



EAST BAY MUNICIPAL UTILITY DISTRICT

General Manager's Proposed Budget & Rates FY 2016 and FY 2017

Board Workshop #2
April 14, 2015

Workshop Agenda



- Infrastructure replacement
- Rate sensitivity analysis
- Conservation activities
- Financial impact of 20% reductions
- Excessive use penalty

Infrastructure Replacement



1. Expand pipeline replacement economic analysis
 - Consider pipe replacement occurring at intermediate points, not “time zero” but sooner than 60 years
 - Explain other assumptions
2. Provide information on KPI selection for various asset classes
3. Discuss changes to CIP with more or less funding

Economic Analysis Assumptions

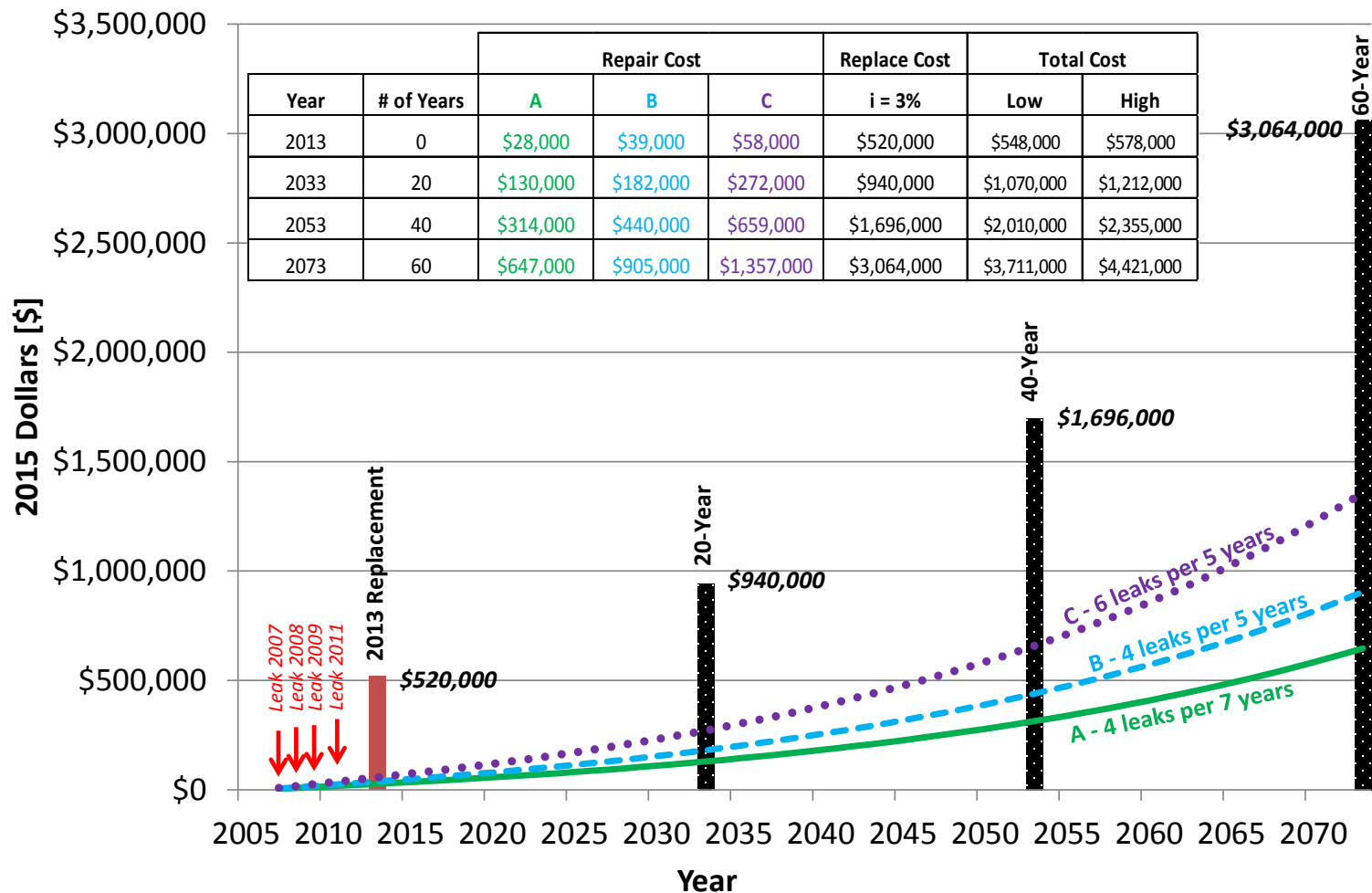


1. Past break rate is a good predictor of future break rate
 - This basic relationship has been observed for many years
 - As more data analyzed, it appears break rates tend not to remain constant but to grow over time; this strengthens the case for prompt replacement
2. Effective interest rate = 3%
 - Unit cost growth for infrastructure has outpaced inflation, growing in recent years at about 8%/yr
 - Borrowing cost is 5%/yr
 - Effective rate is the difference, 3%
3. A new pipe will have few or no breaks for many years after installation

Cost-Effectiveness Example, Refined and Expanded



**Best Ave, Oakland - Repair Cost vs. Replacement Cost Summary
20, 40, and 60-Year Increments**



Current KPI's



- Replace 10 miles of pipe per year
- Recoat, replace or remove 3 steel tanks per year
- Rehabilitate or replace 3 pumping plants per year

KPI Logic



For each asset, Long-term KPI depends on:

- Inventory (mileage or count) of asset
- Average life of asset in years between rehab or replacement
- $KPI = \text{Inventory} / \text{Average life}$
- However in the short term, appropriate rate may vary. Our pipes have not yet reached their expected average life so current KPI of 10 is much lower than long-term value of 40.

Asset	Inventory	Average life (years)	Long-term KPI
Small-diameter pipe	4,000 miles	100	40
Steel tank coating	83	25	$3.3 = 3$
Pumping plants	136	40	$3.4 = 3$

Rate Sensitivity Analysis



	FY16	FY17	Annual Change in Rate Revenue (\$M)	Five Year Change in Rate Revenue (\$M)
Proposed	8.0%	7.0%	-	-
1% Increase	8.0%	8.0%	\$4	\$16
1% Decrease	7.0%	7.0%	-\$4	-\$20

- *A 1% decrease would result in Debt Service Coverage Ratio below the Board's policy target.*
- *Would require additional \$4 million draw from Rate Stabilization Fund.*

Impact on Capital Investment



- 1% Increase—potential CIP acceleration:
 - Water treatment plant improvements
 - Start Central Reservoir earlier
 - Rehab 4 reservoirs/yr instead of 3
- 1% Decrease—CIP deferral:
 - Mokelumne Aqueduct relining and-or Leland Reservoir replacement

Water Conservation Activities



- State Drought Regulations
- Demand Reduction Goals—How We Get There
- Water Waste Reporting And Enforcement

Governor's Executive Order

April 1, 2015



Call for SWRCB regulations:

- 25% mandatory reduction statewide thru February 28, 2016 (sliding scale by residential gpcd level).
- Restrictions for campuses, golf courses, cemeteries to reduce irrigation consistent with reduction targets.
- Prohibit irrigation of ornamental turf on public street medians with potable water.
- Prohibit potable water irrigation for newly constructed homes and buildings that is not drip or microspray.
- Direct urban water agencies to develop rate structures and pricing to maximize conservation
- Require urban water suppliers to provide monthly information on water use, conservation and enforcement

Governor's Executive Order

April 1, 2015 (cont.)



