ENERGY REGULATOR OF SOUTH AFRICA

In the matter regarding
THE TARIFF APPLICATION

by
PETROLINE RSA (PROPRIETARY) LIMITED (PETROLINE)

regarding
THE TARIFFS FOR THE PETROLEUM PIPELINE FROM MAPUTO IN MOZAMBIQUE TO KENDAL IN SOUTH AFRICA AND NELSPRUIT – CONDITION OF LICENCE

And
THE TARIFFS FOR PETROLEUM STORAGE FACILITIES IN SOUTH AFRICA AT NELSPRUIT AND KENDALL – CONDITION OF LICENCE

The decision

On 18th June 2008 the Energy Regulator set the following tariffs, to be a condition of licence for Petroline's operating licence if and when that licence is awarded, as follows -

(a) The following maximum tariffs will apply from commencement of operations and for the first five years thereafter as set out in Table One subject to the following paragraphs of this decision –

Table One

Cents per litre	**2010**	**2011**	**2012**	**2013**	**2014**
Delivery to Nelspruit (Capacity)	28.74	29.65	32.24	33.55	36.81
Delivery to Nelspruit (Operating)	4.57	4.02	4.16	4.30	4.45
Total tariff delivery to Nelspruit	**33.31**	**33.67**	**36.40**	**37.85**	**41.26**
Delivery to Kendall (Capacity)	36.91	38.08	41.41	43.09	47.27
Delivery to Kendall (Operating)	5.87	5.16	5.34	5.52	5.72
Total tariff delivery to Kendall	**42.78**	**43.24**	**46.74**	**48.61**	**52.99**

(b) The tariffs in Table One are nominal tariffs. Hence they have been adjusted according to the following inflation forecast indices for the Trended Original Cost asset inflation.

Inflation rates								
	Weighting	2008	2009	2010	2011	2012	2013	2014
RSA CPI	20%	7.90%	7.90%	7.90%	5.00%	5.00%	5.00%	5.00%
RSA Wage inflation	5%	7.90%	7.90%	7.90%	5.00%	5.00%	5.00%	5.00%
RSA PPI	70%	9.50%	9.50%	9.50%	6.50%	6.50%	6.50%	6.50%
Electricity inflation	5%	14.00%	13.00%	5.00%	5.00%	5.00%	5.00%	5.00%
TOC Index Applied	100%	9.33%	9.28%	8.88%	6.05%	6.05%	6.05%	6.05%

If the actual indices differ from these as time proceeds the adjustment will be made and the effect of that reflected in revised tariffs.

(c) The tariffs in Table One are exclusive of VAT.

(d) The tariffs in Table One will be reviewed and adjusted, if necessary, when the final costs of construction are known or within 6 months of the commencement of operations, whichever is the earlier.

(e) The tariffs in Table One will be adjusted annually, if necessary, after applying the Clawback mechanism contemplated in the Tariff Methodology for the Petroleum Pipelines Industry adopted by the Energy Regulator (hereinafter the 'Methodology').

(f) The parameters for the Volume Adjustment element of the Clawback are, for the first three years after commencement of operations, set as follows–

(i) volumes below forecast: no Volume Adjustment;
(ii) volumes above forecast: a Volume Adjustment based on 50% of the volumes above forecast.

After this three year period the volume forecasts and volumes actually shipped and stored during the three year period will be reviewed and Volume Adjustment parameters may be revised thereafter.

(g) In accordance with the Methodology, the cost of equity will be constant at 16.82% in real terms over the service life of the regulatory assets unless changes in the economic environment trigger mechanisms as contemplated in paragraph 5.6.2 of the Methodology.

(h) Depreciation has been determined by applying a straight line methodology over the useful life of the assets as follows –

Asset Class	Years
Buildings	40
Loading	40
Pipes	40
Pumps	25
Storage	30

(i) Certain assumptions regarding the regulatory asset base provided by the applicant are subject to clarification. The assumptions will be used unless the clarifications reveal a material departure from those assumptions, in which case a review of the tariffs in Table One may be warranted.

