THE FREE MARKET FOUNDATION
of Southern Africa

progress through freedom

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Comment on Eskom's Revenue Application
Multi-Year Price Determination – 2010/11 to 2012/13 (MYPD 2)

The Free Market Foundation
The Free Market Foundation is an independent non-profit public benefit organisation founded in 1975 to promote and foster an open society, the rule of law, personal liberty, and economic and press freedom as fundamental components of its advocacy of human rights and democracy based on classical liberal principles. It is financed by membership subscriptions, donations and sponsorships.

Focus of this comment
This comment focuses on the following specific aspects of the economics of price formation and selected items relating to the figures presented in Eskom's application:

- The crucial importance of consumer-led pricing in the co-ordination of supply and demand and avoidance of catastrophic price increases
- Removal of barriers to entry into the electricity market as the most effective method of rapidly removing South Africa's vulnerability to supply interruptions
- Potential of competition and the efficient functioning of the grid to reduce cost, prices to consumers and the demands on Eskom
- Cost and price reduction potential for replacing gas turbines with electricity produced by Independent Power Producers (IPPs)
- Capital costs and depreciation
- Demand Side Management (DSM)

The crucial importance of consumer-led pricing in the co-ordination of supply and demand and avoidance of catastrophic price increases
Without the uninterrupted involvement of consumers in determining electricity prices it is not possible to match supply and demand. The same problem exists relating to all public monopolies but the difficulties are compounded in cases such as Eskom where competition has been disallowed for decades and consumers have been allowed no choice of supplier and have had no meaningful price comparisons. If the cost of past mistakes were to be translated into current prices they would find that taxpayers pay dearly for today's "cheap" electricity.

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The pre-1994 government over-estimated the demand and built excessive generation capacity, resulting in the “mothballing” of hugely expensive power stations producing electricity for which there was no demand. According to reports Camden, Grootvlei and Komati stations are being, or are to be, re-commissioned at great expense. Taxpayers and electricity consumers are set to pay twice for the earlier massive but not unexpected miscalculation.

Nobel Laureate, Friedrich von Hayek, explained that central planning of economic activity is rendered impossible because no single mind has the necessary knowledge to carry out the required planning; the knowledge needed to conduct such an exercise is too widely dispersed. In the absence of prices, planners have no way of allocating resources to their most productive uses.

Economist Ludwig von Mises said: The paradox of ‘planning’ is that it cannot plan, because of the absence of economic calculation. What is called a planned economy is no economy at all. It is just a system of groping around in the dark. There is no question of a rational choice of means for the best possible attainment of the ultimate ends sought. What is called conscious planning is precisely the elimination of conscious purposive action.

NERSA has the essential task of introducing competition and real price formation into the South African electricity market in order to ensure that blackouts do not occur again in future. This can be done by licensing IPPs without delay to provide the additional electricity that is required to increase South Africa’s electricity reserve margin.

Removal of barriers to entry into the electricity market as the most effective method of rapidly removing South Africa’s vulnerability to supply interruptions

Allowing IPPs into the electricity market should not wait until Eskom is ready to purchase the electricity they generate, which according to the MYPD will be after 2013. Expecting Eskom to act as the sole purchaser of electricity generated by IPPs is inequitable and places an unnecessary burden on the public enterprise. It is better by far to give IPPs the choice to sell electricity across the grid directly to consumers in addition to the possibility of selling to Eskom if they can come to an agreement.

NERSA has the responsibility not only to monitor and approve prices charged by Eskom while the public enterprise is a dominant monopoly, but also to ensure that reliable alternative power producers gain access to the grid in order to deliver power to their customers. This would avoid the necessity for Eskom to act as the single purchaser and be compelled to enter into power purchase agreements (PPAs) with IPPs, which will then reflect on its balance sheet as a contingent liability potentially affecting its credit rating.

Rather than expecting Eskom to shoulder the responsibility for ensuring that South Africa has adequate electricity at all times, what is needed is for an independent agency (or grid operator) to take over the task of ensuring the reliability of the grid and to allow generators who maintain adequate, objective safety standards to sell over and into the grid. Until the grid is managed by a truly independent operator NERSA would have the responsibility of adjudicating fair and reasonable charges for transmission of electricity over the grid.

Potential of competition and the efficient functioning of the grid to reduce cost, prices to consumers and the demands on Eskom

Competition is always and everywhere the only real method of keeping prices low whilst ensuring continuity of supply. This function cannot be performed with any measure of

exactness by a statutory body which cannot possibly have access to all the information necessary to make such a decision. The reason is that a price set too low causes shortages of supply, while a price set too high results in excessive production. It is only in the daily activities within the market that prices can adjust by fractions in order to constantly take into account changes in circumstances.

If IPPs have access to the grid, they will find customers who currently do not have their preferred certainty of supply which they need in order to plan their activities into the future. Large undertakings are subject to substantial risk as we have heard Eskom describe in their MYPD. Such uncertainties need to be removed, not only for Eskom but also for all current and potential major users of electricity in South Africa. We cannot know what major firms have already turned away from South Africa because of the uncertainties surrounding the supply of electricity. South Africa cannot afford to lose investment as a result of the absence of an adequate reserve margin which brings with it the ever present danger of electricity supply interruptions.

Currently, there are major electricity users whose businesses are expanding and who are paying fines for exceeding their electricity supply allocations. Such a situation is untenable in a country that desperately needs economic growth if it is to solve problems such as high unemployment, the shortage of housing, and the need to improve living conditions for all. There are also firms who have been told that they cannot go ahead with the establishment of new businesses such as shopping centres and housing developments until they receive approval which is dependent upon an improvement in supply.