- DWR to update Model Water Efficient Landscape Ordinance:
 - new irrigation efficiency standards
 - promotion of graywater, stormwater capture
 - additional limits on ornamental turf
 - reporting on implementation and enforcement
- DWR to provide funding for 50 million sq. ft. of lawn replacement in underserved communities
- CEC and DWR to implement and provide funding for statewide appliance rebates
- CEC to adopt emergency standards for plumbing fixtures for new and existing buildings

State Board Proposed Mandatory Reduction Levels



EBMUD
84 →

Residential-GPCD*	# of Agencies Reporting	Proposed Mandatory Reduction Level**
<55	18	10%
55-110	126	20%
111-165	132	25%
>165	135	35%

* As of Sept. 2014

** Designed to achieve 25% statewide

State Board Implementation Timeline

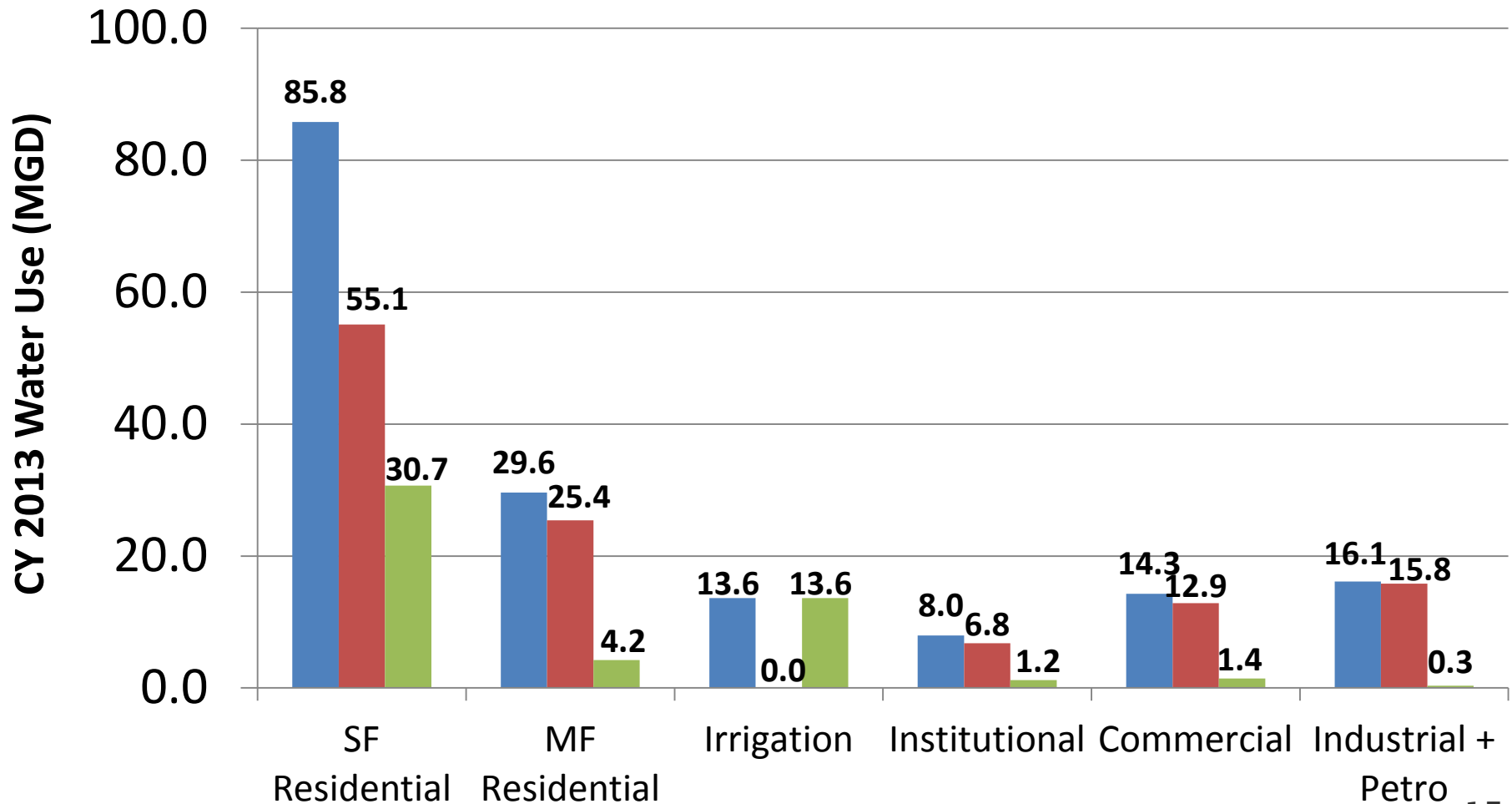


- Draft regulatory framework and request for public comment—April 7, 2015
- Release of draft regulation for informal public comment—April 17, 2015
- Emergency rulemaking formal notice—April 28, 2015
- Board hearing and adoption—May 5 or 6, 2015

