

IRP WORKSHOP 2 PREPARATION MATERIALS

1 WORKSHOP OBJECTIVES

The objectives of our second 2022 IRP workshop are to:

1. Share updates to base case energy consumption assumptions in the IRP
2. Discuss key stress tests on Tacoma Power's load
3. Receive feedback on assumptions made in stress tests

2 2022 IRP BASE CASE ENERGY CONSUMPTION ASSUMPTIONS

During Workshop 2, we will discuss our updated energy consumption assumptions for our Base Case scenario. We will first present Tacoma Power's most recent forecast of energy consumption and then will discuss how we use this forecast in our IRP system model.

Tacoma Power's official forecast of energy consumption (called a load forecast) is a critical starting point for our model and is updated every year. We will use the most recent (2021) load forecast in our 2022 IRP. We forecast load separately for industrial¹ and non-industrial customers. We estimate future load for existing industrial (Schedule HVG and Schedule CP) load and anticipated new large loads based on historical trends and customer-generated projections of future activity. For non-industrial customers, we estimate future load based on historical trends and economic projections. We then subtract the cumulative estimated effect of incremental programmatic conservation and new codes & standards from our estimates of industrial and non-industrial loads to produce a final system load forecast. Our 2021 load forecast projects a slight decline in energy consumption over the next 20 years.

Tacoma Power's load forecast is deterministic and does not explicitly address uncertainty. It assumes specific (normal) weather conditions and assumes specific outcomes for customer growth and customer energy use. The IRP takes the deterministic load forecast as a starting point and considers uncertainty in both the weather conditions that affect year-to-year load variability and the long-term trends that affect load growth (or decline). During Workshop 1, we reviewed the four scenarios we will use to address changes to long-term growth projections.² For each scenario considered in the IRP, we run our system through 58 weather years (which includes both inflow conditions and temperatures seen in a historical calendar year). During Workshop 2, we will present the load variability resulting from the variable temperature conditions we see across those 58 weather years.

¹ Industrial customers are those that take their power directly from the transmission system (Schedule HVG and Schedule CP).

² As a reminder, those four scenarios are (1) Cruise Control (Base Case), (2) Carbon Policy Accelerates, (3) Technology Solves Everything and (4) Reliability Reigns.

3 STRESS TESTS

3.1 ELECTRIFICATION

In addition to our four core scenarios, we run additional simulations for separate sensitivity analyses. In the 2022 IRP, one of those sensitivity analyses will take a first look at what impact accelerated vehicle and building electrification might have on our future resource needs. In the 2022 IRP, we will treat the analysis as a separate stress test and will assume high rates of electrification. During Workshop 2, we will share our draft results of the energy consumption associated with this stress test. We anticipate including an updated set of vehicle and building electrification projections in the 2024 IRP. We welcome your thoughts on how we can improve our assumptions in this analysis.

3.2 NEW LARGE ELECTROFUEL LOAD

Another sensitivity analysis we plan to consider in the 2022 IRP is the addition of a new large electrofuel load. Electrofuel loads tend to be highly flexible (meaning they are able to turn off quickly and frequently when needed to avoid stress to our system) and support goals of decarbonizing the economy. Tacoma Power created one of the first electrofuel tariffs in 2021. Because this was a new rate structure for us and because growth of the electrofuel industry is relatively new, the current electrofuel tariff is capped to mitigate any risk to existing customers. The 2022 IRP will examine what it might mean for our resource adequacy if a larger (e.g. 80MW to 120MW) electrofuel customer were to locate in our service area. During Workshop 2, we will provide more information on electrofuels, our electrofuel tariff and some of the recent interest we have received regarding locating an electrofuel facility in the service area.