SALGA / AMEU / ESKOM: POSITION PAPER ON INCLINING BLOCK RATE TARIFFS
14 February 2011

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

The NERSA media statement of 24 February 2010, announcing its decision on the Eskom required revenue application for the MYPD2 period 2010/11 to 2012/13, included a requirement that both Eskom and municipalities `*implement residential inclining block rate tariffs concurrently with this price increase*' [paragraphs 3 and 8] `*In order to provide for cross-subsidies for low income domestic customers, as required by the Electricity Pricing Policy (EPP1)*'. The previous NERSA media statement of 25 June 2009 had included a statement that `*It must be noted that this is an interim measure until the implementation of inclining block rate tariffs for protection of the poor* [paragraph 4].

The lack of consultation on the design and implementation of the inclining block rate tariffs (IBT) is of significant concern to the organisations that have been directed by NERSA to apply them to residential customers with effect from their 2010 financial years. Despite a number of requests from these organisations and related representatives for the opportunity to discuss the many issues related to IBT, NERSA officials have consistently declined to conduct such discussions, preferring rather to reinforce their requirements for implementation. NERSA's action in this instance appears to have contravened the requirements of the Promotion of Administrative Justice Act which requires that an administrative action must be procedurally fair and would require that NERSA conduct adequate consultation with consumers and affected utilities.

Following numerous requests from electricity distributors for assistance and advice, a meeting was convened on 11 January 2011 and attended by representatives of SALGA, the Association of Municipal Electricity Undertakings (AMEU), individual municipalities and Eskom. The purpose of the meeting was to highlight the many implementation and financial issues that have a serious impact on the implementing organisations and to propose alternate strategies

to achieve the NERSA objectives. These discussions and subsequent submissions gave rise to this IBT Position Paper.

While all of the organisations involved in distributing electricity support measures to assist poor customers, it is noted that Eskom and municipal distributors already include a number of cross subsidies and `life line tariffs' to assist their poorer customers. A number of serious flaws have been identified in the NERSA IBT proposals including, inter-alia:

- The data used in developing the IBT blocks and rates is not applicable to many of the electricity distributor customer profiles;
- Many non-poor customers will benefit from the proposed tariff structure;
- The removal of fixed charges has introduced significant revenue risk to some distributors; and
- Many of the principles of national government's Electricity Pricing Policy (EPP – GN1398 dated 19 December 2008) have been either ignored or contravened in the design of the IBT.

Several examples of significant expected revenue losses resulting from the implementation of the IBT to residential customers by a range of municipalities are available. The only option available to these utilities to deal with these losses is to increase the tariff levels of other customer groups who already heavily cross subsidise residential customers. Apart from the financial impact of the proposed IBT, a number of other issues of concern have been identified including, inter-alia:

- The tariff introduces subsidies to affluent and irregular usage customers. Affluent customer also have the means to effect energy savings that will further exacerbate the subsidy pressures while the subsidies to irregular usage customers will have a serious financial impact on utilities supply predominantly holiday areas;
- The incorrect premise that `low consumption can be equated with being poor'. Many instances exist in the poorer areas of South Africa of large low income families or multiple families being fed from a single point of supply. The IBT will increase the financial burden on these families which may increase the points of supply and an increase in electricity tampering. Small businesses will also be affected;
- The IBT is also claimed to promote energy conservation while empirical evidence suggests that these objectives are in conflict. While energy efficiency and conservation is a worthwhile objective, using the IBT to achieve this may result in a reduction of the subsidy contribution from higher consumption customers who will use less energy;
- The loss of any capacity signals to domestic customers which may encourage movement to a lower capacity supply. This may increase demand for more infrastructure and increase the utilities costs;
- The introduction of IBT specifically excludes the introduction of time-of-use (TOU) tariffs to residential customers in direct conflict with the EPP and the electricity regulations on `Compulsory norms and standards for reticulation services' [GG No. 31250 dated 18 July 2008].
- The IBT will significantly increase the billing complexity, especially when meter readings are not carried out on a monthly basis; and
- Some customers already subject to IBT have had considerable difficulty in understanding the fact the principles of the IBT when purchasing several prepayment tokens in one month. This is reported to have led to a lest one incident of violence against a vendor and has the potential for leading to high levels of negativity toward the utility.

In addition to the significant negative financial impact and related issues of the implementation of the IBT for most utilities, severely affecting the viability of electricity resellers and some municipalities, discussed in the paper, a number of practical implementation issues are discussed:

- The complex process involved in billing systems when meters are not read regularly and estimation and subsequent correction of consumer bills is required;
- Vending of prepayment tokens for IBT when vending is not on-line;
- Customer perceptions of being treated unfairly;
- The incompatibility of IBT with TOU tariffs;
- The IBT does not permit the season variation in tariffs increasing being applied by municipalities to reflect the price signals inherent in Eskom's bulk tariffs.
- The complexity (four blocks) of the NERSA IBT and the potential problem of differential future price increases for the different blocks which will change the structure of the tariff on each occasion this event happens;
- The modelling of revenue from prepayment meter customers will become extremely complex and cumbersome.

