Analysis of the issues affecting maintenance in a municipal electricity environment

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There is a commonly held perception that municipal electricity distributors have not been carrying out maintenance of their electricity networks to the extent necessary to both ensure the integrity and reasonable life of these assets as well as an acceptable reliability and quality of the supply to their customers. The National Electricity Regulator [NER] convened a Maintenance Summit on November 2003 to address these shortcomings resulting in the adoption of a number of resolutions on future activities. This paper attempts to suggest why the problems still exist five years after this summit and may even have become more severe.

Kimberley was the first municipality in South Africa to establish its own electricity distributor with the installation of street lighting on the main road outside the City Hall in 1882, some 40 years before the organisation that was to become known as Eskom was created. Other municipalities followed Kimberley’s example at regular intervals so that by the late 1990’s, almost 400 municipal electricity distributors were serving customers within their municipal areas of jurisdiction. This number was reduced significantly as a result of the rationalisation of municipal boundaries following the process of municipal demarcation process [1] in the year 2000. The electricity supply statistics [2] published by the erstwhile National Electricity Regulator [Ner] for 2004 indicate that the total number of licensed municipal distributors became of the order of 185.

The provision of an effective and profitable electricity service has thus been an important element of the basket of services provided by municipalities to their constituents for many years, so much so that their responsibility and authority for this service is enshrined in the Constitution of our country. Municipalities are responsible for providing a wide range of services, many of them unfunded or poorly funded. The practice of using a portion of the revenue from electricity sales to cross subsidise some of these services has been in place for over a century and has become even more important to the funding of local government as they have had to cope with providing greater levels of services to wider areas, many of them previously disadvantaged.

Rationalisation of municipal areas via the demarcation process resulted in the situation whereby municipal distributors and Eskom served customers of different physical areas within the same political area of jurisdiction [single municipal boundary]. This development seemed to coincide with mounting criticism from Eskom and echoed by the Ner, begun during the days of the National Electrification Forum [NELF], that ‘electricity money should be used for electricity’ and not for supporting the provision of other municipal services. This criticism has been followed by suggestions that municipalities are not adequately carrying out ‘effective planned/preventative maintenance programs to manage the long term health of its distribution assets’ [3] and as a result of ‘calls for action from the Minister of Minerals and Energy, the Minerals and Energy Portfolio Committee and customers regarding the increasing number of interruptions across South Africa’ a National Summit on Maintenance was called by the Ner on 18 November 2003 to resolve the matter [3].

Despite the shortage of objective data to support the contention that municipalities in general have not, and are not, attending to this important element of their operations, the perceptions and claims persist. The National Energy Regulator of South Africa [Nersa] have over the past two years commissioned two sets of audits on electricity distributors, but have to date released the Executive Summary of only one of these [4]. This document presents the findings of a technical audit of eleven of the largest electricity distributors in South Africa but the auditors state that “we often found that we were dealing with incomplete, inaccurate, or estimated data and information.” The audit report does however make the observations that, in respect of ‘large municipal undertakings and metros, “Investment in the refurbishment and maintenance processes is insufficient” while they are “Generally well managed at present with a good level of quality of supply”. Referring to ‘smaller municipalities’, the executive summary of the report observes that “Networks are in a poor state of repair and there are some instances where basic contingency requirements are not met.” and that “Very few formal systems are in place for the management of the maintenance process.”

If we accept that the availability of complete and accurate information from a larger group of municipal distributors would be able to confirm that insufficient refurbishment and maintenance work is being carried out on the electrical networks of these organisations and that it is indeed having an adverse impact on the reliability and quality of supply for their customers, it may be instructive to attempt to assess some of the factors likely to be contributing to this situation.

Possible factors influencing maintenance by municipal distributors

Legal aspects

Municipalities are required to comply with a host of legislation while conducting their business. It has been pointed out on numerous occasions that the responsibility and authority for ‘electricity reticulation’ is conferred on municipalities.
by virtue of Schedule 4 B of the Constitution of South Africa. This was further entrenched with the promulgation of the Municipal Structures Act, Act No.117 of 1998. In addition, the Municipal Systems Act, Act No.32 of 2000 [as amended], further requires municipalities to [section 74(1)] ‘… adopt and implement a tariff policy on the levying of fees for municipal services provided by the municipality itself or by way of service delivery agreements,…….’

