



REDUCING REAL LOSSES IN YOUR WATER SYSTEM

NOB HILL WATER ASSOCIATION

Presented By: Zella West, Dean Hegge, Joel Revilla and Chris Fix



- SERVES THE WEST YAKIMA AREA
- 11,135 SERVICES
- SERVES 28,000 RESIDENTS
- 25 FULL TIME EMPLOYEES

NOB HILL WATER BACKGROUND

- ▶ WHY IS THIS IMPORTANT?
- ▶ WHAT IS YOUR %?

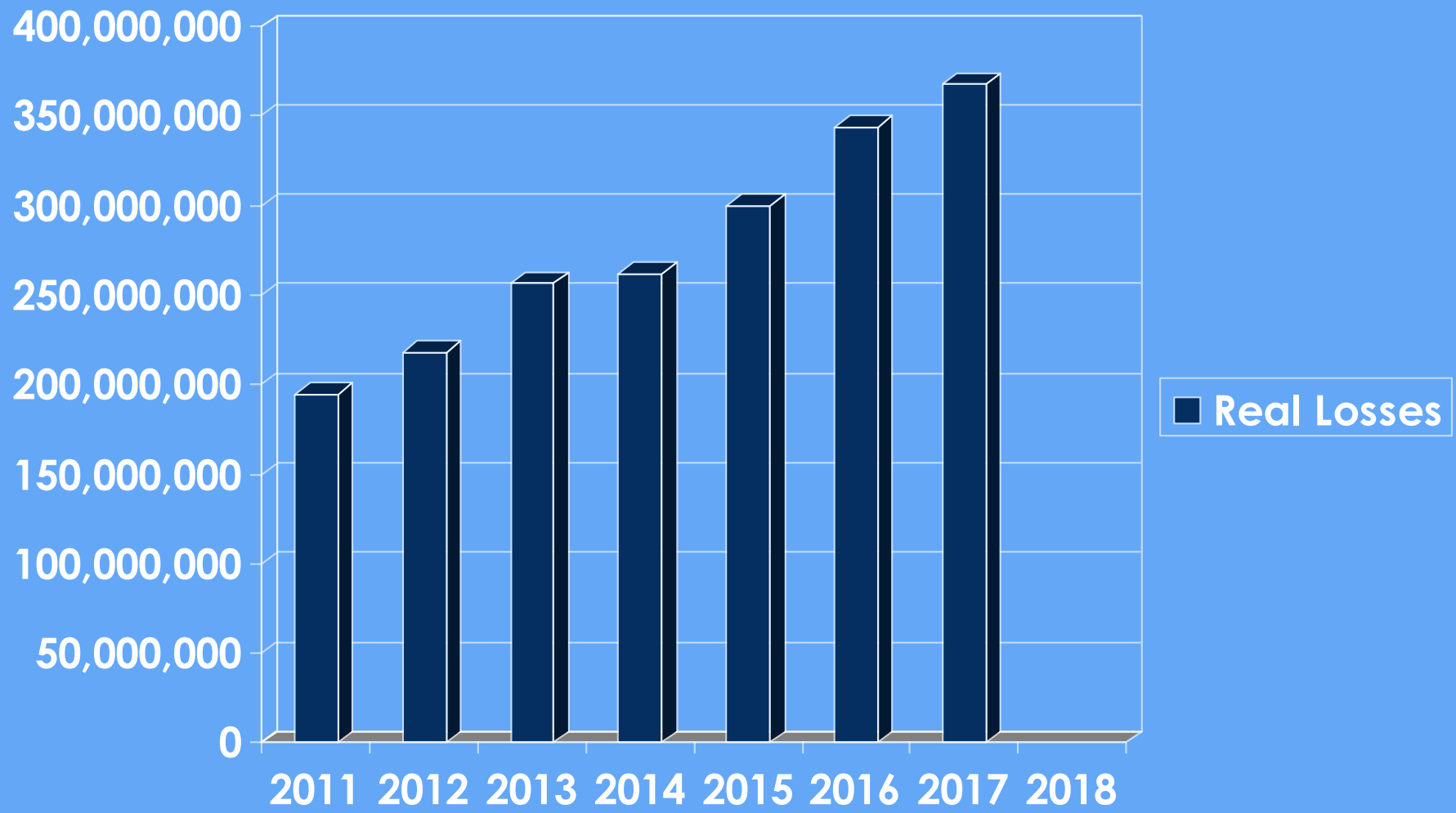
NON - REVENUE WATER ~



Water Exported (corrected for known errors)	Billed Water Exported			Revenue Water
Water Supplied	Authorized Consumption	Billed Authorized Consumption	Billed Metered Consumption	Revenue Water
			Billed Unmetered Consumption	
		Unbilled Authorized Consumption	Unbilled metered Consumption	Non-revenue Water
			Unbilled unmetered consumption	
	Water Losses	Apparent Losses	Systematic Data Handling Errors	
			Customer Metering Inaccuracies	
			Unauthorized Consumption	
		Real Losses	Leakage on Transmission and Distribution Mains	
			Leakage and Overflows at Utility's Storage Tanks	
			Leakage on Service Connections up to the point of Customer Metering	



DIRTY LAUNDRY!



WHAT DOES THIS MEAN?



IN 2017 LOST WATER WAS 367,819,000 - MAY 5TH



AT RETAIL RATE, 491,736 UNITS (100 c/f) x \$1.59 or \$781,861



22.5%



ERU'S ~ DSL - 3,468 OVER 20 YEARS OF GROWTH!

ERU'S = EQUIVALENT RESIDENTIAL UNITS