The paper concludes by proposing some alternate options in addressing the needs of the poor through electricity tariffs while ensuring the viability of the utilities. Key among these options is permitting the IBT to be offered as a choice to selected customers while retaining cost reflective tariffs for others. It is clear in its message that the current proposals for the IBT cannot be implemented.

BACKGROUND

The various consecutive high Eskom electricity price increases have given rise to a new debate about protection of the poor against high electricity cost. The NERSA decision in June 2009 on Eskom's tariff application indicated that as an interim principle it requires the application of an inclining block rate tariff (IBT) for all domestic customers.

The NERSA media statement of 24 February 2010 dictated the roll out of IBT for Eskom's conventionally metered domestic customers with effect from 1 April 2010 and NERSA pressure on Eskom and municipalities for the application of IBT to all of their domestic customers.

The NERSA approach to the implementation of IBTs has raised problems in the industry. The problems relate to the principles underlying the NERSA approach to IBTs as well as practical implementation challenges. Despite various efforts by Eskom, SALGA and its member municipalities, NERSA to date has not been positive in entertaining any debate about alternatives to the version of IBT as proposed by NERSA. This has given rise to players in the Electricity Distribution Industry (EDI) getting together to discuss their concerns and consider ways by which a meaningful debate can be held towards a pro-poor strategy that reflects the realities on the ground.

This position paper is a result of efforts of these players to document the situation in this respect, highlight all the key issues, propose alternatives and suggest a possible way forward.

1 SUBSIDY STATUS

Eskom and municipalities have been applying subsidies/ cross subsidies to their poor customers such as:

- Capital grants for new infrastructure and connections. Funded from National Government but also from other electricity customers.
- No basic charges with single energy rate tariff. Shortfall is subsidised from other electricity customers; mostly targeted with 20 Amp capacity limit or/ and 250 - 350 kWh/m consumption limit.
- FBE from Equitable Share; targeted either through indigent system or 20 Amp / about 300 kWh/m or to all customers.
- Intra-tariff subsidies, in particular from larger customers due to tariffs being lower than the cost to supply

Eskom used to have and most municipalities have cost reflective tariffs and life line tariffs available to their domestic customers. The extent of the subsidy and its effect on the price of electricity for other customers should not be underestimated. The NEDLAC paper discusses these impacts. See table below. It is therefore very important that the efficacy of the current mechanisms be explored before moving to a very different approach which will increase the impact beyond that of the current mechanisms.

Table 2: Indicative future pro-poor subsidies (existing policies with greater coverage and higher costs)

Subsidy	Amount (R billion per annum)	Comment
Electrification	6	To achieve universal access in 10 years.
Free Basic Electricity	4	50 kWh to 4 million households.
Tariff subsidy for poor households	5.5	4 million connections.
Theft	5	Assume constant 4 000 GWh per annum at higher cost of supply.
Total	**20.5**	A 2.5 times increase in real terms, representing more than 25% of current sector revenues.

Note: Eskom's costs are assumed to double over a three-year period. See main report for details.

2 NERSA IBT

NERSA is commended on trying to find a solution to the challenge facing the Electricity Supply Industry (ESI) for a very long time; namely the establishment of a subsidy framework with specific reference to electricity supply issues for South Africa.

Unfortunately it seems that, maybe due to time pressures, its staff did not consult broadly enough with the industry experts, Eskom and municipalities, to be able to place the proposed subsidy strategy in the right context and to build on the good practices already applied and consider the serious implications of electricity tariff changes.

3.1 The features of the NERSA proposed IBT for Eskom for 2010/11 are as follows:

Published rates with price increase

Homepower 1, 2, 3, 4 ***[non local authorities]***

	Energy Charge [c/kWh]		Environmental levy [c/kWh]		Total	
		VAT incl		*VAT incl*		*VAT incl*
Block 1 [? 50 kWh]	**52.70**	*60.08*	**2.00**	*2.28*	**54.70**	*62.36*
Block 2 [51 - 350 kWh]	**56.48**	*64.39*	**2.00**	*2.28*	**58.48**	*66.67*
Block 3 [351 - 600 kWh]	**74.35**	*84.76*	**2.00**	*2.28*	**76.35**	*87.04*
Block 4 [> 600 kWh]	**81.74**	*93.18*	**2.00**	*2.28*	**83.74**	*95.46*

3.2 The following is an extract of the NERSA proposed IBT for municipalities from a NERSA Tariff Guideline letter to municipalities dated 25 November 2010:

2. Municipal tariff benchmark

The guideline, as mentioned above, resulted in the average municipal tariffs benchmark, including Inclining Block Tariffs (IBTs) in c/kWh for 2011/12, as detailed below:

c/kWh	Domestic Block 1 0–50kWh	Domestic Block 2 51-350kWh	Domestic Block 3 351-600kWh	Domestic Block 4 >600kWh	Commercial Prepaid 2000kWh	Commercial 2000kWh	Industrial MD: 200kVA 43800kWh LF: 30%
RED 1	58 – 63	67 - 72	93 - 98	109 - 114	117 – 122	117 – 122	117 – 122
RED 2	58 – 63	67 - 72	93 - 98	111 - 116	115 – 120	115 – 120	118 – 123
RED 3	58 – 63	67 - 72	93 - 98	109 - 114	117 – 122	115 – 120	118 – 123
RED 4	58 – 63	66 - 71	90 - 95	109 - 114	115 – 120	115 – 120	118 – 123
RED 5	58 – 63	67 - 72	93 - 98	109 - 114	115 – 120	117 – 122	117 – 122
RED 6	58 – 63	66 - 71	90 - 95	109 - 114	117 – 122	117 – 122	118 – 123

