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# Performance Metrics

## Nevada PUC Alternative Rate-Making Mechanisms Workshop

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# The main idea

- Set priorities
- Identify measurable outcomes
- Measure performance
- Reward/penalize performance

# Metrics, Targets, Incentives

## Public Metrics Only

- Metrics are publicized on a publically available "dashboard."
- Examples: HI Renewable Energy Performance Metrics, HI Solar DG distribution, Puerto Rico Customer Satisfaction, Illinois Response Times report metric

## Public Metrics with Ranking

- Metrics are publicized and ranked
- Examples: Denmark DSO efficiency ranking, RIIO

## Public Metrics with Financial Incentives

- Metrics are publically available, and utilities receive financial awards or penalties depending on achievement of the metrics.
- Examples: NY REV

<https://www.raponline.org/knowledge-center/next-generation-performance-based-regulation-volume-1-introduction-global-lessons-for-success/>

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# Employing Metrics

- Choose guiding goals
- Understand status quo incentives
- Identify measurable performance criteria and create metrics
- Set targets and incentives
- Track outputs and outcomes
- Assess whether process has been helpful to meeting the guiding goal

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# Choose Guiding Goals



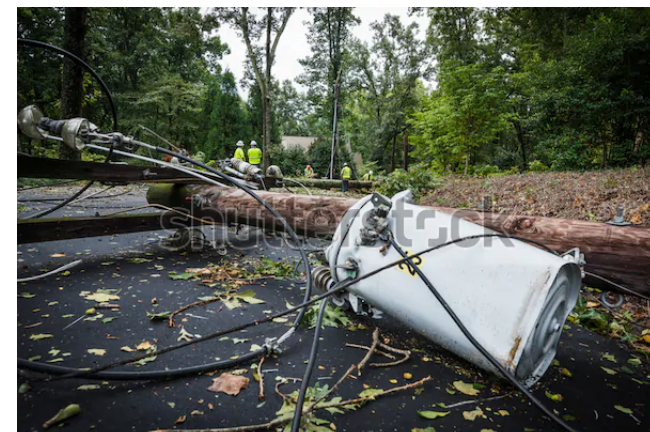
*Photo: Heidi Sandstrom*

# Examples of Guiding Goals

- Make/keep energy affordable for customers
- Improve distribution system reliability
- Minimize climate impacts



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# Understand Status Quo Incentives





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# Examples of Status Quo Incentives for Utilities

- Build and own assets to grow rate base
- Increase electricity usage to enhance profits
- Discourage activities that reduce sales and/or opportunity to grow rate base
- Limit risk for shareholders
- Cut non-capital expense

# Develop Performance Criteria



- Declining customer bills
- Reduced customer outages
- Declining carbon emissions in transportation sector



# Create Metrics

- Average monthly energy bills for residential customers
- Frequency & duration of customer outages (SAIDI/SAIFI/CAIDI/MAIFI)
- Number of installed public EV charging stations



# A Performance Metric Stakeholder Process Example

Based on one of the “outcomes” identified by the MN PUC in their January 2019 Order establishing a performance incentive mechanism process. Docket #17-401.

# **A Guiding Goal: Cost- effective alignment of generation and load**



*Photo: Heidi Sandstrom*



# Status Quo Incentives Regarding Demand Response





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# Status Quo Questions - DR

- What incentives exist for utilities to use demand response to meet system needs? Are there incentives for utilities to actively avoid deploying DR?
- Do utilities currently fully utilize cost-effective DR?
- Do utilities currently evaluate DR in planning and procurement practices?



# Performance Criteria: Increase customer participation in DR / load shape programs

Other performance criteria related to the goal:

- Better utilization of flexible loads (e.g. water heaters and EVs)
- Increase EE savings during peak hours
- Increase DER deployment
- Increase number of customers participating in time-varying rates

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# Metric Options

- Number and percent of customers (by class) enrolled in controllable thermostat or controllable water heater programs
- Available capacity of demand responsive load (MW)
- Peak demand reduction from DR programs (MW)
- Peak demand reduction from DR programs operated by third-parties (MW)
- Number of demand response events in the last year



# Performance Metrics and Utility Information System and Information Technology (IS/IT) Outcomes



# Protecting Customers from Utility Information System and Technology (IS/IT) Failures

How performance-based regulation can mimic the competitive market

David Littell, Jessica Shipley, and Megan O'Reilly<sup>1</sup>

## Introduction

Advanced information systems (IS) and information technology (IT), including benefits of automation, offer the same enhancements in service and efficiency to the utility sector as they do to other sectors of the U.S. economy. Almost every technological advancement has IT and IS behind it to make it work. Consider the example of smart meters: They require software to function; communications systems both to perform data collection and to connect their own software and hardware with the utility's systems; and, most importantly, data retention systems that allow access

<https://www.raponline.org/knowledge-center/protecting-customers-from-utility-information-system-and-technology-failures/>

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# Performance Metrics for IS/IT - Example

Goal	Outcome	Performance criteria/Functionality	Metrics to track
Personnel savings	More efficient and less costly metering	AMI system provides reliable and regular metering information to utility billing system	Accuracy of customer bills and customer complaints on billing





# About RAP

The Regulatory Assistance Project (RAP)<sup>®</sup> is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

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