited financial statements and regulatory reports will be included as part of the clawback. Only prudently incurred costs will be included in the clawback. The Energy Regulator will be guided in its assessment of whether costs were prudently incurred by the principles outlined in the section of these guidelines relating to operating and maintenance expenses.⁶
- Return on Capital: The return on capital is made up of a return on debt and a return on equity. The latter is based on the WACC and CAPM. The Energy Regulator will permit a clawback / upward adjustment based on the difference in the the cost of debt which will be based on the values contained in the audited financial statements and regulatory reports. A clawback on the return on equity will not be permitted as the return on equity is based on historical values, not predicted values.

⁶ In determining whether the expense was prudently incurred, the Energy Regulator will be guided by the definition and principles discussed in the section on operating and maintenance costs.

- Calculation errors: The Energy Regulator will not permit a clawback on calculation errors regarding the cost of equity made by the licensee in its tariff application.

- ✓ The actual adjustment (whether claw back or upward adjustment) will be determined by the Energy Regulator, taking the net result of all relevant variable adjustments into account.

The determination of tariffs for liquefied natural gas terminals and related facilities

4.40 Currently, NERSA's mandate does not extend to the 'monitoring and approval' of regasification tariffs. In order to provide certainty and predictability to potential investors in Liquefied Natural Gas ("LNG") terminals and related facilities and support the South African Government's proposed Gas to Power programme, NERSA provides the following guidance on the methodology for a licensee to determine reasonable and equitable tariffs for LNG terminals and related facilities. Applicants for the construction or operation of regasification facilities will be expected to provide their financial model in the context of the requirements to demonstrate the viability of the proposed facility, which should contain the projected regasification tariffs. NERSA however will not, approve or regulate such tariffs because LNG do not fall under the Gas Act.

4.41 NERSA's approach will be guided by the following principles:

- Licensees should be able to recover all efficient and prudently incurred investment and operational costs and make a profit commensurate with risk; and
- Tariffs for services should be cost reflective and non-discriminatory except in cases where such discrimination is based on objectively

justifiable and identifiable differences as set out in section 22 of the gas Act.

4.42 Licensees can use any of the five approved tariff methodology approaches outlined in the guidelines to calculate the tariffs for the LNG terminals and related facilities. The guidance regarding the calculation of the components of allowable revenue can also be used by licensees to determine tariffs for LNG facilities and services. The formula to be used for calculating the allowable revenue for the LNG activities is;

$$\underline{AR = (RAB \times WACC) + E + T + D + AFUDC \pm C}$$

The determination of tariffs for distribution

4.43 Currently, NERSA's mandate does not extend to the 'monitoring and approval' of distribution tariffs. In order to provide certainty and predictability to licensees and potential investors NERSA provides the following guidance on the methodology to determine tariffs for distribution.

4.44 Licensees can use any of the five approved tariff methodology approaches outlined in the guidelines to calculate the tariffs for the distribution. The guidance regarding the calculation of the components of allowable revenue can also be used by licensees to determine distribution tariffs. The formula to be used for calculating the allowable revenue for distribution is:

$$\underline{AR = (RAB \times WACC) + E + T + D + AFUDC \pm C}$$

Where

AR = Allowable Revenue

RAB = Regulatory Asset Base inflation indexed original cost net of cumulative depreciation and cumulative amortization write-up for the period up to the commencement of the tariff period under review

WACC = Effective Weighted Average Cost of Capital (in real terms)

E = Efficient operating and maintenance Expenses

T = Tax expense

- D** = Depreciation for the tariff period under review, including
Amortisation of the inflation write-up
- C** = “Clawback/giveback” factor to correct for differences between actual variable values and the assumptions thereof used in the tariff calculation. This factor is typically applied with a 1 year lag in order for the licensee to submit the audited actual values for assumed values.

Indexation of the Tariffs

4.45 The Energy Regulator prefers the tariffs to be adjusted or indexed annually. In exceptional cases based on motivation by the licensee, the Energy Regulator may approve a period longer or shorter than annual for tariff indexation.

