Smart Metering

Conservation the Easy Way?

Presented By:

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Overview

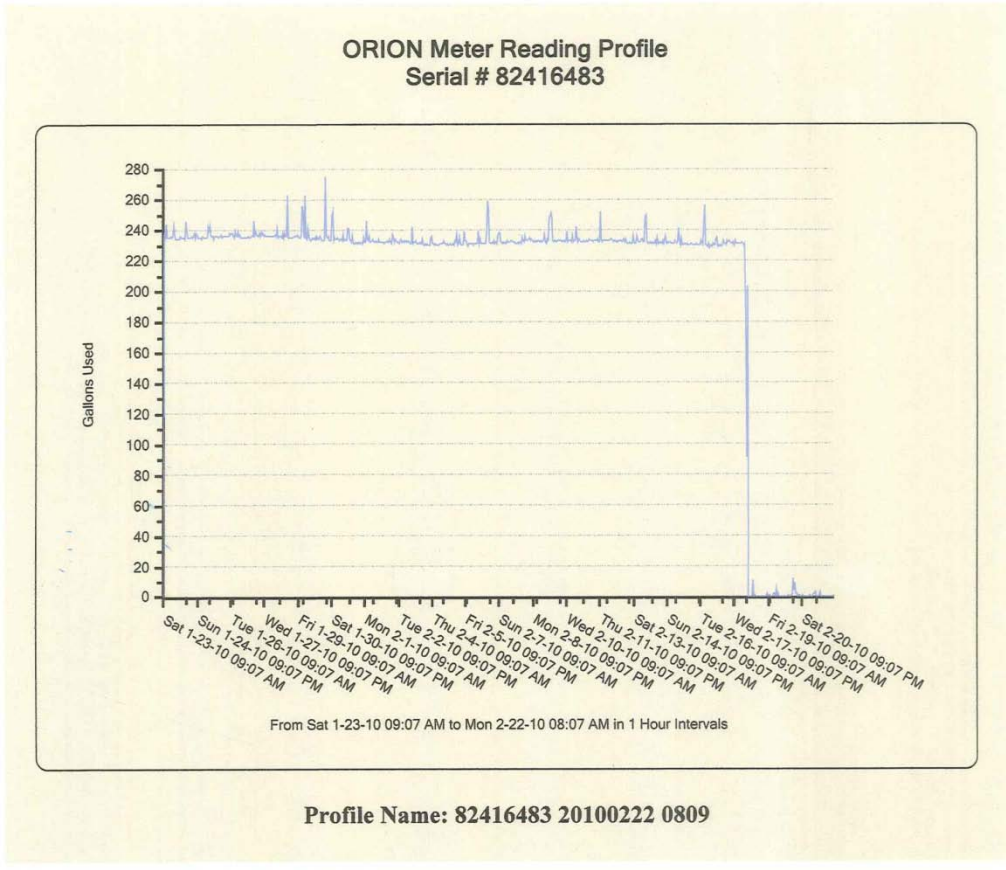
- Why Meter?
- Funding
- Case Studies
- Construction
- Summary and Questions

Why Meter?

- Conservation
  - Reaching System Capacity
  - Reduce High Water Use
- Cost Recovery
  - Power Costs
  - Deferred Capital Improvements
  - Reduced O&M

Why Meter?

- Service Line Leaks
- Stipulation for Funding
- Fairness/Equity
  - Allocate costs more fairly



