Subject: Comments of Union of Concerned Scientists, Sierra Club, and California Environmental Justice Alliance on June 3, 2020 Transmission Planning Process Stakeholder Meeting

The Storage Mapping and Resource Retirement Assessment, along with the 2030 Long-Term Capacity Technical Study, can and should directly inform procurement and planning in the Integrated Resource Plan (IRP) Proceeding currently underway at the California Public Utilities Commission (CPUC). The Union of Concerned Scientists (UCS), Sierra Club, and California Environmental Justice Alliance (CEJA) recommend that these studies continue with the specific directive of reducing gas generation and enabling the future retirement of gas plants in local capacity areas. Through the IRP proceeding, the CPUC directed load-serving entities to procure over 3,000 megawatts of new resources to address shortfalls in system capacity, but this authorization did not evaluate potential local capacity area needs, how to facilitate the phase-out of natural gas facilities, or how targeted procurement could mitigate market power in local areas. The CPUC provided load-serving entities with no guidance on where to site these new resources, but the CAISO currently has the opportunity to fill that gap.

By connecting the local capacity requirements (LCR) studies and the storage mapping exercise to the IRP proceeding, CAISO can signal to Load Serving Entities (LSE) where new storage and renewable resources would be most effective at meeting multiple goals, including provision of local resource adequacy capacity, reducing or displacing gas generation, and decreasing greenhouse gas and criteria pollutant emissions. The ability to site those resources in locations where they can decrease or even fully displace gas generation would offer significant public health and climate benefits. To this end, the storage mapping exercise and the 2030 Long-Term Capacity Technical Study can illustrate the locations where energy storage can best produce these benefits. We encourage this work to continue with the specific goal of displacing gas generation in mind.

I. Storage Mapping and Resource Retirement Assessment

We support CAISO's plan for the storage mapping and resource retirement assessment. This information aids parties in understanding where new resources can be sited in order to address local needs while enabling the reduction or retirement of gas generation. When targeted to local capacity areas in disadvantaged communities, storage can produce local investment alongside air quality improvements in communities that face disproportionate environmental burdens.

The storage mapping and resource retirement assessment should include additional information to help ensure more effective storage deployment and reduced need for gas-fired generation. This information would be immediately useful to California LSEs that still need to conduct near-term procurement as directed by the most recent IRP decision. The assessment should include information about how the storage will be charged and what types of storage will be modeled. For example, storage duration characteristics would be helpful, as it would provide LSEs with actionable signals about the type of storage that would be needed. Also, understanding how the mapped storage will be charged can clarify how the storage will impact greenhouse gas emissions and criteria air pollutant emissions.

The storage mapping and resource retirement assessment should prioritize the study of the LA Basin and the Greater Fresno areas as renewable zones of interest for storage investment. During the presentation at the June 3 meeting, CAISO staff asked how to identify specific renewable zones of interest.[1] Ideally, the CAISO would study all local capacity areas and subareas in order to inform stakeholders where storage will specifically displace gas generation. However, given the time and effort required to conduct these studies, we suggest that the CAISO prioritize studies of areas and/or subareas that meet the following criteria:

1) Local Capacity Areas or subareas that suffer the worst air quality;
2) Local Capacity Areas or subareas that have a high percentage of disadvantaged communities (DACs); and
3) Local Capacity Areas or subareas where gas plant retirements and siting of preferred resources and storage is consistent with community priorities.

The assessment can utilize CalEnviroScreen data to identify disadvantaged communities and focus on disadvantaged communities within local capacity areas.[2] The assessment can also use maps of areas that are not in attainment of federal Clean Air Act standards to identify which areas would benefit most from reductions in localized air pollution (see Table 1 below). Outreach to communities as well as public comments could serve as an opportunity to understand where storage deployment alongside gas plant retirements reflect community priorities.

[1] CAISO Presentation, 2020-2021 Transmission Planning Process, slide 38 (June 3, 2020).
[2] California Office of Environmental Health Hazard Assessment, CalEnviroScreen 3.0 (June 25, 2018), *available at* https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-30.

UCS, Sierra Club, and CEJA support the CPUC's recommended process for modeling resource retirement, but CAISO should provide additional data about the findings from each step so that bottlenecks for storage deployment can be identified and addressed in future planning processes. There may be some areas where local area requirements are not met even after battery storage is added up to known battery storage charging limits.[3] The assessment should identify those areas so that future IRPs and Transmission Planning Processes (TPP) can consider ways to reduce reliance on fossil fuel generation in those areas, whether that requires new transmission alternatives, additional storage deployment, or deployment of other resources. Otherwise, the limitations on storage could prevent additional gas retirements and hinder progress toward California's climate goals.

II. 2030 Long-Term Local Capacity Technical Study

UCS, Sierra Club, and CEJA also support the plan for the 2030 Long-Term Local Capacity Technical study (2030 LLCT Study) as a means to direct near-term procurement towards long-term results—namely the reduction of greenhouse gas and criteria pollutant emissions. The 2030 LLCT Study can advance the IRP procurement efforts by signaling to LSEs where storage procurement would displace gas generation over the long-term. The results from the study could additionally inform siting for renewable energy deployment.

As mentioned above, the CPUC has directed LSEs to undertake near-term procurement in order to fulfill a system capacity shortfall. However, many stakeholders and LSEs want to see those investments directed to locations that will provide benefits beyond just system capacity. Parties want to plan for the orderly retirement of gas plants—particularly those near population centers—without reliability impacts or the need for backstop procurement.