5. STAKEHOLDER REPRESENTATIONS

Other methodologies that NERSA should include in the menu

5.1. Stakeholders proposed that NERSA should use the standard Discounted Cash flow (pure cash flow) instead of the current hybrid approach (combination of DCF and rate of return).

5.2. The guidelines list an approved menu of tariff methodologies that a licensee could choose from including the discounted cash flow approach. Although this menu covers a broad range of tariff methodologies, it also allows licensees to use any alternative tariff methodologies or variations on the methods.

5.3. Specifically, Section 3.1 of the Tariff Guidelines states “*alternative tariff methodologies or variations on the methods listed in the menu may be used by the applicant, provided that such method is proven, tested and verifiable.*” The guidelines further state that “*it is noted that this method ‘monitoring and approving and if necessary regulating’ provides ample*

room for project finance approaches to tariff determinations, as the main criterion for comparison and assessment is the resultant tariff outcome, not the method used in arriving at such a tariff. Moreover, a discounted cash flow approach is included as an approved methodology in the menu of tariff methodology options.”

5.4. Therefore, NERSA is of the view that the licensee can apply for a tariff based on its choice of tariff methodology from the menu of options included in the guidelines or an alternative methodology (that meets the criteria laid out). NERSA’s assessment of the tariff application will be based on the approach applied for by the applicant and should the application be approved it will be based on the approach applied for.

5.5. It must be noted that in assessing tariff applications and claw back applications, NERSA will need to compare the assumptions with actuals, for instance regarding volumes and costs. The DCF method allows an applicant to use its own hurdle rate, provided it can be substantiated. The DCF methodology does not however, cater for a clawback calculation or a WACC. Hence, whilst an application can be made using the DCF for tariffs, NERSA will use elements of Rate of Return regulation to calculate clawbacks and perform reasonableness tests

Efficient level of operating and maintenance expenses

5.6. A concern was raised that NERSA should exercise its discretion as to whether particular expenses are efficiently incurred taking into account the circumstances relating to the expenditure and that the Tariff Guidelines should not a priori stipulate in absolute terms whether or not a particular expenditure is inefficient. Specific comments were made in relation to litigation costs, advertising expenses, cost of life insurance premiums, compensation for damages and expenses arising from the contract, expenditures such as write-offs, rehabilitation or decommissioning costs.

5.7. Taking into consideration the comments from stakeholders, NERSA has adopted the approach of greater scrutiny of the expenses listed as

“unjustified” to determine whether they should be included or not. NERSA will assess these expenses on a case by case basis and will not label any expense as ‘unjustified’ a priori. The change in respect of litigation costs has been included in the guidelines

5.8. Other stakeholders indicated that the Guidelines should not employ the concept of prudence but should rather refer only to efficiency.

5.9. NERSA does not agree with the suggestion that the guidelines should not refer to prudence but rather efficiency.

5.10. Indeed, one of the objectives of the Gas Act, 2001 is to “*promote the efficient ... development and operation of gas transmission, storage, distribution, liquefaction and re-gasification facilities and the provision of efficient ... gas transmission, storage, distribution, liquefaction and re-gasification services*”

5.11. One element of determining whether operating expenses are efficiently incurred is related to the manner in which they are procured. The “prudence” assessment deals specifically with whether the company adopted sound practices in the procurement related to investment or operating expenses. The assessment of prudence is undertaken in other regulated energy sectors in South Africa including electricity and petroleum pipelines. An efficient investment decision may result in inefficient costs, if the procurement of the capital expenses is not done prudently.

5.12. The Piped Gas Regulations also contain a specific reference to both ‘efficient’ and ‘prudently incurred’, with respect to maximum prices, which although not referring to tariffs, gives a clear indication that both the efficiency and prudence of expenses are important in regulated gas services. When approving maximum prices for piped-gas, NERSA “must enable the licensee to –

(a) *Recover all efficient and prudently incurred investment and operational costs; and*

(b) Make a profit commensurate with risk.” (Regulation 4(4) of Piped gas regulations, April 2007

5.13. Further, it is also standard practice in international jurisdictions to assess the prudence of investment or costs incurred by regulated firms. Therefore, NERSA is of the view that the use of the concept of prudence is valid and appropriate.