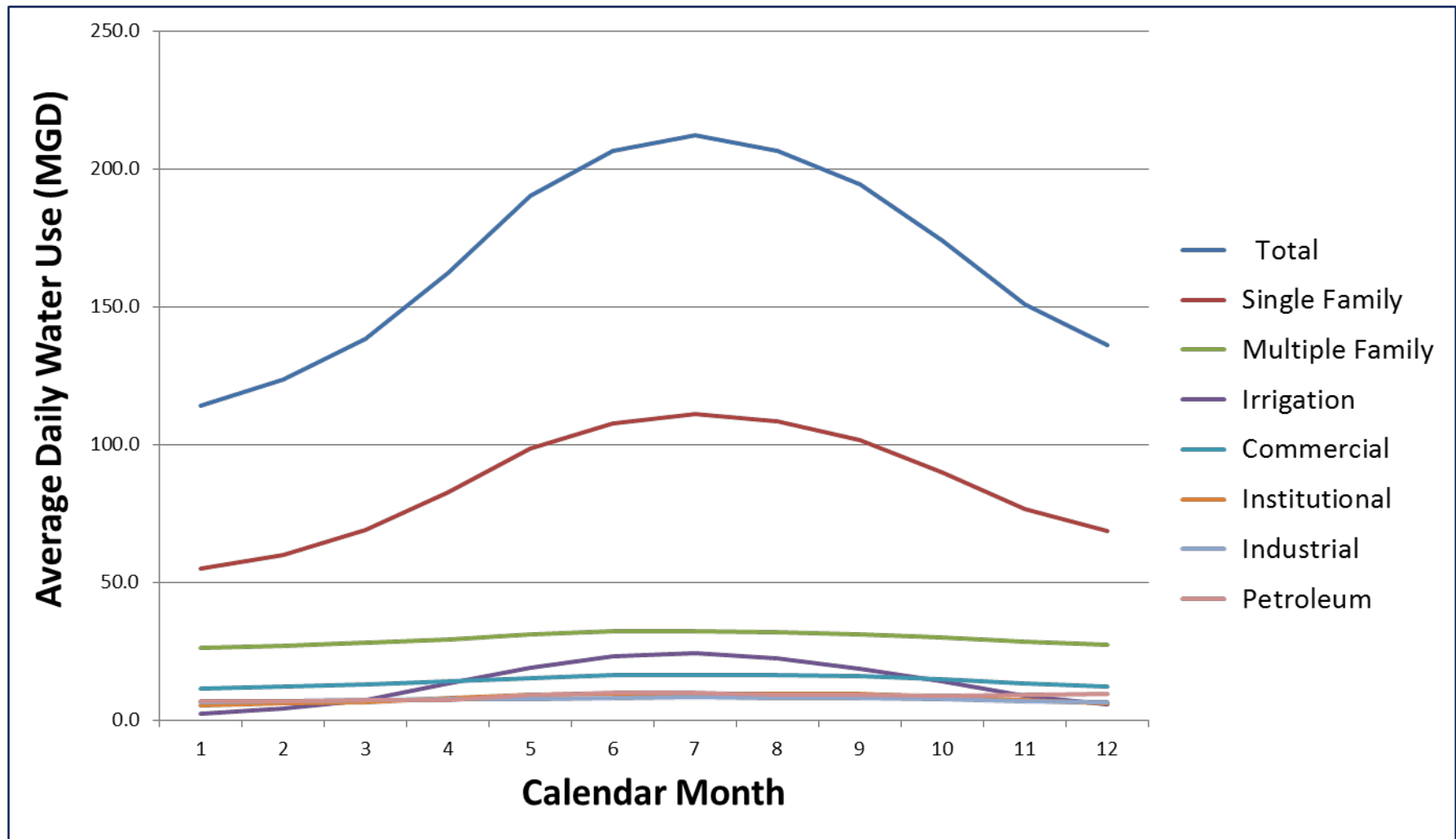
CY 2013 Customer Water Use



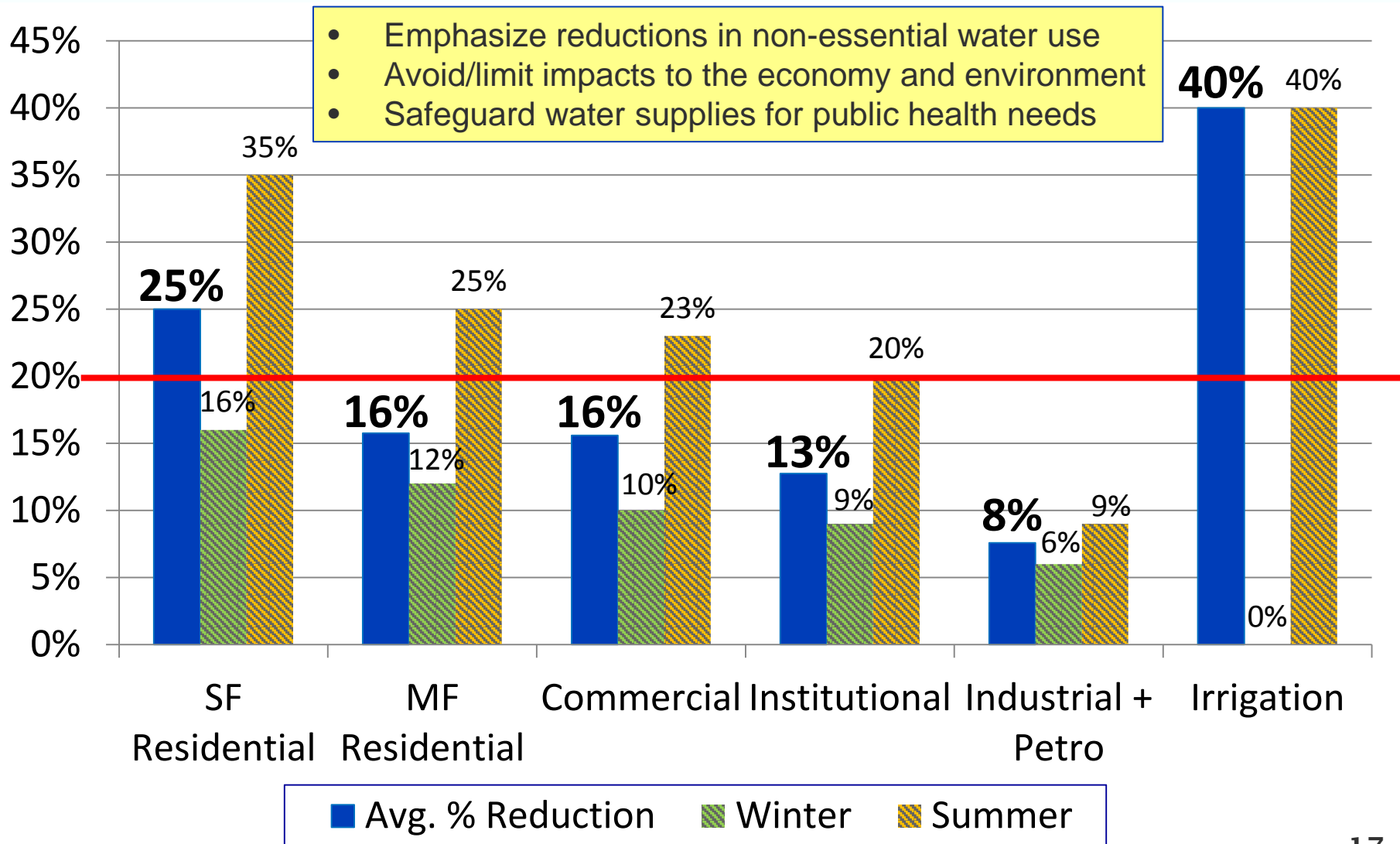
■ CY2013 Total ■ CY2013 Indoor Use ■ CY2013 Outdoor Use



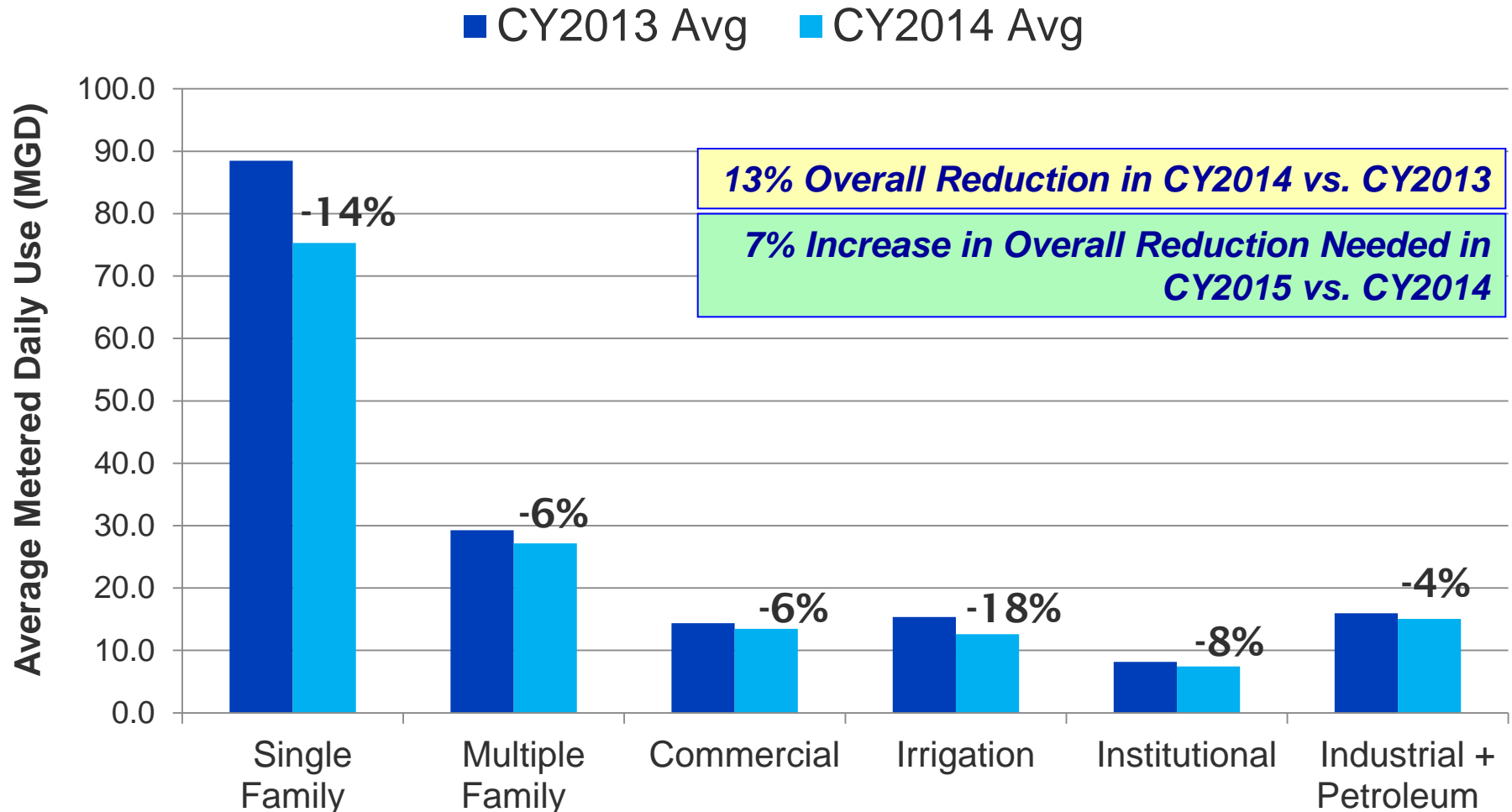
CY2013 Seasonal Water Use by Customer Category