Funding a Meter Project

- Grant $ - Green project
- SRF – Preference
- USDA RD - Required

Case Studies

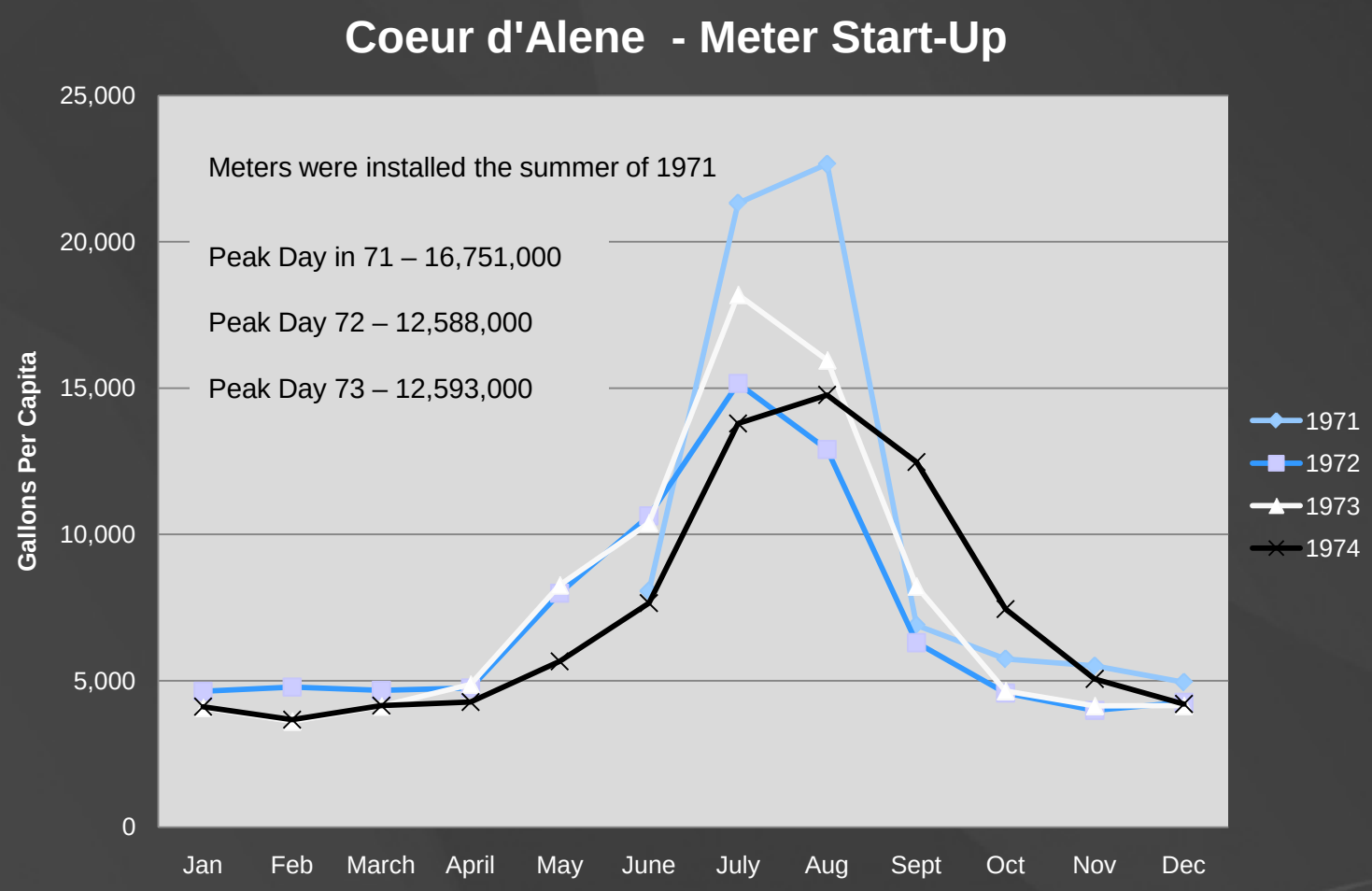
- Coeur d'Alene, ID
  - Metered in 1971
- Kingston Water District, ID
  - Metered in 2009

Water Use for Coeur d'Alene

When Ralph Capaul (Idaho Water Company – Coeur d'Alene) was asked why a metering system was chosen he said that "Consumption was getting away from us."