Table 1: The average Municipal Tariff Benchmarks for 2011/12

3. Inclining Block Tariffs

On 24 February 2010, the Energy Regulator approved the implementation of Inclining Block Tariffs (IBT), in order to provide for cross-subsidies for low income domestic customers, as supported by the "South African Electricity Supply Industry: Electricity Pricing Policy GN 1398 of 19 December 2008" (EPP). In line with this decision, municipalities are expected to implement IBTs on all its domestic/ residential customers on 01 July 2011.

The benchmark tariff rates applicable for the four blocks of the IBT structure are illustrated on Table 1 above (The average Municipal Tariff Benchmarks for 2011/12).

The following is the basis of the price increases that was used in developing the benchmark rates of the IBTs:

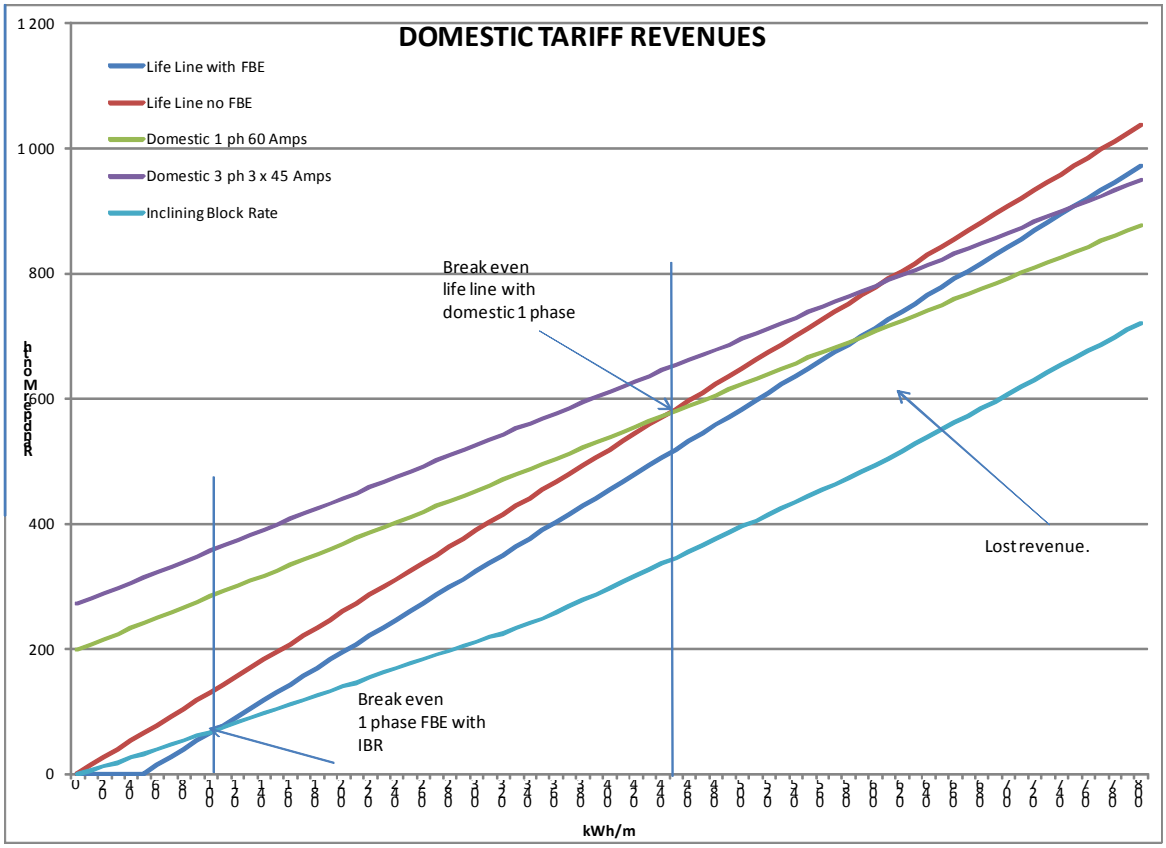
- *Block 1* – The 2010/11 benchmarks have been increased by the Consumer Price Index (CPI) of 4.8%
- *Block 2* – The 2010/11benchmarks have been increased by CPI of 4.8% plus the Weighted Average Cost of Capital (WACC) of Eskom of 8.16%. This results in a total increase of 12.96% for Block 2.
- *Block 3 and 4* – The 2010/11 benchmarks were increased by the municipal guideline increase of 20.38%.

