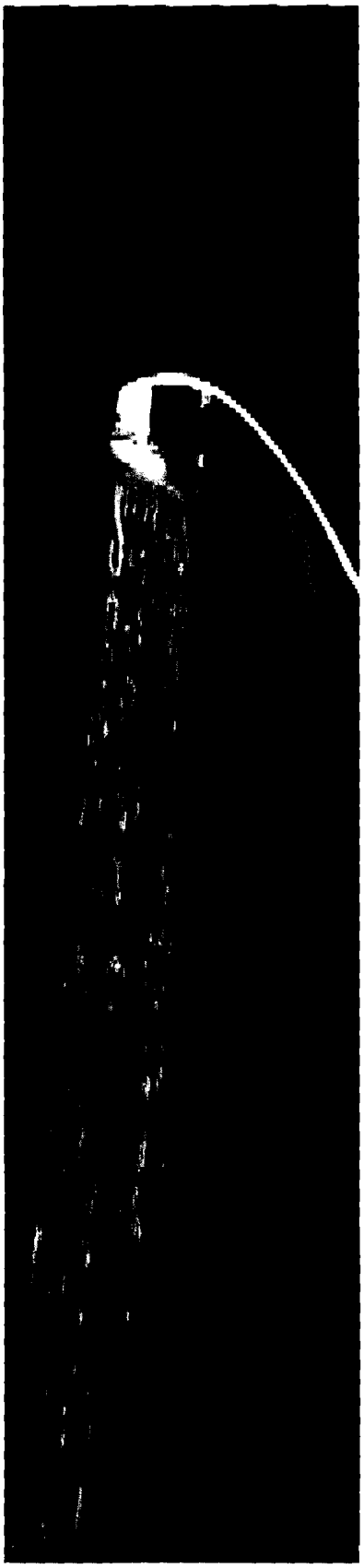

Smart Grid Applications To Water Agencies

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08-DR-1
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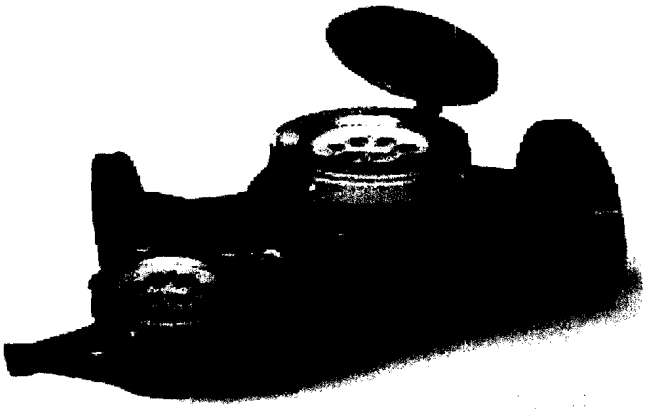
CEC Docket 08-DR-01

Load Management Standards-Smart Grid

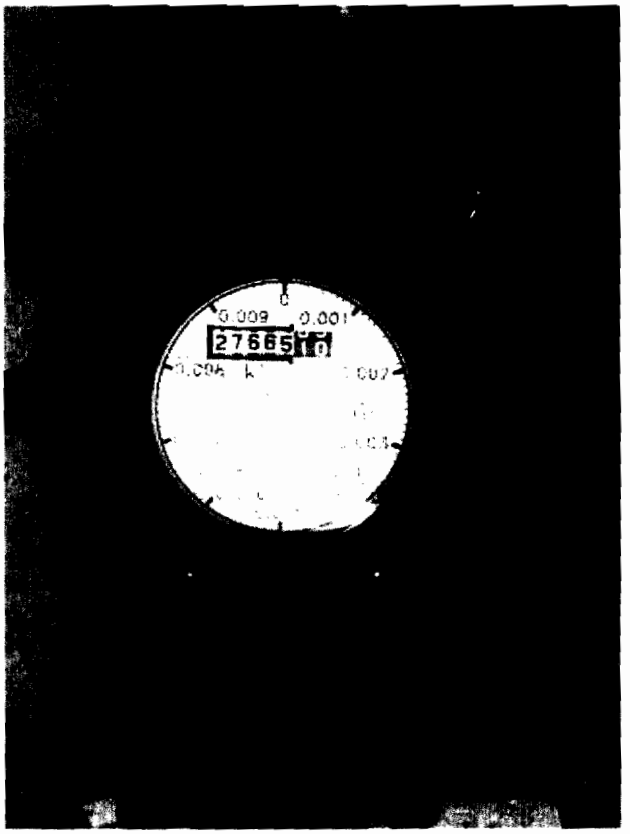
April 29, 2007 Workshop

Same Operational Benefits - Electricity and Water



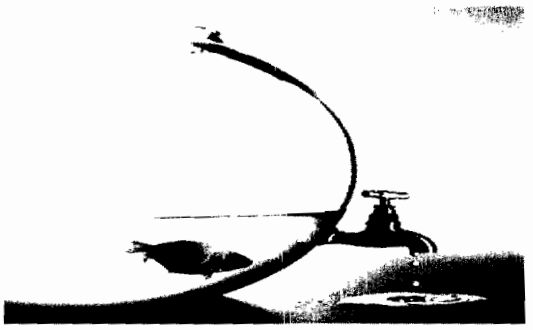
- reduced meter reading costs
- reduced costs associated with field visits and customer calls
- improved billing accuracy and improved cash flow
- improved outage information and response
- more efficient asset management and distribution engineering design.