- *Population in 1971:*
  - *16,500*
- *Average Annual per capita water before meters:*
  - *1971 – 104,000 gpc*
- *Average Annual per capita water use after meters:*
  - *1972 - 85,000 gpc*
  - *1973 – 91,000 gpc*
  - *1974 – 87,000 gpc*
- *An average reduction of 16% over three years*

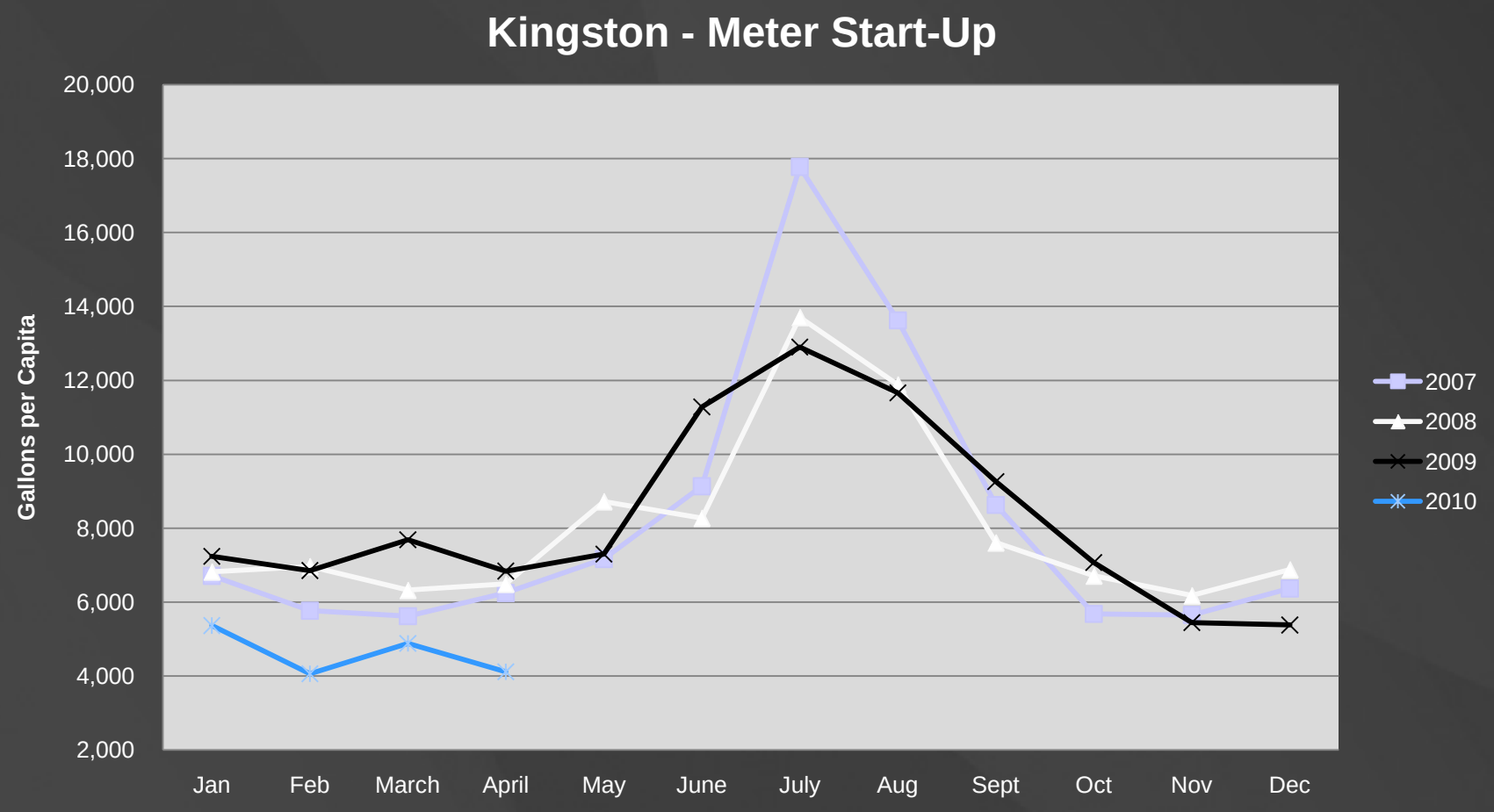
Annual Water Use for Coeur d'Alene



Water Use for Kingston

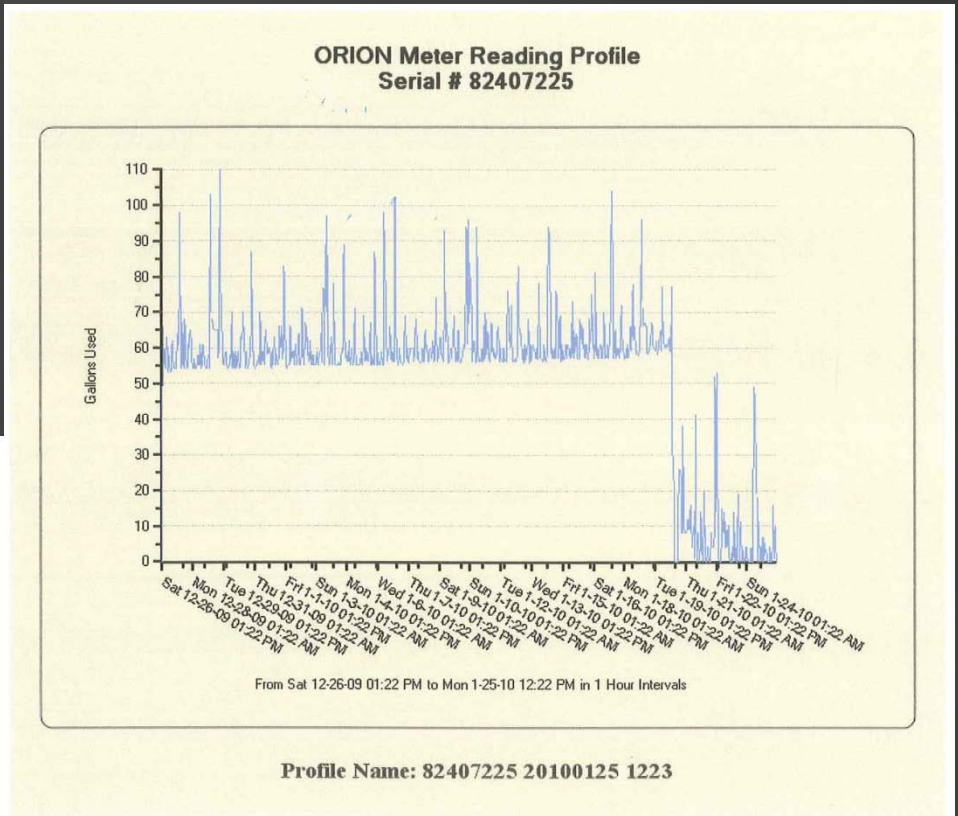
- *Population in 2010 – 530*
- *Started Metering program in 2009*
  - *Mock Bill in January 2010*
  - *Started Billing in February 2010*
- *Average Annual per capita water before meters*
  - *97,500 gallons*
- *Average Annual per capita water use after meters*
  - *Estimated: 66,000 gallons (4 months of data)*
- *An Average Reduction of 32%*

Annual Water Use for Kingston



Kingston Waterline Repairs

- *Identify Leaks*
- *Reduce Lost Water*
  - *KWD January Gallons Pumped*
  - *2010 - 2,856,552*
  - *2009 - 3,853,056*
  - *2008 - 3,632,772*
  - *2007 - 3,573,078*



ORION Profile Viewer - Copyright 2010 Badger Meter,Inc.