Reasons for Decision

The application

1. On 29 January 2008, Petroline RSA (Proprietary) Limited (hereinafter 'Petroline' or 'the applicant') submitted a tariff application to the Energy Regulator. The application pertains to the tariffs for the proposed petroleum products pipeline from Mozambique to Kendal via Nelspruit and also for the approval of tariffs for the proposed storage facilities in Nelspruit and Kendal in Mpumalanga. This tariff application was made in terms the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003).

The applicant

2. The applicant, Petroline RSA (Proprietary) Limited (Registration no. 2004/013101/07, Companies Act, 1973), together with Petroline S.A.R.L., a company incorporated in the Republic of Mozambique, are the shareholders of Petroline Holdings. Petroline Holdings (Registration no. 2002/016245/07, Companies Act 1973), in turn, is the operating company that will manage the proposed pipeline system. Petroline was established for the purpose of building, owning and operating the pipeline.

3. Due to the multinational nature of the project, Petroline Holdings is required to meet regulatory requirements of the two countries involved, namely South Africa and Mozambique. For this purpose Petroline RSA (Pty) Ltd and Petroline S.A.R.L have been constituted. Petroline RSA (Pty) Ltd is a South African registered company that owns the South African elements of the pipeline infrastructure and will be responsible for South African regulatory compliance. Petroline S.A.R.L. is a Mozambican registered company that will be responsible for Mozambican regulatory compliance.

4. Petroline RSA (Pty) Ltd, was granted a construction licence number PPL.pf.F1/67/2006 that was issued 29 March 2007 and will own all the elements of the pipeline system within the borders of South Africa. Its shareholding structure contains a significant Black Economic Empowerment component.

5. The shareholder composition of Petroline RSA (Pty) Ltd is as follows:
   - Woesa Consortium (Pty) Ltd (50%) (effective historically disadvantaged empowerment is 25%)
   - Gigajoule International (Pty) Ltd (20%)
   - Petróleos De Moçambique (Petromoc) (15%)
   - Companhia De Desenvolvimento De Petroleum Moçambique S.A.R.L. (15%).

6. The Woesa Consortium (Pty) Ltd will own 50% plus one share in Petroline RSA (Pty) Ltd, thereby becoming the controlling shareholder. Its shareholders are Women in Oil and Energy South African Investments (Pty) Ltd (50%) and Energy Management (Pty) Ltd (50%). Woesa Investments is the investment arm of WOESA 21), a non-profit organisation for black women whose aim is to facilitate and promote business opportunities for South African women in the oil and energy sector. As a result, the applicant, Petroline RSA (Pty) Ltd, is in compliance with the Charter[1], as 25% of the beneficial ownership vests with historically disadvantaged South African women.

7. Gigajoule International Pty (Ltd), is involved in energy projects in Southern Africa. Gigajoule is the operator of this venture at present.

8. Petromoc, is a company registered under the Mozambican law and is 80% owned by the Government of Mozambique and 20% by its employees. Petromoc owns and operates petroleum products terminals, depots and pipelines over 19 sites, in all Mozambican ports as well as some inland

[1] Charter for The South African Petroleum and Liquid Fuels Industry On Empowering Historically Disadvantaged South Africans in the Petroleum and Liquid Fuels Industry, Schedule 1 to the Petroleum Products Amendment Act, 2003.

locations. It is the leading petroleum products distribution company in Mozambique.

9. Companhia De Desenvolvimento De Petroleum Moçambique S.A.R.L., is a company registered under Mozambican law. It was established for the purposes of participating in the shareholding of Petroline, S.A.R.L. Its shareholders are private Mozambican citizens.

The decision making process

10. Petroline submitted an application to the National Energy Regulator of South Africa (NERSA) to set transportation tariffs and approve storage tariffs for the Maputo to Kendal pipeline system. This tariff application was received on 29 January 2008.