These legal requirements must thus surely raise questions regarding the authority supposedly conferred on Nersa by the Electricity Regulation Act, Act No. 4 of 2006, or the Electricity Regulation Amendment Act, Act No.28 of 2007, to regulate and control the activities of municipal distributors. This point is raised as Nersa licences distributors to operate under its control and in terms of the licence conditions requires that municipal tariffs are approved by it before implementation. How effectively is this process carried out if Nersa’s own contention is that many municipal tariffs have not been approved? Why then has no action been taken against these distributors who have not complied with their licence conditions? Could it be that Nersa itself does not believe that it has the legal authority to regulate the behaviour of municipal distributors?

This argument can then be extended to other aspects of the municipal performance relating to maintenance activities and quality of supply. The licence conditions stipulate that licensees should comply with the requirements of NRS 047 [quality of service], NRS 048 [quality of supply] and NRS 082 [recommended maintenance policy for electricity networks]. Distributors are required to report annually to Nersa on the relevant ‘D-forms’ on compliance with these standards. Complaints regarding poor quality of supply or service could surely be verified through the use of this data but how many distributors submit valid data and even if they do, what action does Nersa take to enforce compliance. A recent request from the Association of Municipal Electricity Undertakings [AMEU] to its members for copies of maintenance policies that comply with NRS 082 produced a dismal response. This may support the auditor’s view [4] that “Very few formal systems are in place for the management of the maintenance process.” The important issue though is why has Nersa not taken action to ensure that its licence conditions are followed? Is it concerned that it may not be on a sound legal footing if it decided to challenge a non-conforming licensee?

Funding

At the 2003 National Maintenance Summit, it was resolved that the licensee shall, inter-alia:

- Establish replacement costs of electricity distribution assets and make provision for the recapitalisation of at least 2% of such costs. (Where licensees have technically sound refurbishment programs the 2% above will not apply)
- Clearly demonstrate to the NER that allocations made for maintenance in the tariff review are used for such purposes.

In the five years since this summit, how many municipalities have established complete and up-to-date asset databases and on what basis have these assets been valued in order to determine the 2% capital replacement figure to be allowed each financial year? What guidance has Nersa provided to ensure that the process is consistently applied among municipal distributors? Has Nersa called for confirmation from each of the municipal councils’ of the adoption of a maintenance policy for electricity networks that complies with NRS 082 and if such a policy is not available, what actions have been taken to ensure that these councils produce such a policy and abide by it?

Following the 2003 summit, many municipal distributors indicated to their councils that they were required to provide at least 2% of their electricity network asset value for maintenance of these networks. It was the intention, as stated in the resolution above, that distributors ‘clearly demonstrate to Nersa that such provisions are used for the correct purpose’. Due no doubt to the difficulties experienced by these distributors in determining the value of their network asset base, this requirement was probably not often met and Nersa subsequently amended the requirement [5] to be … at least 5% of the total revenue on [sic] electricity sales to be spent on ongoing maintenance and repairs of networks’. There is a veiled threat in the letter sent to municipal managers of the licensed electricity distributors to the effect that ‘We will request the Provincial Auditor-General to report on this if the money is not spent accordingly (on maintenance and repair of networks)’. There is no indication that Nersa will take any more drastic action to enforce this requirement, including possible penalties or withdrawal of a licence, in terms of its own supposed powers. These latter sanctions appear to be reserved only for implementation of ‘illegal tariffs’.

This paper has already explored the huge and increasing demands on municipalities to meet their mandates to their constituents. In committing funds to the important task of maintenance of their assets, it must be understood that the heads of the electricity service in many municipalities are not the final decision makers in approving funding for the many tasks for which they are responsible. Their requests are included in the overall basket of funding for which the politicians and senior officials of the municipalities lay claim and often valid requests for funding have to be excluded in order for the final budget to be restricted to macro limits and achieve overall priorities. In the absence of any firm or punitive action by Nersa, it is understandable that individual councils, which are not a homogeneous body like Eskom, will approach the problem differently. Municipal treasurers are responsible for the total municipal budget and the
municipal managers for the overall performance, not just that of electricity. Many of these decision makers in the municipal environment also just do not understand the problems which arise from the lack of maintenance of sophisticated technical assets.

Electricity Distribution Industry restructuring

The proposed restructuring of the electricity distribution to meet the Cabinet’s vision of six autonomous regional electricity distributors to serve the whole of South Africa has progressed very little since it was first mooted. Despite the establishment of an EDI Holdings company to plan and implement the decision, municipalities have still not received clear answers to their concerns such as access to future funding, compensation for their assets and governance arrangements to enable them to meet their obligations.