ORION Meter Reading Profile
Serial # 82407225

Read #	Read Time	Gallons Used
46	Mon 12-28-09 10:22 AM	61
47	Mon 12-28-09 11:22 AM	54
48	Mon 12-28-09 12:22 PM	55
49	Mon 12-28-09 01:22 PM	61
50	Mon 12-28-09 02:22 PM	59
51	Mon 12-28-09 03:22 PM	57
52	Mon 12-28-09 04:22 PM	55
53	Mon 12-28-09 05:22 PM	54
54	Mon 12-28-09 06:22 PM	54
55	Mon 12-28-09 07:22 PM	58
56	Mon 12-28-09 08:22 PM	58
57	Mon 12-28-09 09:22 PM	54
58	Mon 12-28-09 10:22 PM	103
59	Mon 12-28-09 11:22 PM	67
60	Tue 12-29-09 12:22 AM	68
61	Tue 12-29-09 01:22 AM	66
62	Tue 12-29-09 02:22 AM	65
63	Tue 12-29-09 03:22 AM	65
64	Tue 12-29-09 04:22 AM	65
65	Tue 12-29-09 05:22 AM	65
66	Tue 12-29-09 06:22 AM	65
67	Tue 12-29-09 07:22 AM	57
68	Tue 12-29-09 08:22 AM	61
69	Tue 12-29-09 09:22 AM	110
70	Tue 12-29-09 10:22 AM	76
71	Tue 12-29-09 11:22 AM	70
72	Tue 12-29-09 12:22 PM	58
73	Tue 12-29-09 01:22 PM	55
74	Tue 12-29-09 02:22 PM	57
75	Tue 12-29-09 03:22 PM	58
76	Tue 12-29-09 04:22 PM	59
77	Tue 12-29-09 05:22 PM	55

Meter Construction Projects

- Determine Type of Metering System
  - Manual Read
  - Automatic Meter Read
    - Mobile
    - Fixed

- Procure Meters First?
  - Pros:
    - Control over Materials
    - Control over Installation and Tracking
    - Schedule
    - Coordination with Billing Software
  - Cons:
    - Two sets of Bid Documents
    - Additional Engineering/Administrative Costs

Meter Construction Projects

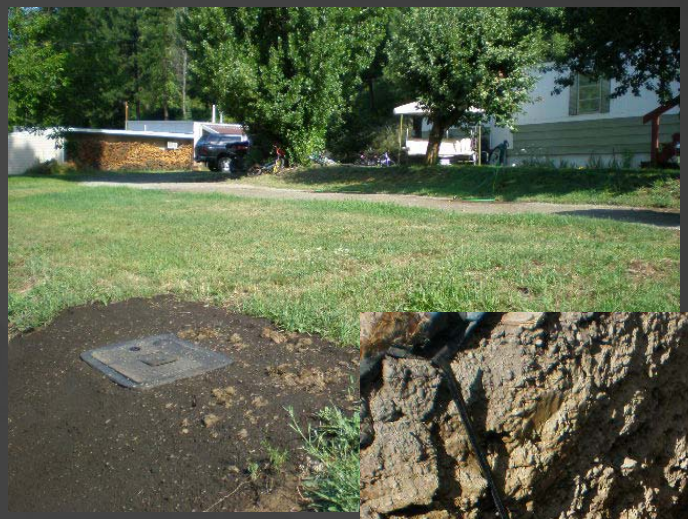
- Challenges
  - Public Relations
  - Lots of mini projects
  - Coordination with each property owner
  - Detailed project tracking
  - Challenge to control costs
    - Unknown materials and service line location