NERSA is commended on its efforts to provide relief for the low usage customers in 2010 and for 2011 and for being pro-active. Unfortunately there are many shortcomings with their proposal, such as:

- Eskom data was used to develop a national strategy. This data is not relevant to individual municipalities and also does not adequately segment residential customers. The basis of a good tariff design is to use the customer data of the particular utility. Not doing so introduces a number of inherent risks.
- The IBT structure removed the previous capacity related signals included in existing tariffs.
- The IBT structure introduced a revenue risk by removing fixed charges.
- Many non-poor customers will benefit from the tariff structure.
- It does not take into account regulatory and EPP requirements regarding higher consumption customers paying fixed charges and time-of use rates.
- The basis for determining the blocks, the rates and the increases to the rates appears arbitrary and difficult to justify on a national scale.

- The IBT structure contains too many blocks.
- The structure is based on REDs areas rather than income distribution characteristics of consumers in groupings of comparable municipalities

The graphs below illustrate the relative revenue of the Eskom and NERSA IBT tariffs.



The graph clearly shows the massive drop in revenue if all customers are charged at the NERSA IBT especially for high usage (non-poor) customers and high capacity customers with low usage.

3 THE NON-CONSULTATIVE / INCONSIDERATE PROCESS OF THE DEVELOPMENT AND APPLICATION OF THE IBT BY NERSA

The industry players are disturbed by the way in which NERSA has introduced the whole concept of IBTs. A separate annexure details the efforts by Eskom and municipalities to try and get NERSA's attention on the IBT debate. The following bullets provide the highlights of these:

- Eskom's efforts to achieve meaningful debate and engage on the IBT structure and rates: Eskom has been following a structured and well documented process to try and obtain opportunity for meaningful debate about the IBT. There has been limited success on this front despite the massive negative financial impact of IBT roll out by Eskom. See attached summary of events in this respect.

- Municipal efforts to apply alternative approaches: Once it became clear that NERSA was to force the implementation of IBT onto municipalities various efforts and pleas by the AMEU and individual municipalities have not lead to the slightest deviation from the

NERSA approach. Agreement was reached during 2010 that NERSA would first hold workshops with SALGA / AMEU about IBT before any roll out, none of this has taken place. See attached summary of events in this respect.

- Efforts by interest groups: The interactions of other vested interest groups are not known to this working group. However there are various discussions and papers that have been compiled such as that by NEDLAC, that seem to have been ignored. There has been no consultation by NERSA with large customers and resellers in particular, who bear the brunt of this decision, leaving it up to each distributor to manage the outfall of their decision.

- NERSA mandate to develop a subsidy strategy: This action of IBT application by NERSA effectively means that NERSA is developing a new cross subsidy mechanism for poor households in South Africa. The NERSA role of "regulating the industry and approving tariffs" is recognised and accepted. However, this action, without consultation with consumers and affected utilities as required under the Promotion of Administrative Justice Act that an administrative action must be procedurally fair, goes far beyond its mandate and now infringes on the right and responsibility of customers, utilities, and National Treasury and Municipalities in the face of their constitutional rights and obligations in this respect.

- Subsidy framework and the EPP: NERSA is also required to develop a national subsidy framework in line with the EPP. This does not appear to have been the case.

- NERSA lack of acknowledgement the national impact of the NERSA designed IBT: The massive impact of the current subsidies and cross-subsidies in the ESI and the impact of the NERSA IBT is not addressed by NERSA in any documentation. NERSA should have quantified such impact and established the potential impact on industry through close co-operation with South Africa's large customers. The extract below shows the impact of the 2010/11 IBT on the Eskom tariffs for industry.

  - **Inclining bock rate tariffs**
    The objective of the inclining block tariff was to provide protection for lower usage customers against high price increases resulting in a reduction in tariff to these customers.
    - The shortfall (R1.32 billion) as per Nersa's decision is to be recovered from Eskom's urban non-municipal bulk tariffs, (excluding residential and rural tariffs). This added 4.6% to the increase applied to these tariffs.

    The exact future impact of the proposed NERSA future increases on the IBT has not yet been calculated. It is expected that the impact over the next 3 years, while Eskom have the high increases will add a further 5% per year thus reaching a **cumulative increase on industry of 20%,** This is over and above the already high increases for these customers. The application of the NERSA IBT will thus have a very serious negative impact on the growth of the South African Economy.

- Unfair application: The way in which NERSA is applying the NERSA IBT is discriminatory. Various small municipalities have witnessed that they have motivated for alternative approaches which have simply been ignored. However, the actual approvals granted to the big metros are in great contrast to this. For example City Power is, as per NERSA approval, applying the NERSA IBT tariff but on top of that is still allowed to charge the basic charges as before.

4 NONCOMPLIANCE WITH THE SOUTH AFRICAN ELECTRICITY PRICING POLICY

At various forums the fact that the NERSA IBT is in direct conflict with a large number of policy positions of the newly cabinet approved Electricity Pricing Policy (EPP) has been ignored by NERSA. The full details of this are also contained in a separate paper which explains these areas of conflict with the EPP. The key ones are as follows:

- Policy Position 2. Electricity tariffs must reflect the efficient cost of rendering electricity services as accurately as practical. There is no way that the IBT rates as developed by NERSA can be linked back to relevant costs.

- Policy Position 4. All forms of discriminatory pricing practices must be identified and removed.

- Policy Position 23. Electricity distributors shall undertake COS studies and results be used for new tariff application.

