THE STATUS OF NRW REDUCTION IN THE CITY OF TSHWANE

JJ Reyneke1, T Makwela1**, N Meyer1***
1WRP Engineers, PO Box 1522, Brooklyn Square, 0075
*E-mail: hannesr@wrp.co.za
**E-mail: tumelom@wrp.co.za
***E-mail: nielm@wrp.co.za

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Various initiatives over the past 5 years were undertaken to reduce and quantify The City of Tshwane’s non-revenue water.

Industrial / Commercial Audits
Industrial and commercial audits were undertaken in 18 areas with an addition to the top 300 Tshwane water consumers. From the 3621 stands audited, 5623 meters were located where 779 of those were found to be vandalized or malfunctioning. 4440 connections located with 119 unmetered connections and 260 leakages before or at the meter installations. Meter audits and subsequent meter installation exercise has been a great success. In total, the increase in metered consumption was approximately 700 000kl/year and the project resulted in an additional income for Tshwane of approximately R8.5million/year. During these exercises, consumer leakages were identified and consumer meter logging was implemented to identify the minimum night flow for that consumer.

Pressure Management
Pressure management has been used extensively by the City of Tshwane over many years. In addition to this, further pressure management initiatives are continuously identified which involves further pressure reduction in areas with high pressure and installation of pressure controllers on some of the existing PRVs. Savings from pressure management over the last 5 years within 12 PRV zones were calculated at approximately 2million kl/year that resulted in a saving of approximately R10million/year.

Visual Leak Detection
Visual leak detection and replacement of faulty meters in Tshwane in low cost housing areas has proven to be very successful. A total of 190 meters were replaced, 857 leaks were located on meter installations, 55 on meter connections and 45 leaks on the main reticulation, isolating valves and fire hydrants. Payback periods for visual leak detection exercises in Tshwane are typically less than 12 months.

Summary
In summary, this paper will highlight the importance of monitoring the impact on NRW by implementation of various initiatives. It will also illustrate the potential increase in metered consumption and reduction in leakage that municipalities may achieve through undertaking similar exercises.