11. The Petroleum Pipelines Subcommittee met on 13 February 2008 to consider Petroline's request that certain information pertaining to its tariff application should be regarded as confidential. The public version of the document – after approval from the Energy Regulator – was placed on the NERSA website on 11 March 2008. Advertisements were also placed in the Business Day and Sowetan on the following dates:
    (a) 12 March 2008- request for comments and invitation to public hearing;
    (b) 14 March 2008- request for comments; and
    (c) 3 April 2008- invitation to public hearing.

12. The public and stakeholders were requested to comment on the Petroline tariff application. No comments were received from the public or from stakeholders.

13. A public hearing was held on 15th April 2008. Only the applicant sought to present to the Energy Regulator at the public hearing.

14. In a letter dated 22 April 2008, NERSA notified Petroline that the tariff calculated for the Nelspruit storage facility – as per the tariff application - was incorrect. Petroline requested a delay of the tariff decision, to review the cost allocation and re-design the depot at Nelspruit. This request was granted. The applicant provided revised construction costs on 20th May 2008 and the revised data have been used as the basis of this decision.

Applicable law

15. The legal mandate for the Energy Regulator to set petroleum pipeline tariffs and approve storage facility tariffs is derived from the Petroleum Pipelines Act (Act No. 60 of 2003) (hereinafter 'the Act') and the National Energy Regulator Act, 2004 (Act No. 40 of 2004)[2].

16. The manner in which tariffs are set is prescribed by regulation. The relevant regulations are Regulations in terms of the Petroleum Pipelines Act, 2003 (Act No. 60 of 2003), 4th April 2008, Regulation Gazette No. 8859, Volume 514, hereinafter 'the Regulations'.

17. In order to give effect to the legal requirement that tariffs must be based on a "systematic methodology applicable on a consistent and comparable basis"[3] the Energy Regulator has adopted a Tariff Methodology for Petroleum Pipelines (hereinafter 'the Methodology') that informs the approach taken in this decision.

Overview of the application

18. The supply of petroleum products to the inland market is constrained by pipeline capacity and at current growth rates this market will begin to experience shortfalls in 2009, unless other transport means or pipeline capacity become available. The applicant's pipeline is intended to meet this demand. However, its financing model requires customers to enter into ship-or-pay agreements in advance and the envisaged customers are reluctant to do so without knowledge of the tariffs they will be expected to pay. Consequently, the applicant requested tariffs to be set in order for the financing to be finalised and construction to commence.

19. The applicant requested a 2-part tariff structure, reflecting the following:

    19.1 a capacity charge to reflect the cost of the investment and the return on the investment; and
    19.2 a variable charge to reflect the operational cost.

Discussion

The Methodology

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[2] See for example sections 28, 20(1)(q) and 21 of that Act.
[3] Section 28(2)(a) of the Act

20. Petroline prepared its tariff application using a project finance approach and in its application provided reasons why the Methodology, which is largely based on the Capital Asset Pricing Model, as approved by the Energy Regulator was inappropriate for its specific situation.

21. The applicant argued that the Regulations permit the Energy Regulator to utilize the "Financial Model Method" contained in its application instead of the Methodology approved by the Energy Regulator. The Energy Regulator does not share this interpretation of the Regulations. Even if it did, there would, amongst others, be legal obstacles for the Energy Regulator to overcome such as the provision in Section 28(2)(a) of the Act that requiring tariff decisions –

> "be based…on a systematic methodology applicable on a consistent and comparable basis;"

22. As the applicant's methodology would change on a case by case basis this would not be consistent with the Act.

23. The applicant subsequently changed its mind and in a letter dated 30 May 2008, informed the Energy Regulator that it accepts the Nersa Tariff Methodology of 24 April 2008.