- Policy Position 26. The number of consumer categories for tariff purposes should be justifiable to NERSA based on cost drivers and customer base:

- Policy Position 36. Domestic tariffs to become more cost-reflective, offering a suite of supply options with progressive capacity-differentiated tariffs and connection fees. At one end tariffs with single energy rates limited to 20A, the next level tariffs with energy charges, basic charge reflecting customer service and network costs andat the final level TOU tariffs
    - For example, in the Eskom decision, NERSA removed Eskom's current suite of supply options which had been developed over years of experience in line with the Energy White paper, the EPP and the Distribution Code recommendations.

- Policy Position 44.
    a) The application of only specifically approved cross-subsidies, subsidies, levies and surcharges must be instituted in the ESI to address certain socio / political / environment needs.
    b) Cross-subsidies should have a minimal impact on price of electricity to consumers in the productive sector of the economy.

- Policy Position 45. All cross-subsidies shall be made transparent.

- Policy Position 48. Qualifying customers shall be subsidised by a s*ingle energy rate tariff* limited to 20 Amps.

- Policy Position 49. Life line tariff breakeven with cost at 350 kWh/m for 20 Amps. NERSA seems to have interpreted this and the previous policy position to infer IBT. It is to be noted that a single energy rate tariff is NOT an IBT structure.

- Policy Position 50. Subsidy shortfall recovered from all electricity customers.

To conclude: The EPP is clear on what should be done:

- There be specific qualification criteria to determine who qualify for cross –subsidies. This stipulates 20 Amp limit but many municipalities also apply a maximum kWh/m usage such as 250.
- The life line tariff is a *single energy rate tariff* that breaks even with the cost at 350 kWh/m.
- FBE is granted to selected customers.

The NERSA IBT is in direct conflict with the majority of these Policy Positions.

5 PRINCIPLE CONCERNS

This section will highlight the key concerns in principle relating to the application of IBT tariffs in general but more specifically to the NERSA IBT. This document will be short and will rather refer to work that has already been done in this respect. The concerns relates to the following aspects:

- The very nature of an inclining block rate tariff.
- The structure of the NERSA IBT. The size of the blocks and the levels of the various rates.
- The fact that there is no differentiation between customer categories' specific capacity.
- The fact that it has to be applied to all domestic customers.

There is agreement that residential customers, specifically poor ones should be subsidised. The IBT and specifically the NERSA IBT achieves this objective but in an ineffective and inefficient way. It therefore does not achieve the general objectives set for pricing in South Africa. The highlights of these concerns are as follows:

- Poorest of the poor are not being reached: The NEDLAC paper highlights the fact that the poorest people in South Africa do not have access to electricity yet and many do not have jobs. The NERSA IBT provides massive increased subsidies to those customers who already have electricity and are thus relatively privileged. The net result of these subsidies is that there will be less money available to connect new customers and many people stand a chance of not getting a job or losing their jobs because of the negative impact of the NERSA IBT on industry and commerce.

- Affluent customers being subsidised: The dilemma with the NERSA IBT relates to the structure, level and how it is being applied. Because of the low tariff levels and the fact that it is applied to all domestic customers means that even high usage customers are being subsidised. The NERSA IBT introduced a subsidy of 18% for a 3 phase customer using 750 kWh/m.

- Recovering cost from non-poor: The NERSA guideline to municipalities indicates that the increased subsides to the poor will be funded from high usage customers. The reality is that the tariff has been set in a way that will reduce the revenue even from existing non-poor (high usage) residential customers thereby placing the increased subsidy burden only on the productive part of the economy; namely industrial and commercial customers. This problem can be solved by retaining cost reflective tariffs for non-poor customers through a supply capacity selection.

- Subsidies to irregular usage: In all municipal areas of South Africa there are customers with irregular or intermittent usage. These are typically very affluent customers only using their houses for a few weeks or months in the year. The NERSA IBT will provide massive subsides to these customers. The financial impact on pre-dominantly holiday areas is astronomical. The solution to this challenge is to retain tariffs with fixed and capacity charges to reflect the ongoing fixed monthly costs incurred by municipalities irrespective of consumption levels.

- Large low income / multiple families. The premise used by NERSA in its IBT is that low consumption equals poor. This is not always true. In many of the poorest areas of South

Africa multiple families are supplied from a single electricity supply point. The NERSA IBT will thus cause an unfair burden on these families and will certainly not provide any significant relief. International experience has shown that the application of IBT in these areas lead to a proliferation of connection points which again increase the utility costs and possibilities for theft. In the current suite of supply options offered by Eskom and many municipalities customers can select either a life line tariff (single energy rate tariff with no fixed charges which is cheaper at low consumption levels) or the cost reflective tariff with fixed charges that are usually cheaper at higher consumption levels.

- Small businesses: The importance of establishing small businesses in poor areas cannot be overemphasized. These businesses are usually associated with increased electricity consumption with items such as lights, fridges, welding machines, dryers, etc. The NERSA IBT will discriminate unfairly against these customers.

