

# DROUGHT RATE ALTERNATIVES

WATER SHORTAGE TASK FORCE

NOVEMBER 5, 2014



VENTURA  
WATER™



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# OVERVIEW

- Drought has reduced City's water supplies (19-24%)
- State is asking for 20% water use reduction
- City needs to prepare to address larger cutbacks, if drought conditions persist
- City needs to align Water Shortage Contingency Plan with emergency rate methodology to ensure fiscal sustainability
- Add to municipal code to guide future water shortages

# DROUGHT FINANCIAL IMPACTS

- Reduced water sales result in:
  - Reduced local water production costs (power, chemicals)
  - Increased water supply costs (penalties, rental charges)
  - Extraordinary costs for drought (surveys, outreach, water waste enforcement)
  - Increased water conservation program costs (incentives/rebates)
  - Net loss in revenues from higher costs and lower sales
    - Requires rate increases – design drought rates, penalty rates
  - Higher costs expected at higher water shortage stages
  - Potential loss in wastewater revenues
    - More noticeable at the higher stages
    - Reserves may be used to offset small revenue losses at lower stages

# FACTORS FOR CONSIDERATION

- City implemented Year 1 in July 2014 of a 4-year rate plan
- Water Shortage Contingency Plan defines stages with successive higher targets for conservation
- Allocation-based methodologies are generally more suited for penalty rates
- Lower stages generally target discretionary usage (irrigation)
- Minimize impacts on commercial customers to mitigate business impacts – most of their usage is domestic
- Penalties may be used to control demand, generally implemented at higher stages

# PROPOSED DROUGHT STAGES

- Stage 1- 10% cutback- Voluntary
- Stage 2 - 20% cutback – Voluntary or Mandatory
- Stage 3 - 30% cutback - Mandatory
- Stage 4 - 40% cutback - Mandatory
- Stage 5 - 50% cutback - Mandatory

# PRICING OBJECTIVES RESULTS (2011)

Classification	Rank	Pricing Objectives	Total Score
Most Important	1	Cost of Service Based Allocations	11
	2	Rate Stability	18
Very Important	3	Revenue Stability	19
	4	Conservation	19
	5	Defensibility	19
Important	6	Minimization of Customer Impacts	21
	7	Simple to Understand and Update	22
	8	Equitable Contributions from New Customers	22
Least Important	9	Economic Development	25
	10	Ease of Implementation	26
	11	Affordability	26

# DEMAND MANAGEMENT SUB-OBJECTIVES IN 2011

Rank	Classification	
1	Most Important	Reward Water Efficient Users
2	Most Important	Surcharge Nonessential and Non-efficient users
3	Very Important	Communicate Conservation Consciousness
4	Very Important	Reduce Total Consumption
5	Important	Reduce Peak Consumption
6	Least Important	Reduce Seasonal Consumption

# RATES OR PENALTIES?

## DROUGHT RATES

- Based on cost of providing service
- Recovers the financial shortfall/cost of a drought
- Subject to Prop 218
- Revenue generating mechanism

## DROUGHT PENALTIES

- Not based on cost of service
- Utilizes penalties to enforce water allocation/rationing
- Strictly punitive
- Does not address revenue shortfall
- Not subject to Prop 218
- Generally used in more serious drought conditions
- Example: City of Santa Cruz excessive water use penalties
  - \$25 per hcf above 10 hcf
  - \$50 per hcf above 11 hcf

# OPTIONS TO CONSERVE/ALLOCATE USE

- Command and Control
  - Rules and regulations on water use
- Allocate based on
  - Historical Usage
  - Conservation (Redesign Current Tiers)
  - Roseville Model
    - Increase rates proportionally across all tiers

# COMMAND AND CONTROL

- Local Ordinance targets wasteful use of water
  - Generally in the form of a ticket or a fine
  - Predominantly targets outdoor (discretionary) water use
  - Does not address revenue shortfall
  - Examples:
    - No hosing off of driveways and sidewalks
    - No washing cars/require shut-off mechanism on hoses
    - Outdoor irrigation schedule
    - Run-off from irrigation
    - Serve water in restaurants on demand

# ALLOCATIONS BASED ON HISTORICAL USAGE

Establish baseline historical usage, typically 3-year average, high usage, low usage or last winter usage

## PROS

- Relatively simple to design
- Customer will be informed of their allocation for next period
- Provides seasonal allocation
- Also suitable for commercial customers

## CONS

- Impacts customers who are already conserving
- Billing system will need significant modifications (time & money)
- Allocation for new customers is problematic
- Weather pattern may not mimic historical patterns

# REDESIGN CURRENT TIERS

- Reduce tier size – pushes customers into higher tiers more quickly to send price signal
- Increase number of tiers to target large users

## PROS

- Easy to design and implement
- Most consistent with COS
- Can be designed to recover revenue requirements for higher stages of drought
- Less complicated to modify billing system

## CONS

- Does not consider user's efficient demands
- Does not address conservation from non-residential customers (one rate for non-residential customers)

# CURRENT RATES AND TIERS

		FY 2015	FY 2016	FY 2017	FY 2018
		Rates	Rates	Rates	Rates
<u>Inside City</u>					
SFR					
Tier 1	14	\$2.23	\$2.40	\$2.58	\$2.77
Tier 2	30	\$3.12	\$3.35	\$3.60	\$3.87
Tier 3	30 & over	\$5.27	\$5.66	\$6.08	\$6.53
Tier 4					
<b>TOTAL</b>					
MFR					
(per unit)					
Tier 1	10	\$2.23	\$2.40	\$2.58	\$2.77
Tier 2	16	\$3.12	\$3.35	\$3.60	\$3.87
Tier 3	16 & over	\$5.27	\$5.66	\$6.08	\$6.53
Tier 4					
<b>TOTAL</b>					
Non-Residential		\$2.88	\$3.09	\$3.32	\$3.57
Institutional/ Interruptible Rate		\$2.22	\$2.39	\$2.57	\$2.76