Tax Approach

5.14. Several stakeholders indicated that licensees should be allowed the choice between the normalised and the flow-through approaches. Moreover, that a licensee should be permitted to make a once-off election to use either flow-through actual tax or a notional tax calculation.

5.15. After taking in to account the stakeholder’s comments and concerns, NERSA amended the tax approach from the proposed flow – through to giving a licensee an election to use either flow-through actual tax or a notional tax calculation. However once a licensee opt for one method of tax treatment, it cannot be changed at the later stage.

The treatment of fully depreciated assets

5.16. Stakeholders suggested that the 15% allowance on fully depreciated assets should be subjected to a reasonability test on a case by case basis to ensure adequacy.

5.17. NERSA has decided that it will not permit licensees to continue to earn a return on assets that have been fully depreciated yet still in use. This decision is based on a number of factors including:

- Firstly, as the asset has been fully depreciated, the licensee has received both a return *on* capital (WACC) and *of* capital (depreciation) over the life of the asset;
- Secondly, NERSA needs to balance the interests of new licensees and licensees that have been operating for a long period of time. The introduction of a return on fully depreciated assets will have an asymmetric impact on existing and new licensees, as the former are more likely to have fully depreciated assets;
- Thirdly, it may create the incentive for licensees to keep assets that are beyond their useful life and thereby not invest in new assets; Conversely it has been argued that creating an incentive to continue using depreciated assets to discourage wasteful investment is unnecessary as licensees do not have unlimited funds to invest;
- Fourth, one of the objectives of NERSA is to stimulate investment in the gas sector, the potential dampening effect of this provision could hinder the achievement of this objective; similarly, the provision could provide an incentive for applicants to underestimate the economically useful life and earn back depreciation faster thereby creating harmful unintended consequences; and
- Finally, internationally, regulators do not permit regulated companies to earn a return on fully depreciated assets primarily based on some of the reasons highlighted above.

The treatment of cross-border assets

5.18. Stakeholders indicated that the cost of cross border asset allowed to be included in the RAB should be pro-rated to the proportion of the total committed capacity that is committed to the South African market. The definition of uncommitted capacity is defined in the Gas Act as “*such capacity ... as is not required to meet contractual obligations.*” In consequence, committed capacity means capacity required to meet contractual obligations.

5.19. The suggestion that the allocation of costs for cross border assets be based on the proportion of total committed capacity is an impractical one.

The applicant or licensee might not have secured contracts for capacity on the gas infrastructure by the date of the tariff application. Further, contractual allocations of capacity might not match actual flows of gas along pipeline. This may result in an unfair or inefficient allocation of costs to customers.

5.20. NERSA is of the view that the approach of using the beneficiary pays principle based on capacity reservation on the asset (usually at the outset of the project prior to final investment decision) is sound and will result in a fair and efficient allocation of the costs to those customers that benefit from the asset. This approach is followed by a number of international jurisdictions including the European Union and the United States.

5.21. In these jurisdictions, a comprehensive Cost Benefit Analysis is applied to identify beneficiaries, estimate the benefit for each party and allocate the costs on this basis. This approach is appropriate for these jurisdictions as there is a large integrated network and the benefits of specific projects are varied and it is difficult to clearly identify who the beneficiaries of a particular project based on the location of the infrastructure.

5.22. In South Africa where an integrated gas network spanning many jurisdictions does not exist, a simpler approach is required. One based on the principle of cost causality to ensure the fair allocation of costs to those that benefit from the pipeline. However, not an approach that is too onerous and resource intensive to implement such as a comprehensive cost benefit analysis.

5.23. The NERSA approach uses the principles of cost benefit analysis where licensees will be required to provide an assessment of the benefits of the project, the beneficiaries of the project and the allocation of costs to the different beneficiaries based on the assessment. In particular:

- The benefits of the project should be clearly laid out which may include capacity enhancement, congestion reduction or other benefits. Where possible these benefits should be quantified. For

example, the project will increase the capacity of the transmission pipeline by 1 million GJ per annum.