Water Conservation Goals to Achieve 20% System-wide Reduction



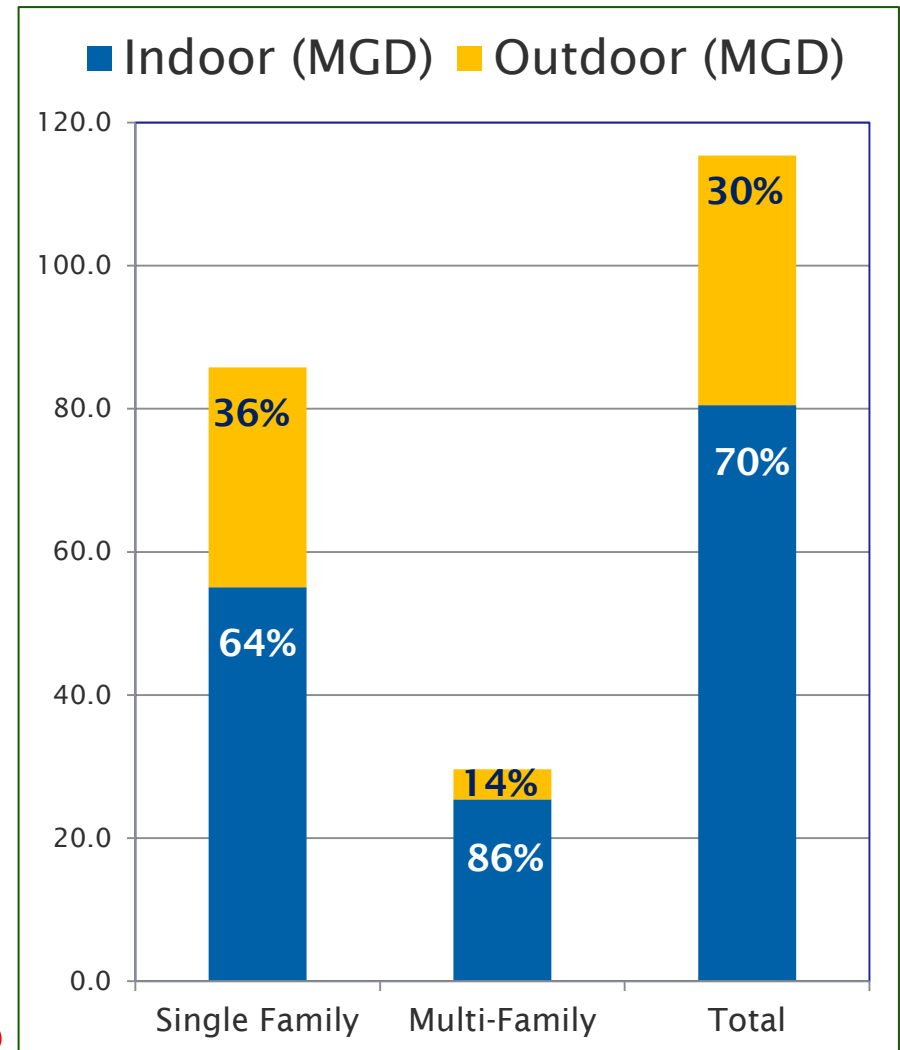
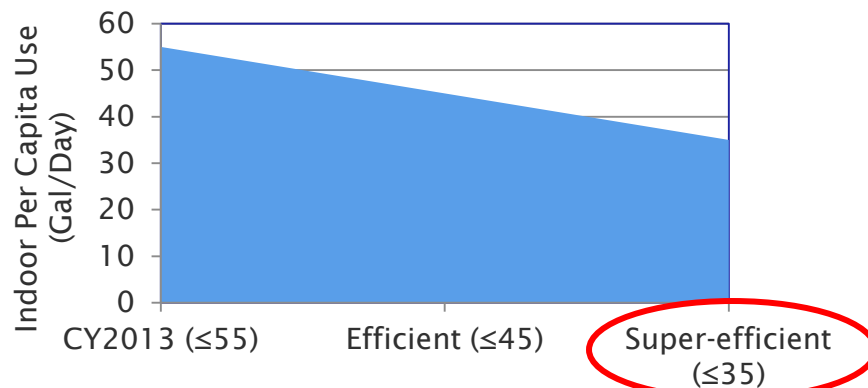
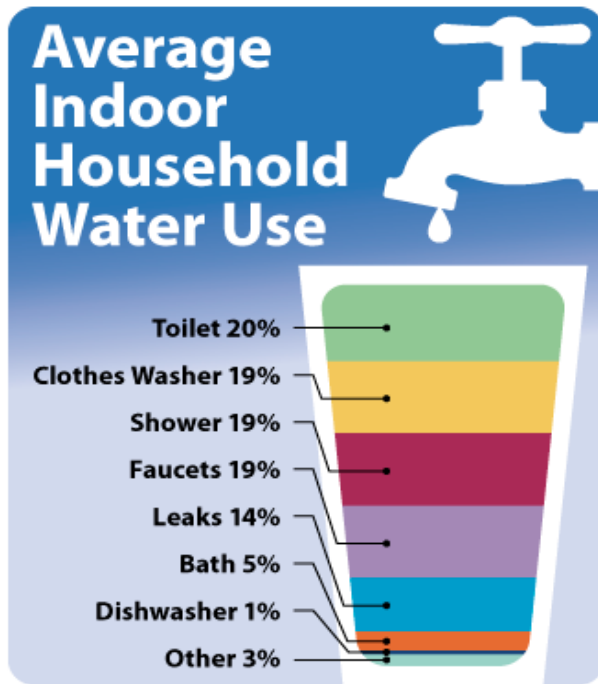
Average Metered Customer Use CY2013 and CY2014



Notes:

(1) Feb data begins on the 11th when EBMUD voluntary water use reductions were adopted.

