



Municipal  
Conservation

*BMP Program*  
BMP Program

System Audits,  
Metering, &  
Leak Detection

# *Water Meters are Your Cash Registers*

March 10, 2009  
Workshop



Dan Yeo  
Arizona Water Company



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## Dan Yeo, Senior Meter Repairman, Arizona Water Company.

Dan Yeo is serving in his fifteenth year with Arizona Water Company and in his fourth year as the Senior Meter Repairman at the Company's meter shop in Coolidge. The Company currently serves over 83,000 customers. The Company's meter shop had nearly 8,000 new and repaired meters pass through its facility in 2008.



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# "SET IT AND FORGET IT"

Is this mentality with your water meters effecting your lost and unaccounted for water as well as revenues?

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- Where did this mentality get its start?
- Why would it be so important to accurately read your water meters for billing purposes when your meters or "cash registers" are actually registering inaccurately and you have no idea? Water meters are mechanical instruments and wear out primarily with usage and secondly with time.
- IMPORTANT TO NOTE: Everything you see at your utility is being paid for by the accurate registration of your water meters or is NOT being paid for by inaccurate registration of your water meters. Remember, everything in a utility is multiplied.
- How does your new water meter become inaccurate in 60 seconds or less?
  - Poor Product Selection. Do your meters look like a prize from a fast food happy meal?
  - Your meter product has a "new" sales rep every year.
  - Bad application for the account.
  - Poorly trained meter setter personnel. Some water meters are worth thousands of dollars and roll around the back of a work truck like bowling balls. Which generates more revenue, a laptop computer or a water meter?
    - No flush sets. **Never let a contractor set your water meters.**
    - Water conditions: oil, sand, minerals, etc.

Note: Water meters set improperly will still register water, giving the appearance of accurate water registration, however from the initial set they are recording significantly less than the actual usage.



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**Why We are Here!**





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# MATCHING ACCOUNT USAGE WITH PROPER METER APPLICATION

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# MATCHING ACCOUNT USAGE WITH PROPER METER APPLICATION

1 MONTH - \$344.84

1 YEAR - \$4,138.16

5 YEARS - 20,690.80

1/29/08 Arizona Water Company *Small operator - 1 acct !!!* PAGE 5  
9:21:19 Customer Inquiry

Account Number [REDACTED] Parcel# NA Backflow Required Y  
Name [REDACTED] Add'l Inf  
Mail Addr [REDACTED]  
Service Addr [REDACTED] AZ 85603

Service Date 5/13/02 Inactive Date 0/00/00 SurePay Account Status

TRANSACTION HISTORY

Dollar Amount	Usage	Type	Bill Mo/Yr	Addl Info
312.50-		PMTP	4/07	3/28/07
.24		MAP	4/07	MR
327.38		MR	4/07	
	454	MR	4/07	
327.62-		PMTP	5/07	4/25/07
.24		MAP	5/07	MR
322.20		MR	5/07	
	442	MR	5/07	
322.44-		PMTP	6/07	5/24/07
.24		MAP	6/07	MR
285.05		MR	6/07	
	356	MR	6/07	
285.29-		PMTP	7/07	6/28/07
.24		MAP	7/07	MR
363.67		MR	7/07	
	538	MR	7/07	
363.91-		PMTP	8/07	7/26/07
.24		MAP	8/07	MR
708.83		MR	8/07	
	1223	MR	8/07	
	1222	MR	8/07	
	114	MR	8/07	
709.07-		PMTP	9/07	8/23/07
.24		MAP	9/07	MR
516.60		MR	9/07	
	892	MR	9/07	
	890	MR	9/07	
516.84-		PMTP	10/07	METER MR
.24		MAP	10/07	9/24/07
487.22		MR	10/07	MR
	824	MR	10/07	
	824	MR	10/07	
487.46-		PMTP	11/07	METER MR
.24		MAP	11/07	10/25/07
464.79		MR	11/07	MR
	772	MR	11/07	
	771	MR	11/07	
464.99-		PMTP	12/07	METER MR
.24		MAP	12/07	11/26/07
428.90		MR	12/07	MR