24. In setting these tariffs the Energy Regulator's Tariff Methodology (Version 18 June 2008) was applied.

25. The regulatory asset base assumptions used to determine the tariffs in Table One are those provided by the applicant, with a few exceptions, as there is no reasonable alternative available. The Energy Regulator has requested the applicant to clarify certain elements of the RAB. Certain assumptions regarding the regulatory asset base provided by the applicant are subject to clarification. The assumptions will be used unless the clarifications reveal a material departure from those assumptions, in which case a review of the tariffs in Table One may be warranted.

26. Exceptions to assumptions used in the application are –

    26.1 in determining the value of plant, property and equipment (V), construction interest (pre-production interest) was capitalised thereby increasing the value of the regulatory asset base (RAB);

    26.2 a minimum cash balance was included in net working capital as the project cannot be funded without these reserves;

    26.3 the applicant has indicated an operating period of 244 days (or 67% of a full year) in 2010. Adjustments have been made to allow for the depreciation and return on a pro-rata basis;

26.4 as the application provided scanty information regarding trade payables an assumption of 5% of operating expenditure was used;

26.5 the Energy Regulator identified a potential 'over capitalization' at the Nelspruit facility. In response to a request for clarification by NERSA the applicant investigated this matter and subsequently submitted a reduction of R28 million in capital expenditure at this facility.

27. The applicant requested that the maximum life of assets be 25 years in line with the maximum term of a licence issued in terms of the Act and based on the term of the concession the applicant has been granted in Mozambique which it claimed was 25 years or 30 years. The Energy Regulator decided that depreciation be determined by applying a straight line methodology over the useful life of the assets. The Energy Regulator is aware of the provision in the Regulations (Section 4(8)) that allows the Energy Regulator to use alternatives when this is deemed inappropriate. To do as the applicant requests and set the life of the assets at 25 or 30 years would in effect mean that South African customers of the pipeline are incurring an additional cost equivalent to ten years of depreciation. It appears that the investment dispensation in Mozambique allows that Government to nationalize assets without compensation after 30 years. The Energy Regulator however finds that reducing the normal asset life would not be a prudent and reasonable approach to follow.

28. Furthermore the applicant's Concession Contract in Mozambique stipulates terms and conditions for extension of the Concession in article 2.2 as follows; "at the end of the First Extension Period, if … so requests, the Parties shall meet to seek and in good faith negotiate, to agree on terms and conditions to extend the Concession for one or more subsequent periods".

29. It is also noted that in the applicants "Environmental Impact Assessment Report"[4], it is stated that "It is envisaged that the pipeline will be operational for more than 30 years, <u>and it is likely that this period will be extended.</u>"(our emphasis). Consequently the applicant's request that depreciation be applied over 25 years is not granted.

30. The useful life of assets employed was –

[4] Report Prepared for Petroline Holdings (Pty) Ltd., DEAT Reference 12/12/20/985, Report No 369396/5, May 2008, pg v.

Asset Class	Years
Buildings	40
Loading	40
Pipes	40
Pumps	25
Storage	30

31. For the purposes of deriving the trended original cost the following inflation forecasts were used-

Inflation rates	Weighting	2008	2009	2010	2011	2012	2013	2014
RSA CPI	20%	7.90%	7.90%	7.90%	5.00%	5.00%	5.00%	5.00%
RSA Wage inflation	5%	7.90%	7.90%	7.90%	5.00%	5.00%	5.00%	5.00%
RSA PPI	70%	9.50%	9.50%	9.50%	6.50%	6.50%	6.50%	6.50%
Electricity inflation	5%	14.00%	13.00%	5.00%	5.00%	5.00%	5.00%	5.00%
TOC Index Applied	100%	9.33%	9.28%	8.88%	6.05%	6.05%	6.05%	6.05%

32. For the purposes of determining the Weighted Average Cost of Capital (WACC) the forecasted debt to equity ratio used in the application was employed except that a minimum gearing level of 30% was assumed.