Average Single-Family & Multi-Family Residential Use (2013)



Large Irrigation Account 2013 Water Use Statistics



Customer Type	2013 CCF	% of Total	2013 Landscape Water Use (80% ET Target)
Cities	1,345,809	25%	87%
HOAs	1,674,803	31%	77%
Golf Courses	949,118	17%	59%
Offices	492,762	9%	62%
Schools	271,161	5%	85%
Cemeteries	228,197	4%	86%
Parks	111,395	2%	84%
Apartments	105,940	<2%	125%
Shopping Ctr.	105,298	<2%	201%
Medians	66,915	1%	207%
Counties	58,254	1%	84%
State Bldgs.	19,654	<1%	84%
Hotels	18,714	<1%	202%
Total	5,448,020	96%	76%

Irrigation Account Landscape Water Use Reduction Scenarios



Existing Use	Target Use	Target % Reduction
≥100%	55%	≥40%
80%	55%	30%
70%	55%	20%
60%	55%	10%
55%	55%	0%

Water Waste Reporting and Enforcement



**Water
Waste
Reported**

**First
courtesy
call or
site visit**

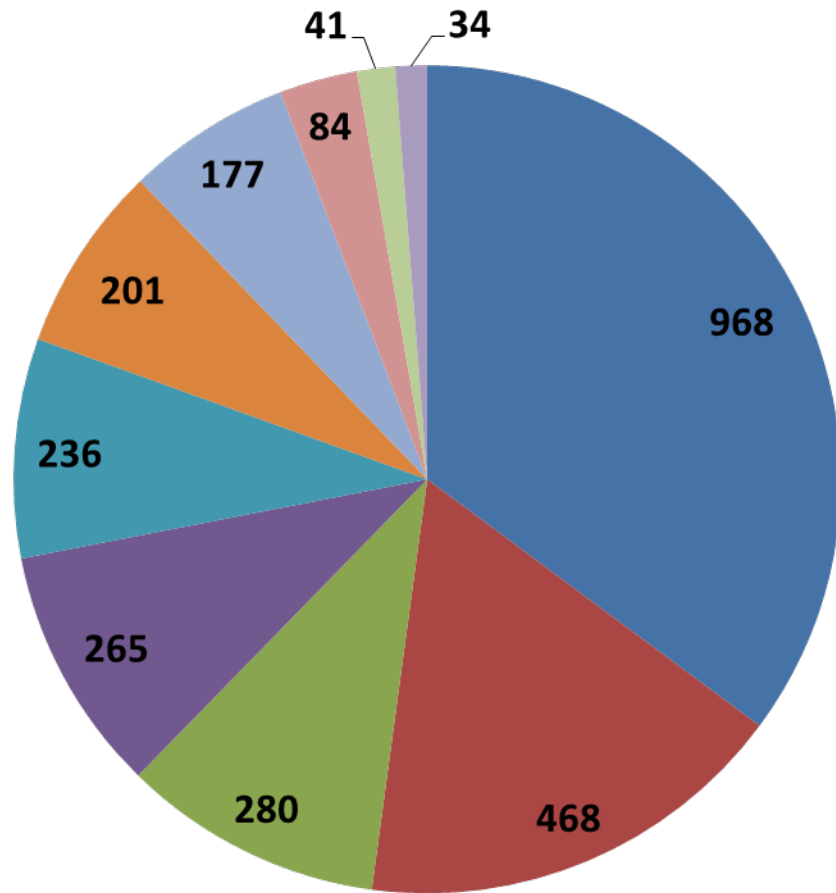
**1. Second
courtesy
call
and/or
written
notice**

**2. Field
inspection
and/or
warning
letter**

**3. Final
notice and
intent to
restrict the
flow of
water**

**4.
Discontinuation
of service**

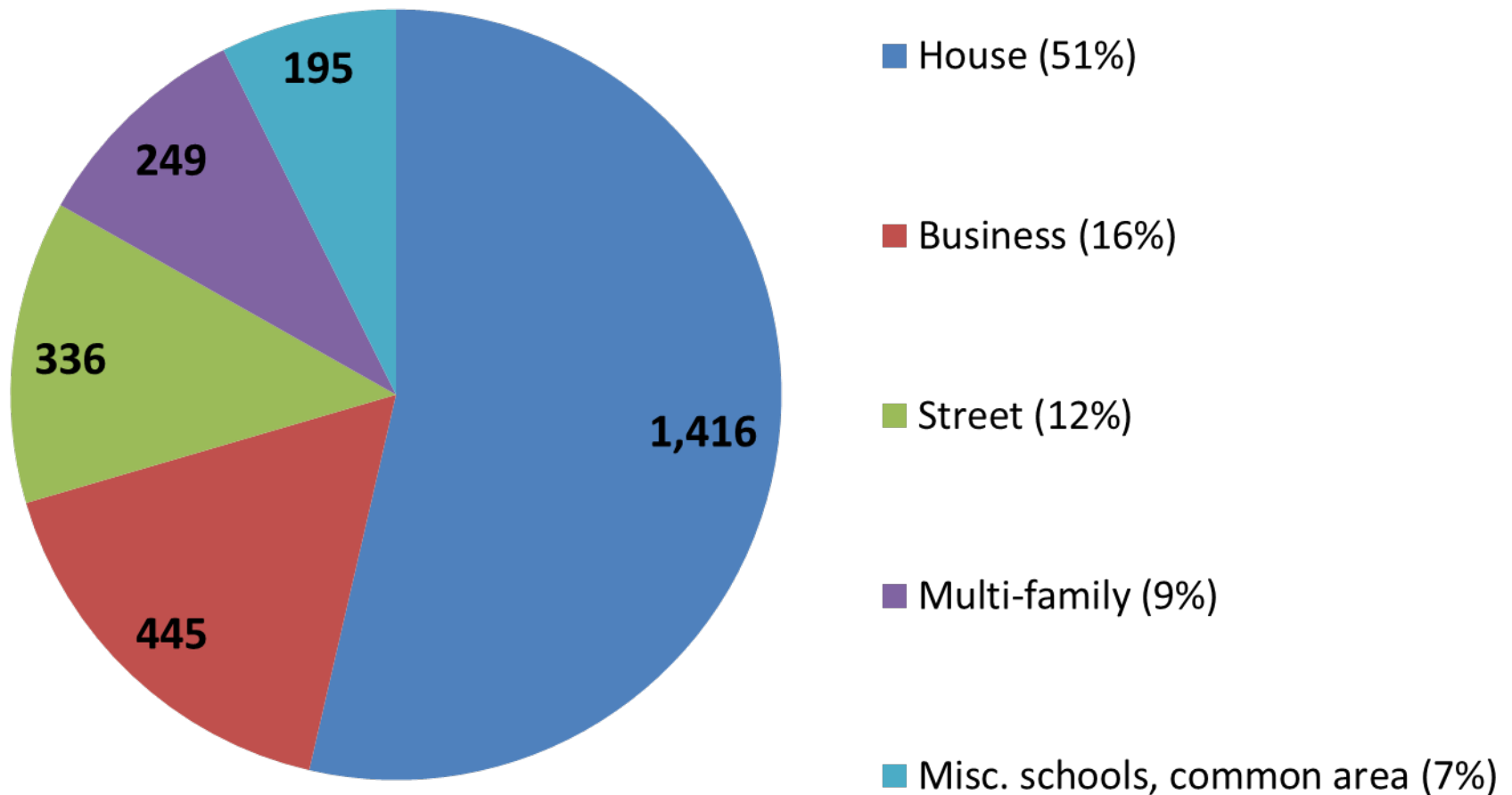
Water Waste Reporting and Enforcement



- Overwatering (35%)
- Misc. (indoor, vehicle washing, etc.) (17%)
- Broken or misdirected sprinklers (10%)
- Seepage from ground (10%)
- Street flooding (9%)
- Meter leak (7%)
- Hosing down sidewalk/driveway (6%)
- Hydrant Leak (3%)
- Leaking outdoor faucet (1%)
- Hose without shutoff (1%)