*Happy System! Operator!*  
*2" P.C.P. Proper installation*  
*Heart Attack By customer!!*  
*Customer Fixes Leaks Reduces Facility*

*Stressed operator*  
*WAT's on water loss Hist*  
*Bad meter Application How long??*  
*48.0 in 06!!*  
*+42%*



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# WHY YOU NEED A METER MAINTENANCE & CHANGE-OUT PROGRAM

- EVERYTHING IS MULTIPLIED:
  - 1425.8 units times \$2.00/unit = \$2,851.60 revenue for 3 years
  - \$950.54/year
  - 50% of water used is low flow = \$475.27
  - 10% inaccuracy at low flow 1 gpm to  $\frac{1}{4}$  = \$47.53/year
  - Multiplied by 3,000 customers = \$142,590.00 in 1 year
  - In 5 years: \$712,950.00
  - 20% inaccuracy at low flow 1 gpm to  $\frac{1}{4}$  = \$95.06/year
  - Multiplied by 3,000 customers = \$285,180.00 in 1 year
  - In 5 years: \$1,425,900.00
  
- USING CRITERIA ALREADY BEING GATHERED SUCH AS:
  - Accounts & location
  - Meter set dates of installation
  - Register readings
  - Types of meters
  - Establish a system or program to analyze & compare meter accuracy or inaccuracy
  - Implement change-out of poor performing meters
  
- CONSIDER MINIMAL INVESTMENT IN RECLAIMING LOST REVENUE:
  - Testing equipment
  - Tracking forms
  - Technician training; overall educational program regarding the importance of water meters



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# WHY YOU NEED A METER MAINTENANCE & CHANGE-OUT PROGRAM

*Meter C/O PROGRAM TRACKING*

*USAGE Primary - Years secondary -*

*PARAMETERS*

*8*

*COST Acct NAME ADDRESS*

JEPANY

PAGE 1  
-MT9830P-

CHANGE OUT GALLONS 10000  
CHANGE OUT YEARS 10

PREV READ	SINCE INSTALL	IN GROUND	IN SERIAL	MTR TYPE	SYS
14258	14258 *	3	43501202	03	041
14105	14105 *	2	65477508	03	041
5709	13900 *	4	46629291	03	041
12679	12679 *	3	62858688	03	041
12268	12268 *	2	64131578	03	041
12188	12188 *	8	54669548	03	041
12163	12163 *	4	61384994	03	041
25565	12139 *	1	57682235	03	041
15856	12088 *	6	52251796	03	041
22700	12035 *	3	35371395	03	041
11756	11756 *	1	66793281	03	041
11616	11616 *	6	58015999	03	041
11494	11494 *	8	55400663	03	041
11440	11440 *	3	41660461	03	041
8915	11405 *	8	44060088	03	041
12506	11295 *	6	65477575	03	041
23508	11292 *	4	50854095	03	041
5405	11103 *	3	42365018	03	041
10860	10860 *	1	66171885	03	041
10843	10843 *	5	59282693	03	041
10823	10823 *	3	64131862	03	041
4100	10799 *	4	44083545	03	041
10790	10790 *	1	66793202	03	041
10779	10779 *	2	65477543	03	041
10766	10766 *	4	61709899	03	041
1011	10752 *	4	44083612	03	041
10724	10724 *	1	36789691	03	041
10682	10682 *	2	64624228	03	041
10670	10670 *	3	34451488	03	041
10648	10648 *	1	39181225	03	041
10607	10607 *	3	46629374	03	041
10593	10593 *	1	66171399	03	041
10544	10544 *	1	66171446	03	041
6141	10537 *	10	41162091	03	041
10536	10536 *	9	53782217	03	041
10494	10494 *	4	36916105	03	041
10493	10493 *	5	59282675	03	041
10458	10458 *	3	64131461	03	041
30887	10446 *	3	35312127	03	041



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