- The beneficiaries of the project should be clearly identified indicating the benefits and how much of the benefits will accrue to each. For example, the beneficiaries of the project are Company X supplying customers in Country X and Company Y supplying customers in Country Y. 50% of the increased capacity has been reserved by Company X and therefore 50% of the capacity has been allocated to Company X.
- The costs of the project should be clearly laid out including capital expenditure, operational and maintenance expenditure over the technical lifecycle of the project and decommissioning and waste management costs.
- Where significant benefits of the project cannot be quantified but should impact on the cost allocation, NERSA will assess whether the cost allocation is fair and comports to the principle of the beneficiary pays.
- Based on the assessment of the benefits and beneficiaries of the project, the costs should be allocated accordingly.

5.24. Licensees need not undertake a detailed cost benefit analysis to determine the beneficiaries and costs of the project. The approach laid out should be based on analysis and assessment done during the investment decision phase of the project. Documentary evidence detailing the analysis undertaken by the licensee can be provided to support this assessment.

The determination of tariffs for compressed natural gas

5.25. A number of stakeholders have raised concerns regarding the application of the transmission and storage tariff guidelines to CNG. These issues are primarily related to the fact that the manner in which CNG is supplied to customers differs from traditional piped-gas. Particularly, due to the integrated nature of the system, it is difficult to separate costs to accurately estimate a storage tariff.

5.26. In light of comments received from stakeholders, NERSA will engage in a separate exercise to determine tailored guidelines for CNG activities which will involve all relevant stakeholders. The section of the guidelines relating to compressed natural gas has been amended to only include the principles to be applied in calculating tariffs for CNG activities.

5.27. The section of the guidelines has been amended accordingly.

Clawback principles

5.28. Stakeholders submitted that the clawback amounts must be adjusted for the time value of money between the year in which the over/under recovery took place and the year in which the rectification is effected.

5.29. NERSA agrees with this principle. The under- or over recovery from year 1 will be adjusted for the actual CPI of year 2, and added to the allowable revenue of Year 3. For example, if the under recovery is 100 in year 1, and inflation is 5% in Year 2, the allowable revenue of year 3 will be increased by 105. Note that this will be applied in the same fashion for over recoveries. In order to encourage accurate estimates, the inflation adjustment is calculated over 1 tariff period only, and not further adjusted for inflation that occurs in year 3.

5.30. In addition, some stakeholders indicated that the Guidelines state that the clawback will be applied with a one year lag but this is not practical. Any potential variation to what was applied for in any year will only be known in the early part of the subsequent year. Audited financials are only available for year 1 in the course of year 2 in time for a tariff application in year 3. Clawback for year 1 is therefore only practical in year 3, meaning that clawbacks inherently have a 2 year lag.

5.31. NERSA understands a one year lag as follows: “For all tariff applications whether single or multi-year tariffs, the over/under recovery shall be clawed back in the financial year directly following the submission of the audited

financial reports” (in practical terms, this is a one year lag, as the clawback from year one will be applied to the allowable revenues of year 3).

The determination of tariffs for liquefied natural gas terminals and facilities

5.32. A number of stakeholders have raised concerns regarding the application of the guidelines to LNG regasification facilities. Most of the concerns relate to how should the applicant disaggregate the required tariff for separate processes or services and the classification of costs and tariffs for small scale LNG, i.e. LNG that is regasified only at the customer site. In light of comments received from stakeholders, NERSA has amended the section of the guidelines relating to liquefied natural gas. The guidelines only include the principles to be applied in calculating tariffs for LNG activities. NERSA will engage in a separate exercise to determine tailored guidelines for LNG activities which will involve all relevant stakeholders.

5.33. The section in the Tariff Guidelines has been amended accordingly.

6. TRANSITIONAL PERIOD

6.1 A transitional period of two months leave is provided, to enable all applicants and licensee to familiarise themselves with the revised Tariff Guidelines. Therefore the revised Tariff Guidelines are effective from 01 June 2017.

7. CONCLUSION

7.1 On the conspectus of the facts and evidence, it is appropriate and in compliance with the requirements of the National Energy Regulator Act, 2004 (Act No. 40 of 2004) to make the decision set out above. It finds a reasonable balance between the interests of all stakeholders concerned.