- ▶ A **EQUIVALENT RESIDENTIAL UNIT** IS THAT PORTION OF A WATER FACILITY THAT HAS AN IMPACT ON THE WATER AND WASTEWATER SYSTEM **EQUIVALENT** TO A SINGLE FAMILY RESIDENCE.
- ▶ 5 SERVICES **DOES NOT** ALWAYS EQUAL 5 ERU'S.



WHAT DID WE DO?



IN 2012, ALL NEW AMI SYSTEM WITH 100% METER CHANGE OUT.



IN 2014, REPLACED OVER REPAIR, CALIBRATED SOURCE METERS



IN 2016, HIRED ECOLOGICS, MANUALLY VERIFIED BILLING DATA AGAINST AMI DATA.



IN 2017, DOH WATER LOSS TECHNICAL ASSISTANCE PROGRAM.

*TIED LOST WATER TO \$\$ - NOT A STANDARD 10% +/-



IN 2017, **PANIC!**



SECRET WEAPON!!



1st SECRET WEAPON ~ JOEL



SERVICE LINE LEAKS~



MACHINE MODIFICATIONS!



2nd SECRET WEAPON ~ CHRIS



MAJORITY OF SERVICE LINE
LEAKS – LINER CUTS!



**"Even if you are on the right track,
you'll get run over if you just sit there."**

~Will Rogers~



- ▶ 1. DO YOU HEAR NOISE AT THE METER? NONE, SOFT, MEDIUM, LOUD
- ▶ 2. IS THE NODE OPTIMIZED?
- ▶ 3. IS THERE WATER IN THE BOX?
- ▶ 4. TYPE OF LID? METAL, PLASTIC, CONCRETE
- ▶ 5. NEEDS SAWDUST? Y/N
- ▶ 6. COMMENTS/ PROBLEMS

CREATED NEW SOFTWARE



- ▶ 2017 - 25+
- ▶ 2018 - 75+
- ▶ 2019 - 39+
- ▶ 2020 - 67
- ▶ 2021 - 3

FINDING LEAKS **NOT** SURFACING!

▶ FOR EVERY SERVICE LEAK IN YOUR SYSTEM THAT SURFACES, HOW MANY LEAKS DO YOU HAVE THAT ARE NOT SURFACING?