Because they are constantly operating in a competitive environment, no private firm would ever dream of increasing its prices by 35% per annum over three years and announcing such a plan to their customers. The customers would immediately change to alternative suppliers, which they cannot do in this case because their current supplier has a statutory monopoly. The Competition Commission would charge the firm with price gouging just as it did to Arcelor Mittal. If there were no local potential suppliers to supply the goods or services at a better price, foreigners would immediately flock to South Africa to offer their services to consumers.

Cost and price reduction potential for replacing gas turbines with electricity produced by Independent Power Producers (IPPs)

The figures provided by Eskom show that for the FY 09/10 electricity produced by gas turbines is more expensive than coal by a factor of 10.9 and nuclear power by a factor of 22.4. One GWh of electricity for FY 09/10 is estimated to cost coal R110,685, nuclear R54,052 and gas R1,209,964 according to figures supplied by Eskom. Obviously gas should only be used to cover emergencies and not for the general supply of electricity and certainly not for the supply of an increased quantity of electricity in FY 12/13 where the cost per GWh is estimated at R2,843,683 and Eskom intends purchasing 467 GWh at a total cost of R1.328 billion.

CENTS PER kWh

	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15
Coal	11.1	12.9	14.6	16.1	17.2	18.5
Nuclear	5.4	5.3	5.9	6.7	8.4	11.0
Gas	121.0	191.6	233.3	284.4	333.6	413.6

RAND PER GWh

	FY 09/10	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15
Coal	110,695	129,050	146,065	167,025	171,839	184,511
Nuclear	54,052	53,364	59,161	67,386	84,006	109,841
Gas	1,209,964	1,916,058	2,333,333	2,843,683	3,336,283	4,135,593

Eskom stated in the MYPD that it was having difficulty in covering operational costs partly due to increased costs resulting from the lower reserve margins. The increased costs are probably due in part to the imprudent excessive use of gas turbine electricity generation. In addition there have been reports of plant maintenance not being carried out, exacerbated by a failure to maintain adequate stocks of replacement parts.

Commonsense would appear to dictate that this supply of electricity could readily be replaced by IPPs at a price well under the expected cost to Eskom. It is recommended that NERSA closely examine this issue with a view to taking immediate action to allow IPPs.

Capital costs and depreciation

The use of the Modern Equivalent Asset (MEA) valuation method radically inflates Eskom's expenses and is not justified, especially when it is suddenly adopted in order to persuade NERSA to approve an excessively high yearly tariff increase. For instance, a power station, mothballed in 1990 because the government of the time had over-estimated demand for electricity, will now be valued for depreciation purposes on the MEA basis to be replaced out of current income over whatever period the depreciation calculations are made. A depreciation system of this nature would not be accepted by most governments for purposes of justifying a tax deduction. It is often used by firms and public enterprises attempting to justify high recovery costs from current consumers. The mistakes of the past cannot be rectified in a few short years and it would be ironical for the pre-1994 mistakes made in Eskom to be used as an argument for an excessive increase in the current electricity tariff.

Capital expenditure for expansion should be financed out of equity or loans on the basis that such expenditure is intended to produce increased future income. The interest and repayment of loans therefore should be seen to be financed out of such future income and not out of income from existing plant. Imagine a supermarket company putting out a press release to say that it is going to increase all its prices by 35% per year for the next three years so that it can finance the building of new supermarkets. It will be clear that no supermarket company would ever be able to embark on such a course. It would be looking for resources from past taxed profits, equity and loans to carry out its expansion programme.

It appears to be justifiably claimed that Eskom has charged rates that are too low in relation to the total capital expenditure of the past. However, the financial burden of under-recovery and past mistakes should not summarily be imposed on today's consumers. The financial shock will have dire economic consequences.

An alternative to Eskom's plans is to take a wider view of the problem and attempt to ease the country into a competitive electricity market. This will be achieved by allowing entrepreneurs to focus their attention on the problem and seek solutions. Naturally, as the

price of electricity rises, the potential for other suppliers to profitably enter the market will increase. But, there are many potential suppliers who have been artificially kept out of the market. One such potential supplier is the sugar industry.

In Mauritius, 19% of electricity is produced from bagasse from the sugar industry. A 1999 Mauritius Sugar Industry Research Institute study estimated that South Africa could produce 2,500 GWh of electricity using existing plant and 5,900 GWh using new technology. According to a report in Engineering News, four sugar mills currently sell about 20 MWs of electricity to Eskom, but this could be expanded to a total of 200 MWs in addition to the 200 MWs the sugar mills produce for their own use. There can be no doubt that the sugar industry would provide a profitable replacement for electricity currently produced by Eskom's gas turbines.

The cost of replacement of assets is irrelevant in a competitive market. In a market with many competitors, it is competition for the business of consumers and the decisions of consumers to purchase or not to purchase that ultimately determines prices.

Demand Side Management (DSM)
It would be inconceivable for a private and competitive electricity industry to even consider asking their customers to cut down on the use of their product. Whilst it is understandable that such a mechanism is being introduced under the current circumstances, it is sad to see government setting aside R1.5 billion to assist in bringing down electricity utilisation. Had IPPs been given the go-ahead when government first considered their introduction, this process would never have been regarded as necessary.

Conclusion
Separate the activities of the grid from electricity generation so as to allow IPPs to deliver electricity to their customers over a grid that is managed and controlled by an independent, impartial operator.

NERSA should ensure that IPPs are able to enter into the South Africa electricity market as rapidly as possible.

NERSA should have in mind that the price of electricity should, as soon as reasonably possible, be set by consumers purchasing from competitive electricity generators and providers.

The Free Market Foundation wishes to request the opportunity to give oral evidence at the public hearings in order to expand on the matters commented on above.

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