DOCKETED

Docket Number:	21-OIR-01
Project Title:	Rulemaking to Amend Regulations Governing the Power Source Disclosure Program
TN #:	249385
Document Title:	Steve Uhler Comments - OIR-2021-01 General Questions, Section 3986 of the Public Utilities Code
Description:	N/A
Filer:	System
Organization:	Steve Uhler
Submitter Role:	Other Interested Person
Submission Date:	3/21/2023 10:31:21 PM
Docketed Date:	3/22/2023

OIR-2021-01 General Questions, Section 3986 of the Public Utilities Code

OIR-2021-01 General Questions, Section 398.6 of the Public Utilities
Code

Additional submitted attachment is included below.

OIR-2021-01 General Questions, Section 398.6 of the Public Utilities Code

1) Under an hourly load matching framework, what should be the load order for determining which resources are matched to load first? In other words, which resource types should be deemed to be overprocured/overdelivered during hours in which a retailer's specified procurements exceed its hourly loss-adjusted load?

Answer:

The legislative intent is to track emissions of greenhouse gases associated with sources of electricity. Resources producing greenhouse gas sources should be tallied first. Every generator will find loads in a circuit to dissipate the power, real or reactive. All procurement is required to support loads in a circuit. Losses occur when the generation exceeds the power dissipated in loads.

No load, no power flow, no generation, no procurement.

Excess procurement never happens, the power is dissipated somewhere in the circuit, even if you have not identified where.

2) How will hourly load matching affect grid reliability in the state, particularly during emergency events?

Answer:

Load matching will improve reliability by identifying instantaneous load in circuits. Demand is measured as volt-amperes. Watts divided by power factor equals volt-amperes. Comparing watts generated to watts dissipated in loads does not identify instantaneous load in circuits, this leads to unreliable grid systems.

3) How should in-state and out-of-state line losses be calculated for determining loss-adjusted load?

Answer:

SB1158 does not speak of line losses, therefore does not limit losses to resistive. Reactive power losses must be considered.

In a electrical circuit the load dictates the amount of electricity that will flow. Amperage is the same at all points in the circuit. Voltage drop dictates the power available at the load. Reactive loads will cause some of the power to be dissipated outside of the load. The generation has to produce the volt-amperes required to power the load and the losses.

Loads can be power sources, these reactive power sources, inductive or capacitive, store power and return the power out of phase. This causes some of the power to be dissipated outside of the load. Electronic meters can identify volt-amperes, watts, and power factor at generation, and at load.

If generation is thought to have produced a excess amount, perhaps the equation should be solved by applying power factor when calculating loss-adjusted load.

Steve Uhler
sau@wwmpd.com