- Conservation: NERSA indicated in some of its statements that the NERSA IBT also has a conservation focus. Empirical evidence suggests that one cannot have a tariff that subsidises the poor and promotes energy efficiency in equal proportions. These two objectives are in conflict with one another. Promoting energy efficiency, while a noble objective in the light of the country's energy constraints reduces the subsidy contribution, exposing the utility to revenue risk. International debate in this respect clearly indicates that the cross subsidy objective and conservation objective cannot be entertained at the same time because:

    - when customers at the high end use less to satisfy the conservation objective, the additional revenue to be used to fund the cross subsidy is lost.
    - Customers at the lower end of consumption have rates well below the economic cost thereby encouraging wastage and uneconomic decisions being made around energy usage and sales below cost resulting in revenue loss.

- Capacity signals lost: Because the NERSA IBT contains no capacity signal or any criteria to be able to encourage customers to take lower supply capacity, utility costs are going to increase. Currently municipalities have been applying capacity limitations specifically for customers on the utility life line tariffs. International experience clearly shows that customers' load factors will decrease and consumption, specifically in the high demand peaks, will increase more than general consumption. This has a viability impact on all utilities because more infrastructure has to be provided for sales in a short period of time. This is again a very important aspect for the small municipalities with high percentage of holiday usage. Lifeline tariffs should thus only be provided to customers with a specific limited capacity / consumption limit per month and others should pay cost reflective tariffs with fixed charges (basic and capacity).

- TOU tariffs: The EPP, the ERA regulations and various other Government policies (Government Gazette 31250 of 18 July 2008 specifies the `Electricity Regulations for Compulsory norms and standards for reticulation services) require that residential customers be offered the option of smart meters with TOU tariffs and other DSM features. The NERSA IBT strategy specifically states that **all** domestic customers must be supplied at the NERSA IBT rates. This is in conflict with various other strategic objectives and will cause industry and thus other customer costs to rise even more to unsustainable levels. TOU tariffs with capacity and fixed charges should thus be made available to customers with higher capacity and thus higher consumption to thus enable them to shift load in the national interest.
- Simplicity: The IBT causes significant complications. At this time when municipalities are struggling to provide good billing / vending service, this complication is sure to make things even more difficult. Eskom has experienced a massive increase in queries in this respect. This problem is worsened when proportionate billing is done, when accurate meter readings are not done leading to estimates and where readings of periods more than

monthly are taken. It is suggested that NERSA undertakes a real participative process of understanding real practical implementation issues at stake and jointly provide solutions that are responsive to these issues before further roll out of IBTs in the current form.

- Customer understanding: From reports received so far, customers struggle to understand price increases never mind having to pay increasing rates for electricity consumed in a month. There has been disturbing reports of violent attacks on electricity vendors because the amount of energy sold is less each time energy is bought. While NERSA believes this is the utility's responsibility to communicate this issue, this is very complex, will cause a huge amount of bad feelings and negativity from customers which will be increasingly difficult to manage. The introduction of IBTs has to be accompanied by a campaign to educate the public about what its intentions are and how it works. NERSA should lead such a campaign

6 NEGATIVE FINANCIAL IMPLICATIONS OF APPLYING THE NERSA IBT

The financial implication of the NERSA IBT extends way beyond the domestic customers which are intended to benefit from the subsidies. Various papers have been prepared in this respect. The NEDLAC paper specifically highlights the massive impact of current subsidies and required subsidies, not to mention the proposals by NERSA. The following key issues should be noted:

- Losses from non-poor customers: The NERSA forced IBT application by Eskom on its conventionally metered customers has had a massive negative financial implication. This has caused the tariff to the rest of Eskom's customer base to increase by a **further 4.6%** over and above the average increase granted by NERSA. It must be realised that Eskom's conventional meter customers mostly make up affluent high usage communities such as Sandton, Balito, etc. This is a direct subsidy to wealthy customers at the expense of the broad economy. This impact is going to be even more for every year to follow and when it is rolled out to the rest of the country.

- Viability / municipal impact: When Eskom applies the NERSA IBT it can hedge the impact on the non-domestic customers despite the fact that this impact is unsustainable. The impact on municipalities, even more so for the smaller ones, is just not viable. Some substantiation of this is provided in the attached papers and more will be forthcoming in the near future. Typical results from the application of the NERSA IBT for municipalities are as follows:

    - Loss of domestic revenue: About 25%.
    - Loss as percentage of total revenue: About 10%
    - Loss as percentage of non-domestic revenue: About 25%

  It is clear that not all municipalities can apply the NERSA IBT and remain viable. It will either have to increase the burden on non-domestic customers by a further 25% on top of the NERSA proposed 20.38% price increase or will have to forfeit a major portion of its much needed surplus on electricity. When the low NERSA approved increases for future years are also applied, this impact will grow.

- Losses from irregular customers: Mention has been made of the losses to be incurred on customers with irregular usage. The majority of small municipalities with a large holiday / seasonal component have been applying high basic and capacity charges. These charges reflect the true fixed nature of all electricity utilities. Although the consumption from many of the holiday / weekend users can be high during periods of occupancy, the overall

consumption is very low per year. The main fixed revenue is therefore lost to these utilities with the application of the NERSA IBT. The financial impact on these municipalities can easily double the figures mentioned above and the impact on non-domestic customers even more due to the typical small base.