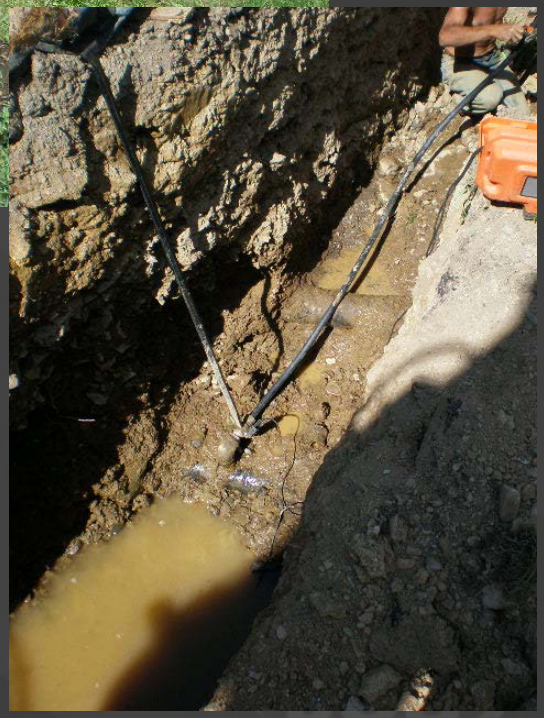
Construction Lessons Learned

- Observation
  - Requires full time observation, someone with knowledge of the system

Construction Lessons Learned

- Tracking
  - Complete installation sheets daily
  - Surface Repair





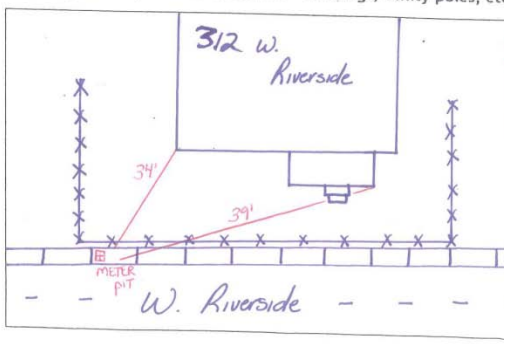
Construction Lessons Learned

Central Shoshone County Water District
Detailed Meter Pit Installation

Please provide information given:

Install Date:	5-3-10	Service Line Material and Size Between Main and Meter:	
Start Time:	7am		
Finish Time:			
Account Number:		Service Line Material and Size Between Meter and Service:	
Customer Name:			
Service Address:	312 W. Riverside	Completed Meter Pit Installation (CSCWD):	K
Meter Reading:	0	Completed, Tested Meter Installation (CSCWD):	CA
Module ID:	82304389	Final ICP Review (PHD):	Sand
Meter ID:	36075012		
Meter Mfg. & Model:	RCDL 25 5/8"		

Sketch of Meter Pit Location
(Swing ties to permanent features - buildings, utility poles, et



F:\Projects\20-08-007 Enaville Water Treatment Plant\DOCUMENTS\METER PITS\Specs\Memo_Installation.docx

Pay Items		Quantity
3/4" Meter Service Concrete Box Type and Lid	Ea	1
Additional Depth of Excavation for Meter Pit	FT	
Meter Pit Concrete Surface Repair	SY	
Meter Pit Gravel Surface Repair	SY	
Meter Pit Asphalt Surface Repair	SY	
Additional ____" Service Line (Pipe Only)	LF	
Service Line Installation in Asphalt	LF	
Service Line Installation in Concrete	LF	
Service Line Installation in Sod/Dirt	LF	
____" Service Connection Replacement	Ea	
____" Curb Stop	Ea	
Curb and Gutter	LF	
Concrete Sidewalk	SY	4'x4' x 4"
Exploratory Excavation	HR	

Notes

- INSTALED NEW 3/4" METER, TIED INTO EXISTING
- CUT OUT 4'x4'x 4" OF SIDEWALK

Summary

- Metering Can:
  - Increase Conservation
  - Reduce Lost Water
  - Save $$
- Required for Funding
- Construction
  - Public Relations
  - Observation
  - Tracking

Acknowledgements

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Coeur d'Alene Water Department

Questions?

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