Steps for Non Revenue Water (NRW)

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Understanding the situation

The first step in executing a successful and effective NRW plan is to understand the situation and create a management program. Starting with a quick assessment of the network and focusing on the water balance, we create a Non Revenue Water analysis and then we provide our guidelines and our strategy for the steps that need to be done.
The report to be created, provides information on the water that seems to be lost from the network. In order to generate the report we review and analyze all the data provided as well as the data from the field. Data evaluation will provide us a better understanding of the level of losses, the hydraulic behavior of the water supply system, as well as the magnitude of real and apparent losses. With this report we have a solid foundation through which we can plan the steps to be followed in order to reduce NRW.

Make it happen

There are 2 basic steps in order to achieve our goals. The first one is to quickly apply small key managerial and technical changes into the system in order to enhance its operation as well as to achieve benefits and reduce the losses. After the successful application of the first step we move on to the second step were projects of a more extensive range are facilitated, such as partial infrastructure replacement.

How is it done?

01	Break it into pieces

In order to be able to handle the overall problem of the network and apply the aforementioned strategies we need to break it down into smaller ones. Creating zones and Districted Metering Areas DMAs throughout the network is one of the most successful strategies, in order to manage every zone independently, understand and control the operation of the network and reduce the water losses. It is faster, easier and more efficient to manage and operate smaller zones, and therefore significantly reducing the response time on leaks and burst repairs.

02	Let the technology help

With the use of software we can analyze all the collected data from the DMAs. Using worldwide proven software and methods (like the IWA water balance) we can focus on the areas of interest. Through the continuous collection of data from the network we are able to create accurate mathematical and hydraulic model which will help us fine-tune our strategy as well as provide an asset performance tool. We will be able to monitor the changes of each of the actions on the moment of implementation and this way we define the overall operation of the network. Resulting all the above we can generate an accurate performance report for each step as well as in total.

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03 Too much pressure

It is commonly aware that the application of pressure management into a system is the most important step into the reduction of leakage with a direct result in the reduction of bursts as well as the life expansion of the network. The reduction of excess pressure throughout a DMA improves the operation of the network, reduces the costs of operation while at the same time provides sufficient flow and pressure to the customers. Through our prolonged experience with pressure management systems, we are able to select the most effective method for each different area and type of pressure problem in particular.

05 Do we meter right?

Meter Management is also a crucial step in the reduction of apparent losses. Through the replacement of water meters with new ones that complies with the requirements of the network, we are able to minimize meter under-registration and provide additional revenue. The use of better metering devices improves and increases the revenue while at the same time reduces the NRW. Additionally with the use of AMR (Automated Meter Reading) we are able to gather accurate consumption data, reduce invoicing time and provide improved water balance. The use of AMR delivers better services to the consumers as leaks or bursts can be indentified quickly, consumption data can be available online and any problems are quickly aware of.

06 Someone is cheating

Through the education of the customers and the implementation of the previous steps, the use of the hydraulic model, we will be able to identify any illegal connections or frauds in the network. Our goal is always to minimize these connections.

07 Replacement

With the successful implementation of our strategy and the reduction of losses throughout the network and the total enchantment of the whole system, large replacement projects can take place in order to guarantee long term operation of the network.

04 Where is the leak?

The largest percentage of leaks cannot be seen. Usually we repair leaks only when they come up to the surface and they become visible. But what happens with all the leaks in the systems that are not visible and generate the major volume of real losses? With the implementation of an Active Leakage Control program and in combination with the previous steps we are able to locate all those leaks that have been running for very long time and have create a negative water balance. With the use of specialized equipment, continuous training of the personnel we are able to pinpoint and repair those leaks. Active leakage control is and should be a continuous procedure, and it is an important part of our NRW strategy.

08 Reduce your carbon footprint

With the reduction of physical losses and the improvement on the operation of the network we minimize the energy required for the system to operate, thus reducing the carbon footprint of the Water Supplier.

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