- Massive impact on domestic customer resellers: There are more than 2 million domestic customers being supplied by electricity resellers. These resellers purchase bulk electricity from the local supplier at the relevant tariff which could be Bulk, Domestic or other and then resell at the domestic tariff. The difference between these tariffs and specifically the presence of fixed charges has made it possible for resellers to remain viable and provide the services required. In Eskom areas of supply there are no rules governing the tariffs that may be applied by resellers. In many municipalities the electricity supply bylaws govern the conduct of resellers in that they generally require that the price of the electricity supplied should not be less favourable than if it was supplied by the relevant municipality. If the application of NERSA IBT is to be enforced, many resellers will become bankrupt very quickly. See attached letter from Power Measurement & Distribution which illustrate this impact.

- Massive losses with energy conservation: One of the reasons for applying cost reflective tariffs as specified in the EPP, is that when the various charges cover the various costs, the utility is protected against changes in the economy and customer consumption patterns. For this reason basic charges and capacity charges protect the utility from large revenue losses when consumption reduces, thereby reducing variable costs (mainly purchases) while the basic infrastructure remains the same. With the application of the NERSA IBT, there are no fixed charges. Now that energy conservation is so important and various strategies such as the roll out of solar geysers are gaining momentum, consumption levels are set to reduce per domestic customer. This will have a much bigger negative financial impact on the electricity utilities compared with tariffs with basic and capacity charges.

- Seasonal issues: The high Eskom price differentiation, which reflects the Eskom cost differences between high demand and low demand season causes major cash flow problems for municipalities. For this reason various municipalities have been applying seasonally differentiated tariffs to address the cash flow, align with ESKOM prices and to signal to customers the higher electricity costs associated with the high demand season. It must be remembered that domestic consumption in high demand (winter) months make up close to 50% of total. The NERSA IBT does not cater for this necessary feature.

- Increased revenue risk: The removal of tariffs with basic and / or capacity charges increases the revenue risk for all utilities. This is of particular relevance during periods of economic downturn and due to energy conservations and the future potential of net metering. The current structure would mean the eroding of network revenue as all the rates are recovered through energy charges.
- Increased cost due to loss of capacity pricing signals: Various utilities have raised the impact that the application of capacity charges have had on their municipalities in the reduction in peak demand and improvement in overall load factor. The removal of the capacity charges will require that all customers be provided with the same capacity, as there is no differentiation, and thus an increase in network and purchase costs from Eskom / Generation. It is therefore proposed that capacity charges be retained / be applied for all customers not on the life line tariff.

7 PRACTICAL IMPLICATIONS

The application of the IBT holds significant practical implementation problems. Although IBT has been applied for domestic water, the situation is very different for electricity. This section discusses the practicality challenges of introducing the IBT in current context of the SA EDI and billing arrangements:

- Billing systems: Although many of the municipal billing systems can handle inclining block rate tariffs such as being applied for water there are increased practical problems. Currently, it is understood that at least 10% of all conventional domestic meters readings are being estimated every month. When flat energy rates are applied it is simple to correct. The problem is that when IBT rates are applied, the process of estimation and correction afterwards becomes much more complex. Already today the press is filled with complaints of customers struggling to get good billing services from some municipalities. The additional complication may worsen the situation.

- No monthly readings: Some utilities, specifically Eskom are only reading small customer conventional meters on a 3 monthly basis. This implies that interim accounts based on estimates are sent out every month. Once the actual readings are received, the two interim accounts have to be reversed. This is a complex process and is causing Eskom a significantly increased customer complaints / queries. A more detailed discussion with examples of the bills and bill explanation is shown in the attachments.

- Pre-payment: The problems associated with the application of IBT with pre-payment are well known. All over Africa, pre-payment meter suppliers have been struggling to get rid of IBT tariffs to be able to successfully implement pre-payment meters. The problems do not just relate to the system being able to bill the IBT but the implication of these. Some of the issues discussed in the separate paper are as follows:

    - Problems of vending when the systems are off-line.
    - Difficulty of vending where customers are on off-line systems such as some smaller resellers and farm workers.
    - Apportionment of the blocks when customers buy irregularly.
    - Granting of credit when token fails.
    - The IBT structure will now effectively be applied based on the customers purchase pattern and not based on the consumption pattern.
    - For many customers these patterns differ as many poor customers purchase pre-payment electricity when they have money and could use such over a period of many months.

    Many pre-payment meter suppliers are making all kinds of commitments of what their systems can do but municipalities end up with massive problems because it is simply not possible.

- Private vendors and service levels: Eskom and municipalities have been making use of private vendors to vend electricity tokens. Some of these systems are on line but some of them cannot operate on an IBT. These private vendors are being used because it reduces utility costs and increases the level of service and convenience to customers. The increased problems associated with IBT could lead to many customer complaints and closing of vendor services thus leading to inferior customer service.

- Customer perceptions: There is already a serious perception by customers that utilities are treating them unfairly and are overcharging them. This is one of the reasons for non-payment of electricity in South Africa. The utilities that have applied the IBT have

witnessed that the amounts of complaints relating to IBT is drastic and that customers feel they are being treated unfairly.

