

# Smart Inverter Working Group

March 2, 2023

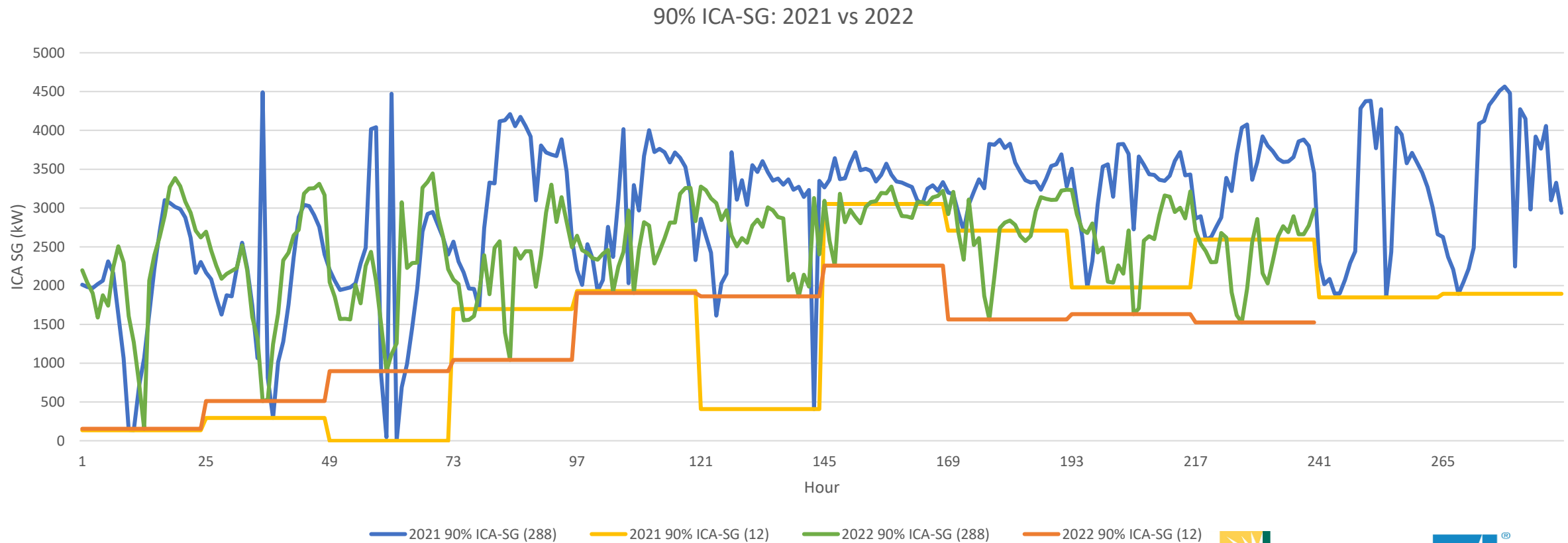
01:00 p.m. – 02:30 p.m.

# Meeting Objectives/Successful Outcome

- Stakeholder agreement on the scope of the analysis needed to achieve consensus
- Consider the constraints of the proceeding timelines and the IOUs' capabilities
- Agree on how the results will be interpreted: If there is a positive correlation (number of LGP values increases, and frequency and maximum magnitude of violation increase) between the number of LGP values and occurrence of violation, use 12 values

# Data Analysis: SCE 2021 ICA-SG Vs. 2022 ICA-SG

- This analysis examines a single node on a single circuit and compares the 90% ICA-SG results for two time periods: 2022 (Jan-Oct) to 2021 (Jan-Oct)
- 288 value profile (green and blue) vs. 12 value profile (yellow and orange) illustrate that ICA-SG can decrease from year to year
- 288 profile: ICA-SG was less in year 2 than in year 1: 173/240 hours (72%). The range of differences was **16.9 kW to 3,979.5 kW**
- 12 profile: ICA-SG was less in year 2 than in year 1: 144/240 hours or 6/10 months (60%). The range of differences was **22.4 kW to 1,144.7 kW**
- A project interconnecting to this node may have caused unexpected criteria violations since ICA-SG was lower at times in 2022 than it was in 2021.



# Analysis: Compare 90% ICA-SG for Two Time Periods

1. Select a circuit, and any 3-phase node on that circuit
2. Define the circuit load profile for two time periods of 12 months each:
  - a. Compile the 576 circuit load profile for time period 1 (e.g., 2020)
  - b. Compile the 576 circuit load profile for time period 2 (e.g., 2021)
3. Query the nameplate amount of generation that has interconnected to the subject circuit during time period 2. This parameter does not play a role in the analysis and is for information only.
4. Compute the ICA Uniform Gen Static Grid for the selected node for **period 1**; store results
  - a. Create the 288 minimum ICA-SG profile by taking the lowest ICA-SG value for each hour, multiply the profile by 90%
5. Compute the ICA Uniform Gen Static Grid for the selected node for **period 2**; store results
  - a. Create the 288 minimum ICA-SG profile by taking the lowest ICA-SG value for each hour, multiply the profile by 90%
6. Frequency: Count the number of hours where the 90% ICA-SG profile for time period 2 is less than the 90% ICA-SG profile for time period 1. Magnitude: Calculate the percent difference and the magnitude difference (kW) on an hour-by-hour basis when comparing the results from step 5 to those from step 4 . Repeat this process under the following scenarios:
  - a. For 288 distinct data points per year
  - b. For 12 distinct data points per year (monthly minimums)
7. Repeat the process for the next node on a different circuit until one node on 5 different circuits are analyzed.

# Timeline Constraints

- Proceeding timeline: Tier 3 AL to be filed May 1, 2023
- IOU capabilities and resource availability
  - Propose to complete the analysis scope presented by IOU by Workshop 4
  - Potential dates for Workshop 4: March 28, 29, 30, April 4, or 5