Like the storage mapping study, we would like to see the 2030 LLCT study identify potential alternatives to gas-fired generation for every Local Capacity Area and Subarea. However, given the time and effort required to conduct these studies, we suggest that the CAISO prioritize studies of areas and/or subareas that:

1) Suffer the worst air quality;
2) Have a high percentage of disadvantaged communities (DACs); and
3) Have community priorities for enabling the retirement of gas plants alongside the deployment of preferred resources and storage.

Considering the criteria outlined above, we suggest that the CAISO prioritize study of the LA Basin and Greater Fresno area. These Local Capacity Areas cover many disadvantaged communities, many of which host gas or biomass plants. Additionally, the counties covered by these LCAs suffer from serious, severe, and extreme nonattainment for both fine particulate

[3] Sushant Barave, Storage mapping and resource retirement in policy assessment, California Independent System Operator, p. 8 (June 3, 2020), *available at* http://www.caiso.com/Documents/Presentation-2020-2021TransmissionPlanningProcess-Jun032020.pdf.

matter and ground-level ozone.[4] The table below summarizes the nonattainment designations for counties in the Greater Fresno and LA Basin local capacity areas, as well as gas power plants within each county.

Table 1: California Counties with 2020 Serious, Severe, and/or Extreme Nonattainment Designations for Both PM2.5 and Ozone[5]

County / City	PM2.5 Designation	Ozone Designations	LCR Area[6]	Natural Gas Power Plants located in DACs[7]
Fresno County, San Joaquin Valley, CA	Serious (1997 and 2006 stds), Moderate (2012) std)	Extreme (2008 and 2015 stds)	Greater Fresno	5 peaker plants and 1 combined cycle
Kern County, San Joaquin Valley, CA	Serious (1997 and 2006 stds), Moderate (2012 std)	Extreme (2008 and 2015 stds)	Greater Fresno	17 cogen and 3 combined cycle
Kings County, San Joaquin Valley, CA	Serious (1997 and 2006 stds), Moderate (2012 std)	Extreme (2008 and 2015 stds)	Greater Fresno	1 peaker
Los Angeles County, CA	Moderate (1997 std), Serious (2006 std), Moderate (2012 std)	Extreme (2008 and 2015 stds)[8]	LA Basin	4 OTC (some in process of retirement), 10 cogen, 5 peaker, 5 combined cycle
Madera County, San Joaquin Valley, CA	Serious (1997 and 2006 stds), Moderate (2012 std)	Extreme (2008 and 2015 stds)	Greater Fresno	(1 peaker in census tract at the 71 percentile)
Merced County, San Joaquin Valley, CA	Serious (1997 and 2006 stds), Moderate (2012 std)	Extreme (2008 and 2015 stds)	Greater Fresno	(biomass located in DACs)

[4] *See* U.S. EPA, California Nonattainment/Maintenance Status for Each County by Year for All Criteria Pollutants, *available at* https://www3.epa.gov/airquality/greenbook/anayo_ca.html (last updated May 31, 2020).
[5] *Id*.
[6] Part of each of these counties appears to fall within the LCR area, but some part of the county may fall outside the LCR area. This information was obtained by generally reviewing maps of larger LCR areas available by the CAISO and the CEC.
[7] This information was obtained by PSE Healthy Energy's California Power Map, https://www.psehealthyenergy.org/california-power-map/.
[8] The EPA designated the portion of LA County in the South Coast Air Basin as in Extreme nonattainment. The San Bernardino/Mojave portion of LA County was addressed separately and designated as Severe 15 for 2008 and 2015.

County / City	PM2.5 Designation	Ozone Designations	LCR Area[6]	Natural Gas Power Plants located in DACs[7]
Orange County, Los Angeles-South Coast Air Basin, CA	Moderate (1997 std), Serious (2006 std), Moderate (2012 std)	Extreme (2008 and 2015 stds)	LA Basin	4 peakers
Riverside County, Los Angeles-South Coast Air Basin, CA	Moderate (1997 std), Serious (2006 std), Moderate (2012 std)	Extreme (2008 and 2015 stds)	LA Basin	1 combined cycle, 2 peaker, 2 cogen
San Bernardino County, Los Angeles-South Coast Air Basin, CA	Moderate (1997 std), Serious (2006 std), Moderate (2012 std)	Extreme (2008 and 2015 stds)	LA Basin	5 peaker, 2 cogen
San Joaquin County, San Joaquin Valley, CA	Serious (1997 and 2006 stds), Moderate (2012 std)	Extreme (2008 and 2015 stds)	Greater Fresno	(biomass located in DACs)
Tulare County, San Joaquin Valley, CA	Serious (1997 and 2006 stds), Moderate (2012 std)	Extreme (2008 and 2015 stds)	Greater Fresno	1 peaker

Ideally, the findings of the 2030 LLCT study will inform LSE procurement over the near-term by providing signals for where new procurement would be most effective in reducing the need for gas-fired power. LSEs are currently planning to procure new resources in order to comply with the Commission's order, but they lack the information necessary to identify where those resources could reduce gas generation or enable the eventual retirement of existing gas plants. We recommend that the 2030 LLCT study prioritize the study of the LA Basin and Greater Fresno areas, while keeping in mind the distinct need to signal where storage deployment would be most effective.

Thank you for the opportunity to comment, and we look forward to continuing to work with you on these issues.

Respectfully submitted,

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