Total of 2,754 (Feb. '14 – March '15)

Water Waste Reporting and Enforcement

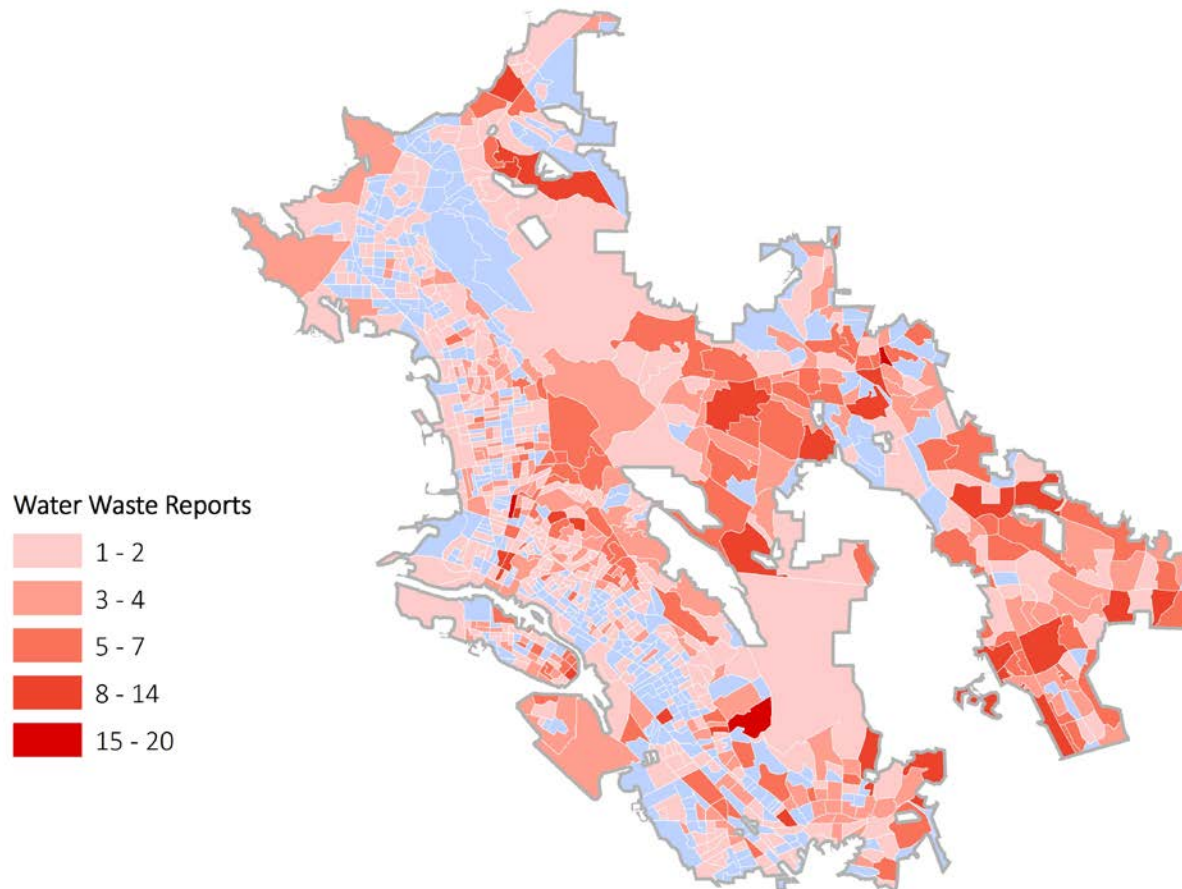


Total of 2,754 (Feb. '14 – March '15)

Water Waste Report Distribution



EBMUD received Water Waster Reports by US Census Block (2014 to March 2015)



Drought Resources



DROUGHT HELP CENTER

- First Floor Admin. Bldg. Lobby – Franklin St. side
- Open 4.14.15 (8:00a.m.-4:30 p.m.)
- Self-help/periodically staffed conservation information, tips, rebate applications, devices
- Looped video of sustainable landscaping practices, low water use gardens, repairing leaks, etc.



Financial Impact of 20% Reductions



Demand Reduction	Billed Water Sales (MGD)	Drought Costs (\$ M)	Lost Revenue (\$ M)	Total Costs (\$ M)	Drought Surcharge	Drought Surcharge Revenue (\$ M)	Use of Reserves (\$ M)
15%	146	\$65	\$10	\$75	25%	\$67	\$8
20%	137	\$65	\$29	\$94	25%	\$64	\$30

- *Moving from 15% to 20% reductions uses additional \$22 million in rate stabilization funds*
- *Consider increasing drought surcharge in FY17 if 20% reductions continue to be necessary*

Mandatory Use Restrictions



- Mandatory use restrictions are designed to achieve District-wide 20% demand reduction
 - Includes specific prohibitions on water use—Section 28
 - Does not include individual allocations or customer-specific reduction targets

Staged System of Drought Rates



- Staged system of drought rates adopted by the Board does not have mandatory cut-backs per customer
- Policy considerations in development of the system of drought rates were:
 - Easy to understand
 - Implementable and manageable
 - Encourage water use efficiency and provide economic incentive to conserve
 - Perceived as equitable
 - Conform with Cost of Service principles
- Staged system comprised of (1) drought surcharges, (2) excessive use penalty, (3) supersaver recognition

