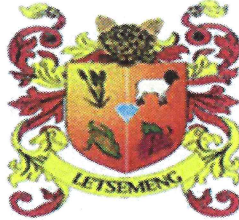


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ELECTRICAL CHALLENGES THAT LEADS TO FREQUENTLY INTERRUPTED SUPPLY IN KOFFIEFONTEIN.

BACKGROUND.

Koffiefontein is supplied by Eskom via 132/11KV Substation. It exceeds allocated NMD during winter season from 3.3MVA to 3.7MVA as electrical power demand becomes higher during winter. Eskom, Letsemeng LM Management and Council had a meeting engagement. Eskom outlined and explained the cut off mostly during peak hours as this is a nationwide problem.

CHALLENGES/PROBLEMS.

Eskom control room located in Petrusburg automatically detect the high electrical power consumption. To save and protect the infrastructure from been damaged due to overloading, excessive penalties that Municipality will pay due to much exceeding the allocated NMD, Eskom takes steps to switch off power during the peak hours/ High demand hours and to relieve pressure on their power grid.

Letsemeng Local Municipality power system is under severe pressure with network overloading, the cold weather has added an extra load to the power grid, with high number of illegal connections. We have been battling, particularly in the residential areas where there are bypassed electrical meters, other theft related matters and vandalised infrastructure. The Municipality has high-density areas where we have a lot of illegal connections and overloading. When the infrastructure gets overloaded we get a lot of transformer/infrastructure exploding due to the overload. This has led to prolonged power interruptions. Overloading of networks has led to continuous tripping, thus affecting the overall quality of supply to Koffiefontein. This requires increased maintenance cycles and affect the lifespan of the equipment. Overloaded networks had created unsafe conditions on overhead lines. Thermal overload conditions has led to increased sagging of overhead

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conductors, thus compromising safe clearance conditions and resulted in frequent power failures.

PROJECTED/ONGOING SOLUTIONS

- **BYPASSED METERS.**

Letsemeng Local Municipality electricity grid due to bypassed meters and other electrical theft related activities is unnecessarily overloaded, resulting in severe compromise of the lifespan of the network due to some customers utilising free uncounted capacity.

Letsemeng Local Municipality to commence electrical meter audit on Monday, 22 June 2020. The meter audit is necessary to stabilise the infrastructure by replacing all bypassed meters so as to maintain our allocated NMD and to minimise power consumption in order to save our low Voltage infrastructure.

- **REFURBISHMENT AND UPGRADING OF KOFFIEFONTEIN SUBSTATION AND CONSTRUCTION ON NEW 11KV BULK FEEDER LINES.**

Koffiefontein switching station has begun to reveal degradation in reliability performance, reduced safety margins, functional inadequacy and general deterioration which also contributes to frequent power failures.

There is currently ongoing project which is projected to strengthen and upgrade the ampere and capacity. The new breakers will be able to handle the load even during peak hours/winter season with increased reliability, highly safety margins. Municipality is currently engaging Eskom to increase the NMD. New 11KV Bulk Feeder lines that is built to 252 stands will allow free capacity. The West Feeder which is more overloaded is supplying half of Koffiefontein town and most of the location will be De-Loaded and some of the capacity will be loaded to 262 Feeder. This solution will permanently mitigate the overloading problems.

- **PROCUREMENT OF TWO 200 KVA TRANSFORMERS**

Municipality has procured two 200 KVA transformers, these two transformers will be used to support the current transformers and to some extent stabilise the electricity supply. The transformers will be installed between the 19th and 21st June 2020.

CONCLUSION

Infrastructure overloading is a Nation Wide challenge in South Africa, not only in Koffiefontein. Communities are urged and encouraged to use electricity very sparingly and responsibly.

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There is a council resolution which was taken on the 31 January 2020, where it was requested that Councillors call community meeting to inform community about this NMD issue and to encourage communities to use electricity sparingly.

Issued by:

A handwritten signature in blue ink, appearing to read 'SJ Bahumi', is written over a horizontal line.

SJ Bahumi

Acting Mayor