



# **Integrated Resource Planning Modeling Advisory Group Workshop:**

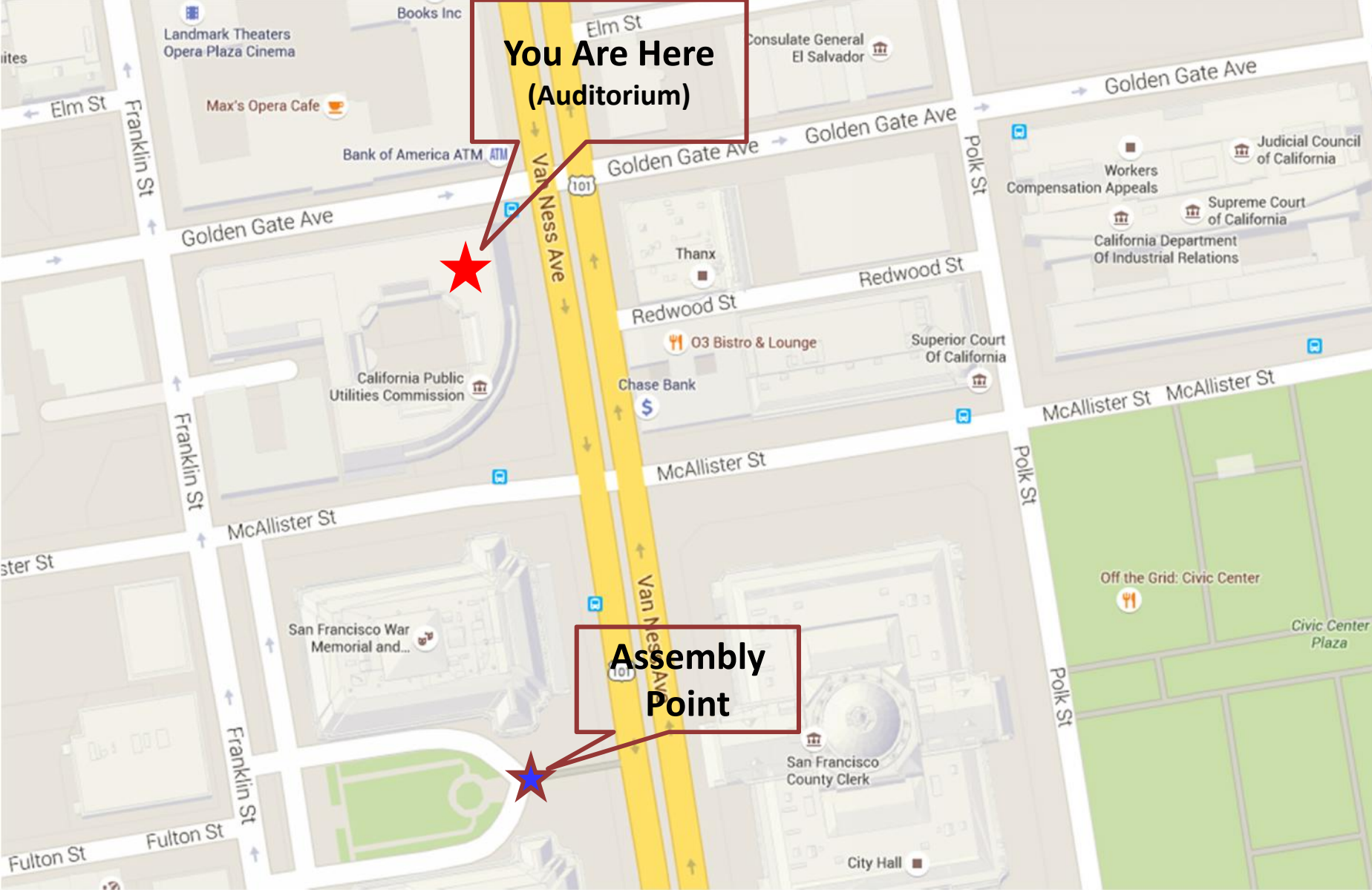
## **California Energy Systems for the 21<sup>st</sup> Century R&D Program Grid Integration Flexibility Metrics and Standards Final Report Presentation**



2 PM August 15, 2017

CPUC Auditorium

# Evacuation Map



# Workshop Information

- August 15, 2017, 2pm to 4pm
- California Public Utilities Commission  
505 Van Ness Avenue, Auditorium  
San Francisco, CA
- Call-in: 866-742-6186 Passcode: 7035289
- WebEx:  
<https://van.webex.com/van/j.php?MTID=ma9cd775ec862b3711f43a231366ecfe9>  
Meeting Number: 741 695 895  
Meeting Password: !Energy1

# Communication

We will pause periodically to take questions and also have dedicated Q&A at the end.

*In person attendees, please:*

- Announce your name and organization before speaking
- Please wait for the microphone to speak

*Remote attendees, please:*

- Announce your name and organization before speaking
- Upon entry to the call, place yourself on mute (\*6 to mute/unmute)
- Remain on mute unless you are actively asking a question

# Agenda for Workshop

<u>Item</u>	<u>Presenter</u>	<u>Time (min)</u>
1. Introduction (2:00-2:10)	CPUC Staff	10
2. Final Report Presentation (2:10-3:40)	CES-21 Project Team	90
3. Q & A (3:40-4:00)		20

# Background

- California Energy Systems for the 21<sup>st</sup> Century (CES-21) is a public-private collaborative research and development program between the Joint Utilities (PG&E, SCE, SDG&E) and Lawrence Livermore National Laboratory (LLNL), to address the challenges of cybersecurity and grid integration. The program was authorized by Commission Resolution E-4677.
- CES-21 Grid Integration project objective – examine and recommend planning metrics and standards that explicitly consider operational flexibility
  - Built upon the last few years of modeling experience in the Long Term Procurement Plan (LTPP) proceeding (succeeded by the 2016 IRP-LTPP proceeding, R.16-02-007)
  - Designed to help the LTPP proceeding evaluate and address future reliability challenges potentially posed by higher renewables penetration
  - Aligned its study with the Standard Planning Assumptions described in the May 17, 2016, Assigned Commissioner’s Ruling in R.13-12-010 (the previous LTPP proceeding)
  - Will file its final report within the 2016 IRP-LTPP proceeding and provide an opportunity for parties to comment on the report’s findings and recommendations (as required by Resolution E-4677)

# Relevance to the Integrated Resource Plan proceeding (R.16-02-007)

- IRP Modeling Advisory Group (MAG): informal, interactive forum to discuss technical aspects of modeling to support the IRP process
  - Q4 2016 – discussed use of RESOLVE capacity expansion model for developing the Reference System Plan
  - Q3 2017 – discuss analytical steps for evaluating the portfolios being considered in IRP
- Insights gained during the CES-21 project may be useful for evaluating IRP portfolios with production cost modeling
- CES-21 project used and refined the Strategic Energy Risk Valuation Model (SERVM) to assess the reliability and operational flexibility of the CAISO balancing area
  - The Resource Adequacy proceeding uses SERVM
  - Staff proposes to use SERVM for production cost modeling to support IRP

# Next Steps

- Next MAG meeting: Webinar, late Aug/early Sept, 2017
  - Propose analytical steps to evaluate IRP portfolios including the scope and sequence of production cost modeling
    - Scope – e.g. study years, metrics
    - Sequence – e.g. first study Reference Plan, then study LSE Plans when submitted in 2018
- Full final report on the CES-21 Grid Integration project coming very soon
  - Following the report, CPUC will provide instructions to parties setting a deadline and providing guidance on submitting comments on the project's findings and recommendations