Excessive Use Penalty

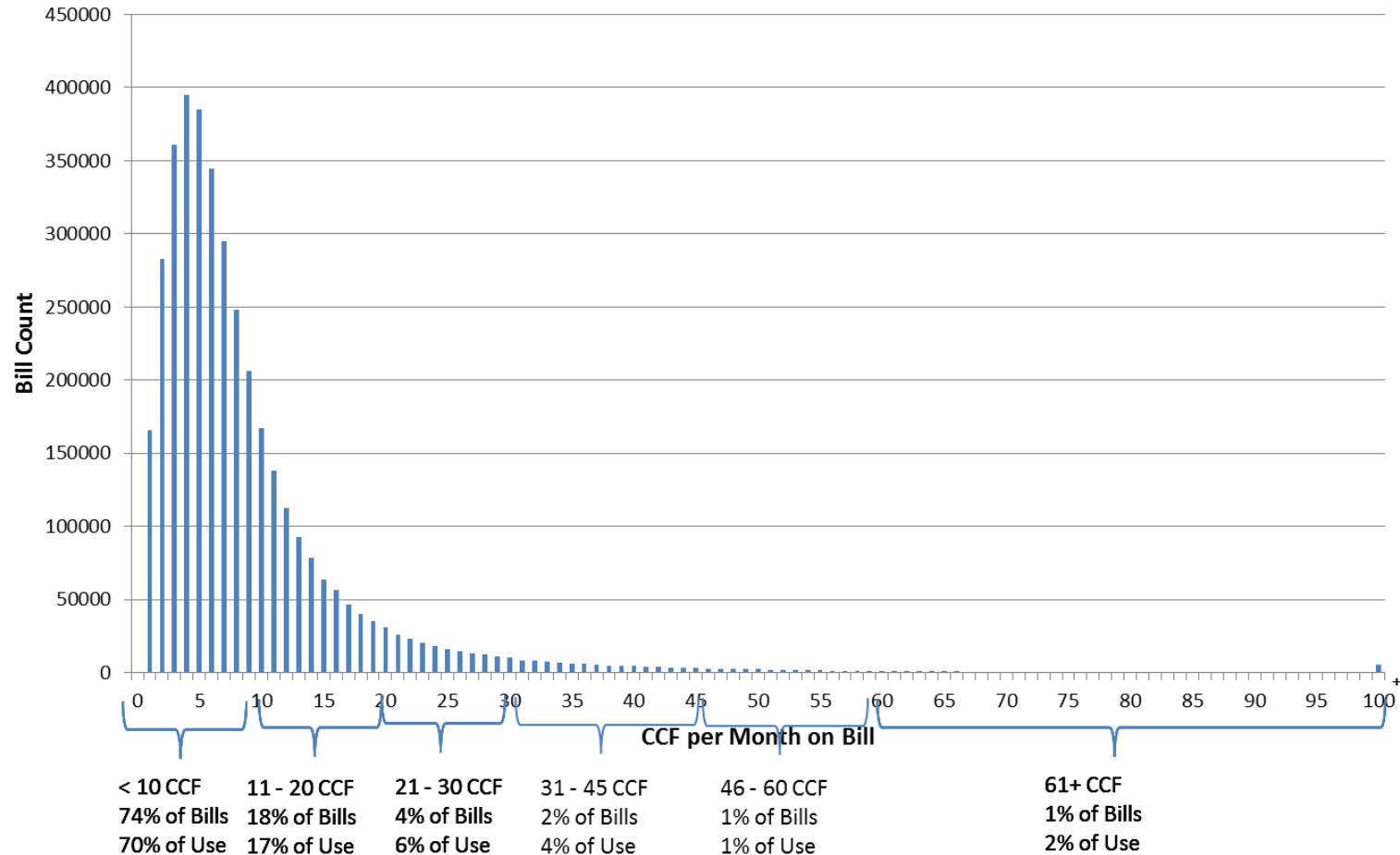


- Aimed at excessive SFR outdoor use
 - Uniform trigger level throughout District service area
 - Stage 3—60 Ccf/month
 - Stage 4—45 Ccf/month
 - \$2/unit in excess of monthly trigger level
- Penalty is different from rate or charge
 - Adopted by ordinance, not subject to Prop 218
 - Goal is to discourage use not collect revenue
 - Penalty must be in line with offense
 - Applies to all SFR customers equally

District-Wide SFR Bill Distribution Annual



Distribution of Bills by # of Billed Units per Month Calendar 2014

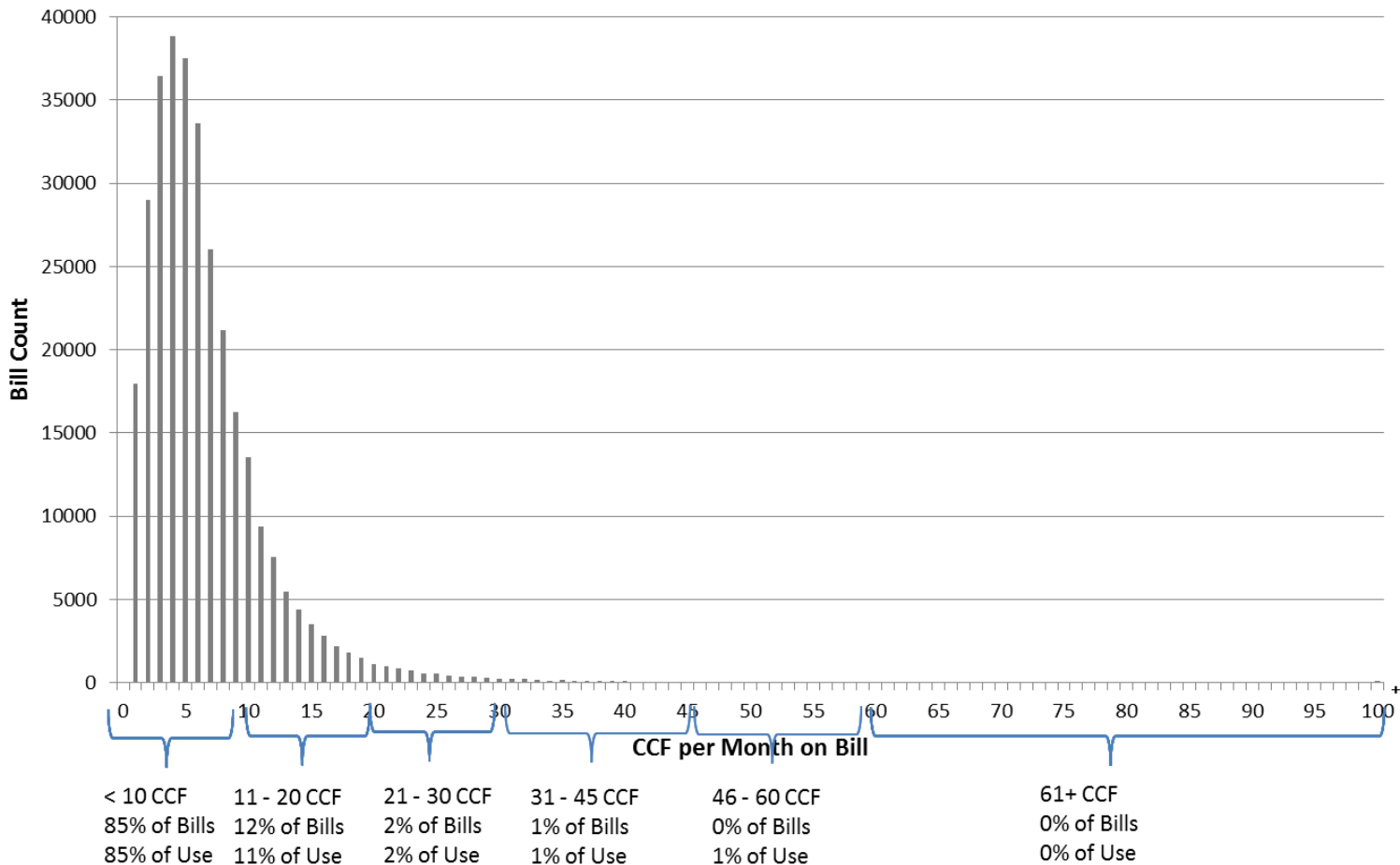


Monthly Consumption from 3.8 million bill months (1.9M actual bimonthly bills) for 320k SFR customers in CY14
 % of Use is for "block" use (e.g. 70% of Use for <10 Ccf reflects 0-10 Ccf block use for All 320k Customers)