# ROSEVILLE MODEL

- Retain current tier structure
- Increase tier rates proportionally to water usage reductions to ensure revenue recovery
- Users that conserve would not experience higher bills

## PROS

- Easiest to design and implement
- Consistent with COS
- Is designed to recover revenue requirements for all stages of drought

## CONS

- Does not consider user's efficient demands
- Impacts indoor usage because all tiers increase by same percentage

# ROSEVILLE SHORTAGE RATES

Summary of Water Shortage Rate Charges			
Stage	Water Use Restriction	Water Shortage Surcharge (*1)	Excess Water Use Charge (*2)
<b>First Year of a Water Shortage</b>			
Stage 1	10%	None	None
Stage 2	20%	15%	None
Stage 3	30%	33%	25%
Stage 4	40%	45%	50%
Stage 5	50%	60%	100%
<b>Subsequent Year(s) of a Water Shortage</b>			
Stage 1	10%	15%	None
Stage 2	20%	20%	25%
Stage 3	30%	40%	50%
Stage 4	40%	50%	100%
Stage 5	50%	75%	200%

(\*1) The water shortage surcharge shall be added to all quantity rates.

(\*2) In addition to the applicable water shortage surcharge, an excess water use charge shall be added to Tier 3 and Tier 4 water quantity rates according to drought stage.

# HYPOTHETICAL EXAMPLES

## RATES: DROUGHT STAGE 2 – 20% CUTBACK

Customer Class	Current Rates	Historical Usage			Redesign Tier				Roseville Model			
		Allocation of usage	Revised Rates	Difference	New Tier	% Reduction	Revised Rates	Difference	Rate Increase	Revised Rates	Difference	
<b>SFR</b>												
Tier 1	14	\$2.23	90%	\$2.48	\$0.25	12	-10%	\$2.48	\$0.25	25%	\$2.79	\$0.56
Tier 2	30	\$3.12	80%	\$3.90	\$0.78	26	-22%	\$4.00	\$0.88	25%	\$3.90	\$0.78
Tier 3	> 30	\$5.27	50%	\$10.54	\$5.27	> 26	-35%	\$8.11	\$2.84	25%	\$6.59	\$1.32
<b>TOTAL</b>												

## IMPACTS

SFR	Normal	Current	Drought	Historical	Redesign	Roseville	Historical	Redesign	Roseville
	Bi-monthly Usage (hcf)	Bi-monthly Bill	Bi-monthly Usage (hcf)	Bi-monthly Bill	Bi-monthly Bill	Bi-monthly Bill	Difference \$	Difference \$	Difference \$
Very Low	5	\$38.45	4	\$37.22	\$37.21	\$38.46	(\$1.23)	(\$1.24)	\$0.01
Low	12	\$54.06	10	\$52.10	\$52.08	\$55.20	(\$1.96)	(\$1.98)	\$1.14
<b>Average</b>	<b>21</b>	<b>\$80.36</b>	<b>17</b>	<b>\$73.72</b>	<b>\$77.03</b>	<b>\$78.06</b>	<b>(\$6.64)</b>	<b>(\$3.33)</b>	<b>(\$2.30)</b>
High	35	\$134.79	28	\$116.62	\$129.25	\$120.96	(\$18.17)	(\$5.54)	(\$13.83)
Very High	50	\$213.84	40	\$229.82	\$226.54	\$194.66	\$15.98	\$12.70	(\$19.18)
<b>No Change in Usage</b>									
Very Low	5	\$38.45	5	\$39.70	\$39.69	\$41.25	\$1.25	\$1.24	\$2.80
Low	12	\$54.06	12	\$57.06	\$57.03	\$60.78	\$3.00	\$2.97	\$6.72
<b>Average</b>	<b>21</b>	<b>\$80.36</b>	<b>21</b>	<b>\$89.32</b>	<b>\$93.03</b>	<b>\$93.66</b>	<b>\$8.96</b>	<b>\$12.67</b>	<b>\$13.30</b>
High	35	\$134.79	35	\$177.12	\$186.00	\$161.71	\$42.33	\$51.21	\$26.92
Very High	50	\$213.84	50	\$335.22	\$307.62	\$260.56	\$121.38	\$93.78	\$46.72

Note: Assume 3/4" meter

Drought Rate Alternatives

November 5, 2014

16

# DECISION MATRIX

Criteria	Command & Control	Historical Usage	Redesign Current Tiers	Roseville Model
Easy to Implement	★ ★ ★ ★	★ ★	★ ★ ★	★ ★ ★ ★
Easy to Administer	★	★ ★	★ ★ ★ ★	★ ★ ★ ★
Easy to Understand	★ ★ ★ ★	★ ★ ★	★ ★ ★ ★	★ ★ ★ ★
Freedom of Choice	★	★ ★ ★ ★	★ ★ ★ ★	★ ★ ★ ★
Effective Outdoor Conservation	★ ★	★ ★	★ ★ ★	★ ★ ★

# SCHEDULE

- Customer impact scenarios that could be available by the December 3, 2014
  - Roseville Model
- Customer impact scenarios that could be available in January:
  - Redesigned Tiers
  - Historical Allocations

# QUESTIONS AND DISCUSSION