33. The applicant's cost of debt estimate was increased from between zero and 100 basis points to reflect recent increases in the prime interest rate introduced after the application was submitted. The quarterly figures were annualized. Where the replacement of assets is required during the service life of the core assets, a gearing level of 50 to100% is assumed. The actual **nominal** cost of debt of the applicant is used as a "flow through" in the regulatory asset base.

34. To determine the cost of equity the Methodology was applied. To determine the Beta the following companies were used as proxies –

- New Jersey Resources
- Enbridge Inc
- Southern Union Company
- Piedmont Natural Gas Inc
- Northwest Natural Gas Co
- Equitable Resources Inc

which resulted in a company proxy β of 0.995.

35. To account for South African business conditions, a risk component of 0.405 was added to the β. The risk component consisted of:

- Size of company;
- Construction and start-up;
- Instruments available for obtaining capital;
- Private vs Government company.

as follows: -

Risk Component	Petroline
Industry beta Calculated industry beta – using 6 proxy USA firms as determined by the ER and prescribed in the Methodology.	0.995
Size of company. - A beta factor adjustment is proposed to accommodate the fact that Petroline is considered to be relatively small in comparison to the companies listed on the Johannesburg Stock Exchange (JSE). - A factor of 0.1 has been calculated using the ratio of returns on the JSE for small companies versus large companies.	0.1
Construction Risk (Green field /start up/size of construction) - Petroline is a start-up company which can be considered to be very risky. In Australia start-up business are allowed to set tariffs as determined by the dynamics of the market in order to create a business environment for such business to gain entry to the market. - The proposed adjustments have estimated by taking a comparative view on the present pipeline companies.	0.1
Instruments available for obtaining capital. - Petroline is a special purpose vehicle (SPV) company which has been created specifically for the purpose of this project. Petroline is in a position to raise funds only by means of bank loans - both for the debt as well as the equity portion of its capital. - The beta factor adjustments have been arbitrarily determined by taking a comparative view on the present pipeline companies.	0.1
-	
Private v Government company. - Petroline, as a private company, does not and will not enjoy the sovereign risk ratings that a state owned entity would. - The beta factor adjustments have been determined by taking a comparative approach.	0.1
TOTAL	1.395

36. The average market risk premium (MRP) over 25 years is 11.17%. MRP is the average of the annual difference between real market return (MR) and the real after tax risk free rate (Rf_2) over 25 years.

37. Due to certain vital assets of the pipeline being in Mozambique, a country risk adjustment (CRA) of 1.55% was added to the MRP.

38. The risk free rate (Rf_1) is the real, after tax, monthly average government bond yields with a maturity of greater than 10 years.

39. The resultant real cost of equity is 16.69%. This cost of equity will be kept constant over the service life of the core assets, unless a review is triggered.

40. The expenses (E) allowed in determining Allowable Revenue were those provided by the applicant.

41. Taxation was calculated using the Accounting provision for taxation at the latest Company tax rate of 28%. The Tax Act was amended on 1 January 2008 providing for an allowance to be deducted on the improvement of any affected asset (as defined in section 12 D (1) of the Tax Act). This deferred taxation benefit is treated as equity.

42. If the Allowable Revenue excluding the approved revenue addition to meet debt obligations (F) does not allow the applicant's Debt Service Cover Ratio (DSCR) to be met then additional revenue may be allowed. No F factor is applied because; although the DSCR in the first two years of operation is below that required by lenders, this is also the case in the application and considered acceptable by the applicant. In the third year of operation it is also below the ratio required by the applicant's lenders but this is offset by the fact that it is considerably higher in the 4th year. This together with other elements of this decision is expected to provide lenders with the necessary comfort.

43. As the pipeline and storage facilities have not been in operation for one year the clawback mechanism is not applied.