It is thus understandable that the uncertainty has resulted in some municipalities being reluctant to spend greater levels of resources on a service they may lose.

Human Resources

The level of the skills shortage in South Africa is well known and it continues to receive significant media coverage. Two years ago national government launched the joint initiative on priority skills acquisition (Jipsa) and apparently significant funding was made available to increase the level of training in the country. The impact of any of this funding has yet to be seen in a municipal electricity environment.

Municipal distributors have been particularly hard hit by the loss of key skills from the electricity distribution industry, either through emigration or the result of the transformation of the workforce to achieve employment equity targets. The loss of these skills has not been matched by an increase in training of new skills and the difficulties in accessing training funding through recognised training authorities are legion.

The 2003 summit recognised then that skills shortages were an issue when it resolved that the ‘electricity industry’s role’ was to give guidance on the development of ‘An intensive skill [sic] development and training program for technical staff’. Such broad statements are essentially useless unless it is clear who was to be responsible for developing this programme and who in the ‘electricity industry’ would provide this guidance. Despite years of Eskom and the AMEU collaborating to attempt to standardize training in the distribution portion of the industry, little progress has been made with statutory bodies supposedly responsible for developing the training material. If the process of centralisation of training in a municipal environment continues, the industry will no doubt witness the closure of more of the municipal electrical training schools and even fewer artisans being trained than at present.

Procurement process

All municipalities are required to have and implement a supply chain management policy for the procurement of good and services that complies with the Municipal Finance Management Act, Act No.56 of 2003 and any prescribed regulatory framework for municipal supply chain management. While such procurement processes should not in themselves have created a problem, in practice their application has had a considerable effect in some municipal environments with:

- The supply of equipment and spares for the operation and maintenance of electricity networks. Appalling examples exist of processes where municipal electricity specialists produce specifications and request for products or services but are then excluded from the evaluation and adjudication of tender bids. These practices have resulted in equipment and material being delivered that is not to specification or the successful tenderer is a once-off supplier that is unable to deliver the required products. Examples also exist of spares that can be purchased from local retailers at prices considerably lower than tender prices but equipment stands unusable for months as successful suppliers are unable to deliver.

- Another of the 2003 summit resolutions [3] directed at licensees required that they ‘investigate the outsourcing of some maintenance functions whilst maintaining overall oversight where skills shortages are experienced’. Although this would be a logical route to follow by management when faced with serious skills shortages, the practice has not always produced the results that would be expected. Many municipal policies require that such outsourcing be provided by SMME’s with a strong BEE focus. Again, while there is no problem with the principle, practice indicates that many of these organisations are lacking in technical and managerial ability and experience. The problem of outsourcing but not achieving the desired [maintenance] results is exacerbated by the lack of managerial and technical resources within many municipalities to provide the oversight role and transfer skills to the smaller companies providing the services.
Conclusions

This paper has set out to highlight the fact the municipal electricity environment is highly complex and not characterized by a homogeneous set of rules and actions consistent with a large organisation such as Eskom. Despite this, it is our belief that most, if not all, municipal electricity managers strive to conduct maintenance and refurbishment of the electrical network under their control to the best of their abilities and available resources. They attempt to do this in an environment that is characterized by:

- Strong political influence in which they must compete for scarce financial resources while (frequently) cross subsidizing the provision of other municipal services;
- A lack of clarity on the role of the regulatory authority resulting in many municipalities believing they can ignore directives and licence conditions;
- Confusion and concern by municipalities regarding the impact of the proposed electricity distribution industry restructuring on their future income from electricity revenue as well as their authority for provision of this essential service to their constituents;
- A significant lack of funding and human resources to carry out network maintenance and refurbishment programmes. Outsourcing of some of this work had added its own sets of challenges.

It is unlikely that many of these factors can easily be addressed in the fragmented municipal electricity environment without significant political direction. The most valuable route to follow prior to the industry being restructured would be to clarify the authority of Nersa to require that licensees comply with their licence conditions under the threat of action and sanction that will be taken seriously by the municipal authorities. Until this happens, municipalities will continue to believe that this authority rests with them.

This analysis of the issues affecting maintenance in a municipal electricity environment should make it abundantly clear that our industry is floundering and that there is a desperate and urgent need for high profile and energetic leadership with a passion for the industry and a determination to solve the issues with political and Government support. Failure to remove the obstructions and non-performing processes and procedures will see the industry continuing to stumble from crisis to crisis and incapable of effectively performing its core function.

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References