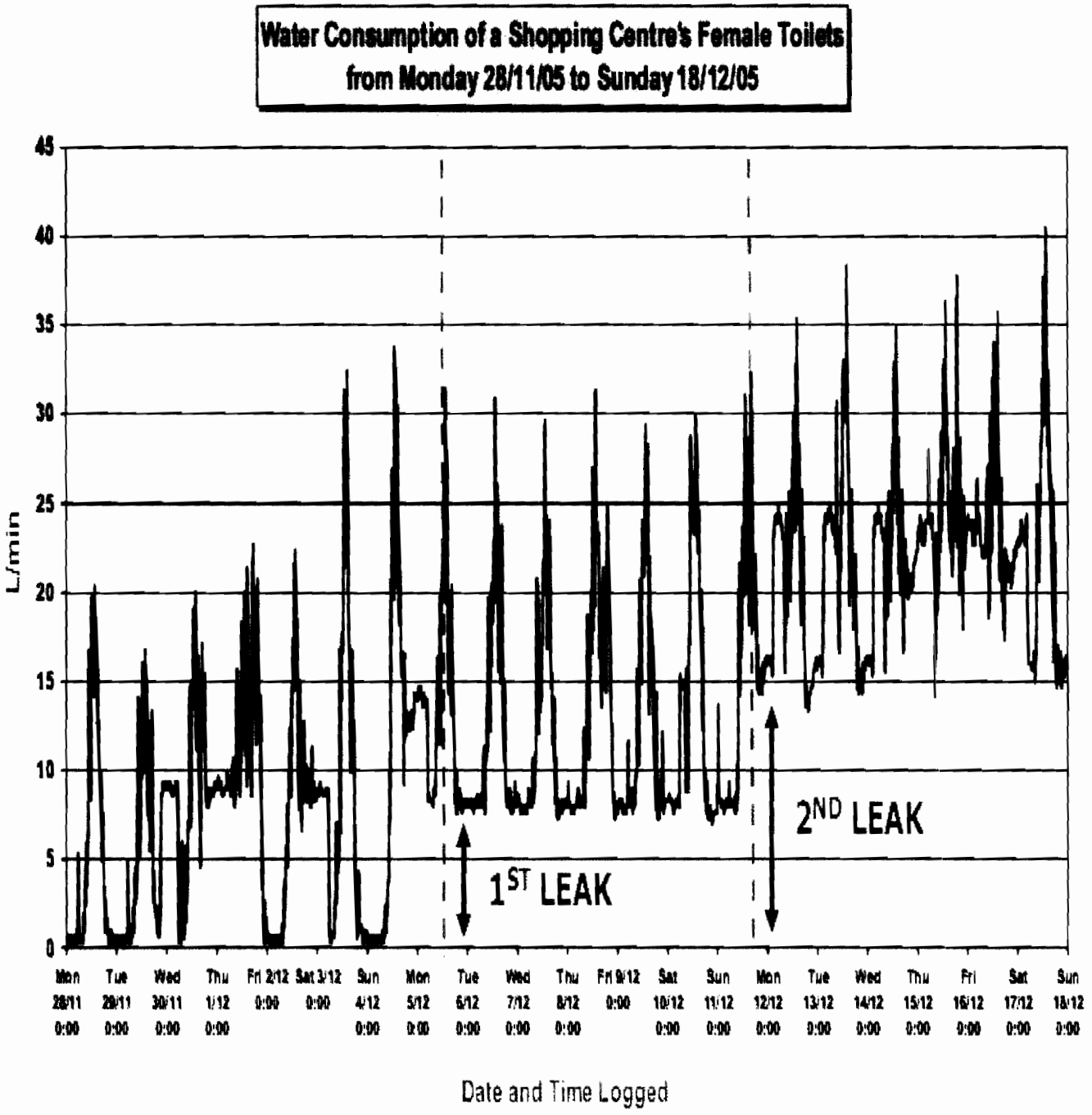
The Use of Water Smart Meters



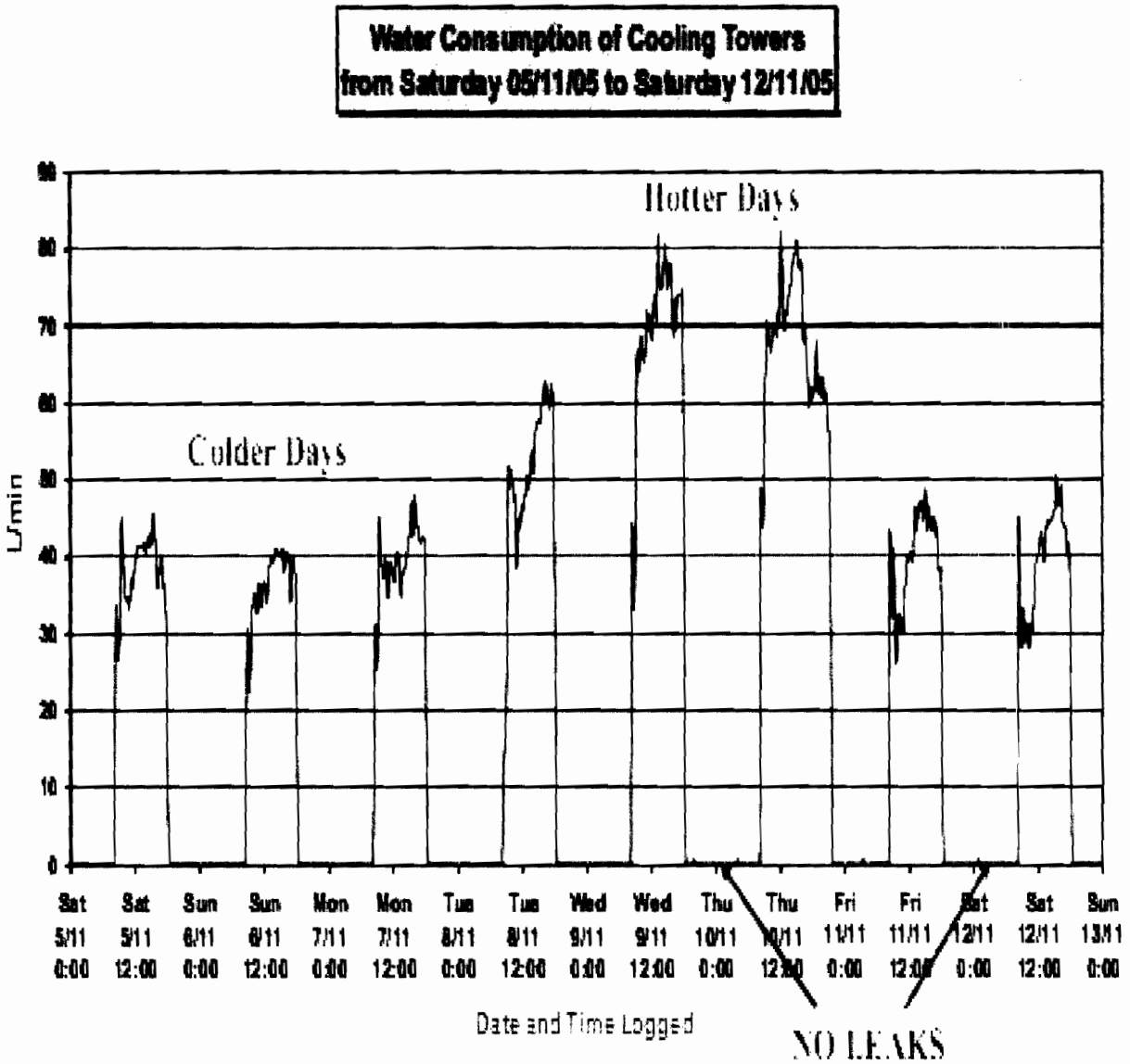
- Improve the understanding of water consumption and flow patterns
- Track and predict changes in trends and demands
- Highlight anomalies
- Warn of high or low flows
- Identify leaks or other waste minimization opportunities
- Shift water consumption to other parts of the day

Finding Leaks





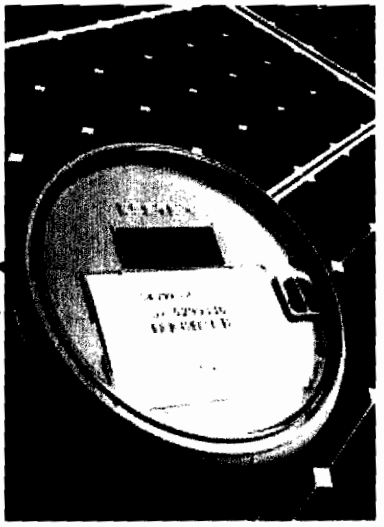
Better Water Use Prediction



Smart Grid Applications To Water Systems

- Detect size and location of leaks in mains
- Remotely identify location and extent of water main breaks
- Control water loss during breaks
- Restore service after outage
- Reduce electricity use and cost
  - leak detection
  - off peak use
- Reduce chemical use
- Monitor compliance with watering restrictions
- Increase theft detection

CEC 500-07-022 ACWA Smartmeter Case Study



- Signed by the Commission on April 4th and currently at DGS for final approval.
- ACWA (Association of California Water Agencies), Water & Energy Consulting, Coachella Valley Water District
- Emphasis upon peak electrical demand reductions
- Case Study
  - Installation of TOU (smart) customer water meters in City of Palm Desert
  - Catalog of water smart meters, capabilities, characteristics, costs, and installation
  - Integration of smart meters into water agency operations
  - Development of TOU water rates
  - Assessment of water use shift out of summer afternoon period
  - Impact of water use shift on agency operations
  - Peak electrical demand reduction impact