44. In setting the tariffs the volumes projected in the application were used.

45. The results of applying the Methodology are summarized in the following table –

Table 1: Allowable Revenue

Allowable Revenue = (RAB x WACC) + E + T + D + F + C	**2010**
Regulatory Asset Base (RAB)	
Value of assets (V) – accumulated depreciation (d)	R4-5 billion
Net Working Capital (W) ***not reflected in the Petroline model***	R 100-1000 million
RAB = V – d + W (at end of year 2010)	R5-6 billion
WACC Components	
Inflation	7.10%
Rf (real risk free rate of interest)	-1.05%
MRP (Market risk premium)	11.17%
Country risk adjustment (CRA) to the MRP. [33,61% of RAB x (Moz:5,81%-RSA:1,2%)]	1.55%
Total MRP	12.72%
Proxy Beta	0.995

Allowable Revenue = (RAB x WACC) + E + T + D + F + C	2010
Non-systematic risks adjustment to the β	0.40
Total Beta	1.395
Tax rate	28%
Cost of debt (Kd) (nominal)	12.05%
Cost of equity (Ke) (real)	16.69%
Cost of equity (Ke) (nominal)	25%
Debt at start of project	70%
Equity at start of project	30%
Effective WACC	13.44%
First year of operation (2010)	
Expenses (E)	R98 million
Tax (T)	R78 million
Depreciation (D)	R91 million
Debt obligation (F)	N//A
Claw back adjustment (C)	N//A
Allowable Revenue 2010 2011 2012	R-Million 744 1151 1265
Inflation 2010 – for TOC calculations RSA CPI (20%) RSA Wage (5%) RSA PPI (70) Electricity (5%) Weighted Average	 7,9% 7,9% 9,5% 5,0% 8,88%

Volume risk

46. The applicant argued at the public hearing that volume uncertainty was a considerable risk to its investment and this is recognized by the Energy Regulator. In a new venture such as the Petroline pipeline system the demand for such services is uncertain. A clearer picture of demand will only emerge after some time. Hence after the first three years of operation the volumes actually pumped and stored will be reviewed and the parameters for Volume Adjustment may be reconsidered, if warranted.

47. The applicant intends to mitigate its volume risk by concluding ship-or-pay agreements with customers. Such agreements are not prohibited by the Act so long as such agreements are not in conflict with the provisions of the Act. The existence of such agreements make it possible to finance the pipeline and also reduce the WACC and thereby the tariffs.

48. The Methodology states that -

“10.2.2 The volume adjustment will only apply if the actual volumes shipped by a pipeline in a tariff period differ from the projected volumes for that tariff period to the extent that the difference exceeds parameters to be determined by the Energy Regulator.”

49. The applicant suggests such parameters in its application - “any benefits accrued due to the upside benefit materialisation will be shared on an equal basis between Petroline and the consumer.”[5] On the other hand, if volumes are below forecast the applicant accepts the principle –

> “In the event that the expected volume growth does not materialise then Petroline accept the impact that this can have on returns” [5]

50. In other words the applicant is prepared to take the risk of lower than expected volumes provided that it retains a 50% share of the benefits that accrue from greater than expected volumes. This is a reasonable balance between risk; a return commensurate with the risk; and the public interest.

51. The pipeline and storage system will be in competition with other modes of transport, other storage facilities and other pipelines. In order to allow the applicant to grant discounts and to respond to competitive pressures maximum tariffs have been set.

52. The tariffs have been set for five years in accordance with Regulation 4(9) in order to provide potential customers, investors and lenders with a measure of certainty about the future.

53. The requested tariff structure comprising a 2-part tariff structure, reflecting–

    53.1 a capacity charge to reflect the cost of the investment and the return on the investment; and

    53.2 a variable charge to reflect the operational cost;

    is cost reflective and in accordance with the Act.

Conclusion

54. On the conspectus of the facts and evidence, it will be appropriate and in compliance with the requirements of the National Energy Regulator Act to make the decision set out above. It finds a reasonable balance between the

[5] Application page 9.

interests of customers on the one hand and the interests of investors on the other hand.