- Impracticality regarding TOU: The implementation of an IBT tariff with a TOU structure is expected to be very complex to implement on pre-payment or conventional metering. This aspect has not been explored and no solution has been proposed to this challenge. It is thus proposed that these solutions first be found before rolling out IBT.

- Complex revenue modelling: To model the revenue from pre-payment customers is very complex, cumbersome and will simply not be done properly in many utilities. The reasons for this are that when the annual average consumption of any customer is used as a basis, the revenue simulated will be understated. The reason is that when a customer uses electricity irregularly, more consumption will come in at the higher blocks than when using evenly over the year.

- Complex future subsidisation: One of the key problems with the NERSA IBT is the fact that when differential price increases are applied to the different energy blocks as proposed by NERSA for the future, the structure of the tariff is changed every time. Such as when the low blocks are increased at lower percentages the breakeven points with cost will increase drastically and the differential increases to higher usage customers will have to be very high to make up for the shortfall. This impact will be different in every utility based on the different customer mixes and will provide endless challenges for municipalities to determine the exact impact and to address the revenue losses associated.

- Complexity of the NERSA IBT: A questions needs to be raised as to why so many blocks are required and whether the rates have been optimally determined. To really understand the philosophy behind the tariff proposed by NERSA, detail needs to be provided relating how poverty levels has been set, what the objective subsidy levels should be for which energy applications and what the impact on the various target markets should be. In absence of this, the complexity has to be questioned.

Municipalities have to ensure that they remain financially viable. They always have to do this within current legislation while providing subsidies to the poor and ensuring that any practices can be applied efficiently and cost effectively. It is therefore essential that NERSA interact with municipalities, and its representative bodies such as AMEU and SALGA and jointly find and agree to implementable solutions to all these practical issues before implementation.

8 PROPOSED ALTERNATIVES

Once again it must be stated that the need to subsidise the poor is appreciated. The problem is with the current proposed structure which does not take into account all the issues addressed thus far. It proposed that all licensees be permitted to set tariffs as follows for its domestic customers:

- In line with the EPP, offer self selection choice of cost reflective or life line tariffs.
- Single energy rate life line tariff:
    - To either:
        - Domestic customers on indigent list; or
        - Domestic customers limited to 10 to 20 Amps and/or using less than 250 kWh/m every month.

  - Increase 50 kWh/m FBE to these customers to increase relief. Possibly remove / reduce FBE to other non-qualifying domestic customers to fund such increase within current equitable share allocations.
  - This tariff level should preferably be at national level or at least using a national established formula.
  - The increases on this tariff can then be set at a different level as the other tariffs during high Eskom price increase period.
- As an absolute last, alternatively offer a IBT tariff, to the above qualifying customers, but the IBT structure set as follows:
  - Three blocks; one at 50 kwh per month and the second between 51 and 350 kWh and the third above 350 kWh to 1000 kWh with rate breaking even with cost at some level between 350 and 500 kWh/m.
  - If customer gets FBE, this is not provided before the first block, but instead of the first block but valued at the first block rate.
- All domestic customers have the choice of domestic tariffs that are designed at cost reflective levels as per EPP and the regulations.

This will ensure that:

- The very poor customers are protected against high Eskom price increases.
- Licensees are protected against losses from non-poor domestic customers.
- There is fair allocation of cost between different domestic customers.

9 WAY FORWARD

It is clear that municipalities simple cannot apply the NERSA IBT as it stands. An alternative approach has to be found. It is proposed that meaningful debate takes place between NERSA and key role-players in the EDI leading to NERSA adapting the design, level and implementation of its IBT strategy.

10 CONCLUSIONS

The conclusion reached from this paper is that the EDI is facing a serious challenge that needs to be addressed in a holistic and co-operative way. This paper is an attempt to get the debate about the best way of addressing the needs of the very poor electricity customer in an optimal way.

The key issues are highlighted in this summary paper. Some of the appendices will assist in illustrating / proving the statements made in the paper. The list of papers is not complete. More submissions are expected in time which will all be made available to the parties who are to debate the road ahead.

Clearly the roll out of IBT, as proposed by NERSA, cannot continue until suitable answers acceptable to Eskom and municipalities have been jointly worked out.

11 APPENDIXES

A. NERSA: Guideline on municipal electricity price increase for 2011/12.
B. Process AMEU.
C. Eskom process.
D. Members of IBT Workgroup

E. IBT Selected EPP policy positions re IBT
F. SALGA letter to NERSA on MYPD2 decision - 4 March 2010.
G. S D Salvoldi: USE OF AN INCLINING BLOCK RATE TARIFFS STRUCTURE AS A TARGETING MECHANISM FOR THE PROVISION OF FREE BASIC ELECTRICITY. June 2010.
H. H B Barnard: Municipal Tariff Determination. 24 Aug2010
I. Actual Eskom bill with bill explanations.
J. Estimated Eskom IBT Bill
K. Letter to NERSA re IBT impact for resellers
L. Additional papers that will be provided on request:

- NEDLAC paper. A study into approaches to minimise the impact of electricity price increases on the poor. April 2010
- SALGA Circular 05/2010: NERSA DECISION ON THE ESKOM MYPD2 APPLICATION. 11 March 2010