Measurement for Success

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Belize Water Services Limited
CASCAL COMPANY PROFILE

• A nv Nuon, Biwater Plc Joint Venture
• Own, operate and develop a range of Water Company Investments
• Experienced International Operator in Water and Wastewater
• Portfolio of highly efficient Water Companies Worldwide
BELIZE WATER SERVICES LIMITED

- The total area of Belize is 22,965 sq km (8,867 sq miles) twice the size of Jamaica
- In this small, essentially private enterprise economy the tourism industry is the number one foreign exchange earner, followed by cane sugar, citrus, marine products, bananas, and garments
- Population - 266,440 people (25% of Jamaica)
- Unique challenges - sparsely populated areas
CHALLENGES

- Interrupted Water Supply > 50% of Customers
- Water Sales per Customer very low
- Non Revenue Water > 50%
- Illegal Connections - known problem
- Infrastructure - poor condition
- Staff - Public Utility mentality
- Management Information - not reliable
- Billing System - inadequate
WHAT WERE THE PRIORITIES ?
Year 1 = Constant Water Supply

$$$$$$
• Increased Non Revenue Water > 60%
• Sales increased, but below expectation (average per customer - 15 m³/month (3600 US gallons))
• Illegal connections increased considerably
DECISION ON FUTURE OF BWS

- Infrastructure
- Billing System
- Measurement
- People
INFRASTRUCTURE INVESTMENT

- Replace the poor
- Improve on the present
NEW BILLING SYSTEM

- Customer Survey
- Database
- Categorise
MEASUREMENT

Macro Metering

- Zonal measurement
- Where was all the water going to?
- District Metering
Result

Total water into supply
Minimum Night Flow
Water Sales
Non Revenue Water – Technical / Non-technical
BELIZE WATER SERVICES LIMITED
WATER PRODUCTION vs WATER SALES

Jan-02  Feb-02  Mar-02  Apr-02  May-02  Jun-02

Production (cub.m)  Sales (cub.m)
Micro Metering

- Discrepancy
- First reaction - change all meters
- Cautious approach - Pilot Projects
- Downsize
Pilot Projects

- Key Accounts
- San Pedro
- Representative Domestic Areas
- Imperial Gallon Meters
Results - Meter Change Trials

- Mixed Results
- Key Accounts - Payback within 6 months
- Imperial Gallon Meters – Min. 18% increase
- San Pedro Island - 20% increase in sales
- Overall minimum 15% gains sales on average
SAN PEDRO ISLAND
WATER PRODUCTION vs WATER SALES

Non Revenue Water = 6%
INVESTMENT IN PEOPLE

Meter & Billing Process
- Meter Readers
- Meter Changers
- Customer Service Agents
- Disconnection Staff
- Billing Staff
- Bill Delivery Team
- Illegal Disconnection Team
- Audit

Get anyone of these wrong and the process will fail !!!!
CHOICE OF METER

• Several world class meters on the market
• Looked for one that was fit for purpose
  • Reliability
  • Efficient at all flow ranges
  • Value for money
  • After sales service
  • Difficult to tamper with
  • Cope with water quality
  • AMCO
IN SUPPORT OF METER CHANGE

- High consumption complaints rose dramatically
- Media wrongly accused BWS of raising the water rate

*BWS do not relish the bad publicity, but it is proof that meter changing, if correctly controlled using good quality meters, makes good business sense*
Measurement to Success

- Understanding
- Measurement
- Result
- Firefighting