

## **ENERGY CONSERVATION**

10-Year Potential and 2-Year Target

Rich Arneson September 11, 2019



## Energy Conservation – State Law

 The Energy Independence Act requires qualifying utilities to determine their conservation potential using "methodologies consistent with those used by the Pacific Northwest Electric Power and conservation planning council" (19.285.040(1)(a) RCW)

• The Energy Independence Act is codified in WAC 194-37 and outlines how utilities are to comply with the law



## **Conservation Mandate**

Washington Administrative Code 194-37

## Requires qualifying utilities to establish:

- 10-year achievable economic conservation resource potential
- 2-year conservation target that is "no less than its pro rata share of its ten-year potential."

## These metrics must be developed and adopted every two years

# We recommend the Board adopt both metrics prior to January 1, 2020

• The target sets the 2020/21 conservation acquisition baseline against which Tacoma Power will be judged for compliance purposes



## **Conservation Potential Assessment**

Tacoma Power conducted a conservation potential assessment to determine our 10-year potential

WAC 194-37 requires qualifying utilities to use inputs that "reasonably reflect the specific characteristics of the utility":

- Utility service area specific customer data
- Economic activity and building types
- Current technology assumptions nearly 8,000 measure permutations
- Enables useful, relevant, detailed conservation planning
- Consistent with NWPCC methodologies

We will incorporate the results of the Conservation Potential Assessment into our next Integrated Resource Plan



### Metric 1:

## Ten-Year Conservation Potential 233,660 MWh

	Economic Achievable	
	Potential	
Sector	(MWh)	(aMW)
Residential	55,827	6.4
JBLM Residential	1,737	0.2
Commercial	89,125	10.2
JBLM Commercial	11,242	1.3
Industrial	62,468	7.1
Street Lighting	2,713	0.3
Distribution Efficiency	10,548	1.2
Total	233,660	26.7



## METRIC 2: Two-Year Conservation Target 46,732 MWh

- •Target we are asking the Board to adopt
- Must Hit!
- Failure will result in fines
- •20% of the 10-year potential
- Meets the pro-rata share requirement
- Will be modeled in IRP and load forecast

## •Annual Objective ~ 23,366 MWh

• About 0.5% of our 2018 retail sales





## Next Steps

## At the October PUB meeting, we will request adoption of:

- Metric 1: A ten-year achievable economic potential of 233,660 MWh
- Metric 2: A two-year conservation target of 46,732 MWh



## Distribution Automation & Enhanced Outage Management



### John Nierenberg

Manager of T&D System Planning, Operations, & Asset Management



### Today, Tacoma Power has limited visibility into real-time operations...



What is the status of a given transformer?

Distribution automation uses **digital sensors**, **switches**, & **communications technology** to automate electric distribution system functions



## Improves service quality



Distribution automation builds from new & existing utility technologies...

#### Advanced meters & communications networks

Utility geospatial platforms







### Distribution and outage management systems



### **Energy management & SCADA systems**



## **Common industry examples of distribution automation**





### Customer benefits

Reduction in customer interruptions

Automate power restoration

Reduce customer burden to report outages

SAIDI & SAIFI

Improvements

More accurate restoration times

Increased customer satisfaction



Improved equipment maintenance

Avoided truck rolls & reduced emissions

Enhanced resiliency & reliability



Real-time situational awareness

## Utility benefits

### Distribution automation enables utility modernization objectives

Equitable customer service

Environmental leadership

Economic development

Reliability & resiliency

### Advanced meters enable future distribution automation capability for TPU