District-Wide SFR Bill Distribution Winter



Distribution of Bills by # of Billed Units per Month Winter 2014



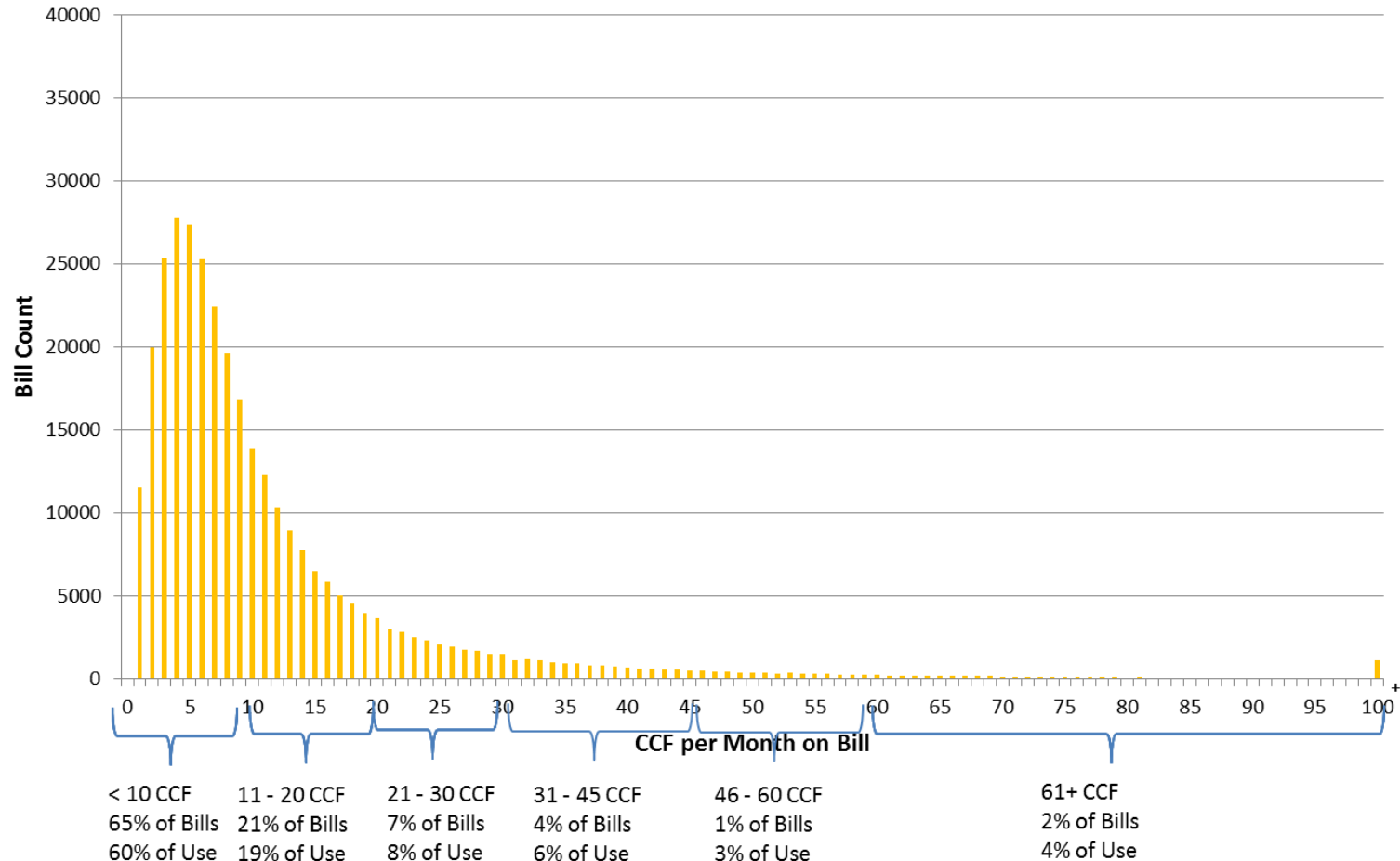
Monthly Consumption from for 320k SFR customers in December 2014

% of Use is for "block" use (e.g. 85% of Use for <10 Ccf reflects 0-10 Ccf block use for All 320k Customers)

District-Wide SFR Bill Distribution Summer



Distribution of Bills by # of Billed Units per Month Summer 2014



Monthly Consumption from for 320k SFR customers in June, July and August 2014

% of Use is for "block" use (e.g. 60% of Use for <10 Ccf reflects 0-10 Ccf block use for All 320k Customers)

District System Capacity Charge (SCC) Regions



- Three principal regions utilized for system capacity charge (SCC)
- SCC recovers facility costs from developers
- Not familiar to customers—not part of regular rate structure
- Proxy for climate—not perfectly aligned

Winter SFR Water Use by SCC Region



Winter (December 2014)

	Accounts Total	Average Monthly Use (Ccf)	Median Monthly Use (Ccf)	Accounts > 5 Ccf	%	Accounts > 7 Ccf	%	Accounts > 9 Ccf	%	Accounts > 30 Ccf	%
SCC 1	179,158	6	5	79,578	44.4%	46,756	26.1%	27,186	15.2%	591	0.3%
SCC 2	67,508	6	5	30,631	45.4%	17,799	26.4%	10,347	15.3%	362	0.5%
SCC 3	71,446	9	7	48,169	67.4%	34,201	47.9%	23,808	33.3%	1,633	2.3%
TOTAL	318,112	7	5	158,378	49.8%	98,756	31.0%	61,341	19.3%	2,586	0.8%

Summer SFR Water Use by SCC Region



Summer (JUNE-AUGUST 2014)

	Accounts Total	Average Monthly Use (Ccf)	Median Monthly Use (Ccf)	Accounts > 9 Ccf	%	Accounts >11 Ccf	%	Accounts > 13 Ccf	%
SCC 1	181,497	8	6	47,404	26.1%	31,618	17.4%	21,026	11.6%
SCC 2	68,179	9	7	23,606	34.6%	17,508	25.7%	12,941	19.0%
SCC 3	71,891	25	18	54,530	75.9%	50,252	69.9%	46,128	64.2%
TOTAL	321,567	12	7	125,540	39.0%	99,378	30.9%	80,095	24.9%

	Accounts Total	Average Monthly Use (Ccf)	Median Monthly Use (Ccf)	Accounts > 16 Ccf	%	Accounts > 30 Ccf	%	Accounts > 45 Ccf	%	Accounts > 60 Ccf	%
SCC 1	181,497	8	6	11,642	6.4%	1,180	0.7%	282	0.2%	98	0.1%
SCC 2	68,179	9	7	8,339	12.2%	1,643	2.4%	547	0.8%	243	0.4%
SCC 3	71,891	25	18	40,009	55.7%	18,931	26.3%	8,800	12.2%	4,434	6.2%
TOTAL	321,567	12	7	59,990	18.7%	21,755	6.8%	9,628	3.0%	4,775	1.5%

Excessive Use Summary



- Activated in drought Stages 3 and 4
- Uniform trigger level throughout District service area
 - Stage 3—60 units/month
 - Stage 4—45 units/month
 - \$2/unit in excess of monthly trigger level
- Penalty considerations
 - Level at which penalty triggered
 - Implementation considerations
 - Amount of penalty

FY16 & FY17 Budget Schedule



Budget Workshop

March 24

- Biennial Budget FY16 & FY17
- FY16 & FY17 Prop 218 rates and charges

Budget Workshop

April 14

- If necessary

Mail Proposition 218 Notice

April 15 - April 24

Board Meeting

May 12

- GM's Report on rates & charges

Board Meeting

June 9

- Public hearing on rates and charges
- Board consideration of budget and rates

FY16 Rates & Charges Effective

July 1