BELOW THE SURFACE



IT'S TIME
for the
BIG REVEAL





WHAT DOES THIS MEAN?



367,819,000 - MAY 5th

162,127,000 – FEBRUARY 13th



RETAIL RATE: 491,736 UNITS \$781,861 216,747 UNITS \$344,628



22.5% - 10.3%



ERU'S ~ DSL – 3,468

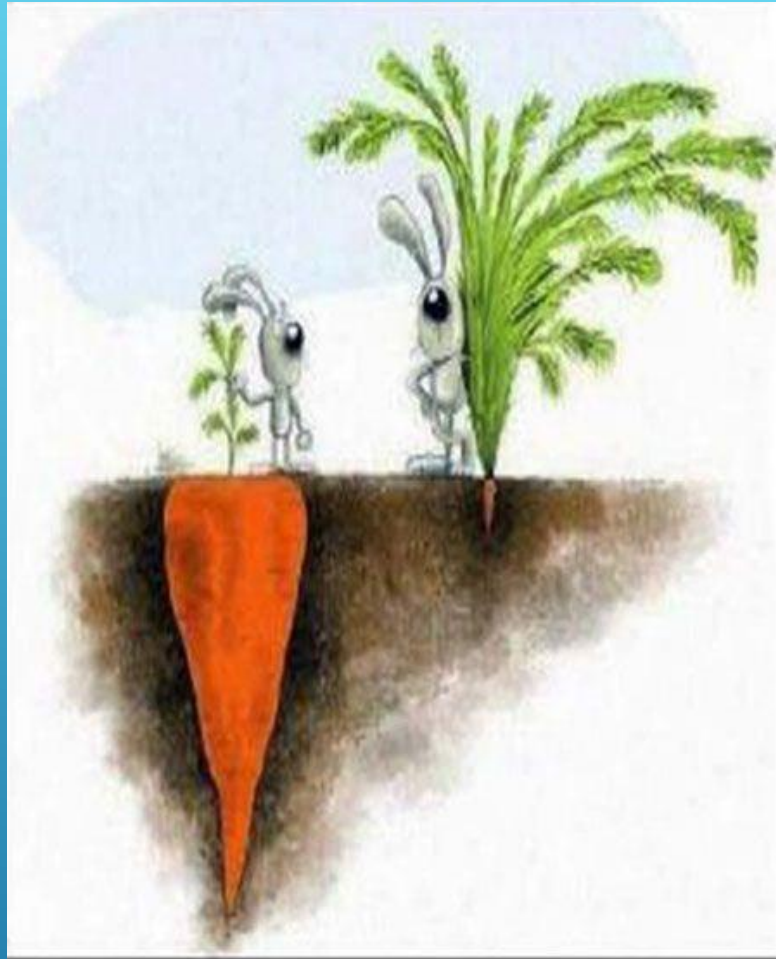
ERU'S ~ DSL – 1,418

	Actual Savings (April through December, 2019)	Annual Savings (extrapolated)
Energy Savings (kWh)	226,347	339,520
Cost Savings (\$)	\$12,003	\$18,004
% Savings	5.9%	5.9%

Nob Hill Energy Savings Summary

Put on by: Cascade Energy
Sponsored by BPA and Pacific Power
Contact:
Craig Phillips ~ 509-524-8623

Water System Optimization Cohort



Success

it's not always what you see



WHAT DOES THE FUTURE HOLD?



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2017 Actual	Gallons	Connections	ERU's
SF Residential	1,019,179,920	9,610	9,610
MF	111,726,516	253	1,053
Commercial	90,327,732	317	852
<u>Industrial</u>	<u>37,239,928</u>	<u>18</u>	<u>351</u>
	1,258,474,096	10,198	11,866
Other Auth Con	7,315,000		69
DSL	367,819,000		3,468
	1,633,608,096	10,198	15,404
GPD/ERU 291			