SOUTHERN CALIFORNIA EDISON
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December 7, 2021

Ms. Susan Nakamura
Assistant Deputy Executive Officer
Planning, Rule Development and Area Sources
South Coast Air Quality Management District
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**SUBJECT: Proposed Amended Rule 1135 - Emissions of Oxides of Nitrogen from Electricity Generating Facilities**

**Proposed Rule 429.2 - Startup and Shutdown Exemption Provisions for Oxides of Nitrogen from Electricity Generating Facilities**

Dear Ms. Nakamura:

Southern California Edison (SCE) appreciates the opportunity to comment on the new draft language issued on December 3, 2021 by the South Coast Air Quality Management District (SCAQMD) for Proposed Amended Rule (PAR) 1135 and Proposed Rule (PR) 429.2. SCE remains committed to working with the SCAQMD to comply with the rules.

SCE supports the provisions of the December Draft as they would apply to our combined-cycle gas turbine facility (Mountainview Generating Station) and four simple-cycle gas turbine facilities (Barre, Center, Grapeland, and Mira Loma Peakers). SCE also supports many of the December Draft's proposed requirements for non-emergency diesel internal combustion engines and appreciates that the SCAQMD has recognized the unique operation and challenges at our Pebbly Beach Generating Station ("PBGS") on Santa Catalina Island ("Catalina" or "the Island"). Nonetheless, SCE has significant concerns about the revised draft PAR 1135 issued on December 3, 2021 ("December Draft") and its effect on PBGS. Specifically, SCE believes the December Draft will impede SCE's ability to provide reliable and affordable electric utility service while maintaining environmental stewardship. SCE's analysis to date indicates other zero-emissions technologies are not technically viable or cost effective.

SCE requests the following changes to the December Draft:

- The nitrogen oxides (NOx) emission limit for Electric Generating Units in subparagraph (d)(2)(A) should be increased from 40 tons/year to 53 tons/year.

- The removal of existing Electric Generating Units should be an acceptable alternative to complying with the 13 tons/year facility-wide limit effective on January 1, 2026.
- The reference to "facility-wide" mass emissions should be changed to "mass emission limit from Electric Generating Units."
- The deadline-extension provision should be revised to allow the operation of existing Electric Generating Units as backup units between January 1, 2024 and January 1, 2027.
- An exemption should be created for portable and emergency engines.

Our suggested revisions presented below will take the form of additions shown in **bold underline** text and deletions in ~~strikethrough~~ text.

## PAR 1135

### A. The proposed facility-wide emissions limit and implementation deadlines should be revised to reflect the current BARCT standard and a practicable timeframe.

The December Draft's reduction of the interim facility-wide NOx limit from 55 tons/year to 40 tons/year (by January 1, 2024) is infeasible given the operations and load requirements at PBGS. In the October Draft, the SCAQMD proposed the replacement of five diesel generators by January 1, 2024 and provided the opportunity to request an extension of up to three years if PBGS's annual NOx emissions did not exceed 55 tons for the 2023 reporting year and thereafter.[1] SCE was not opposed to the October Draft's 55-ton annual emissions limit because it can be reasonably met by replacing Units 8 and 10 (identified as Engines 6 and 1, respectively, in the SCAQMD's 2018 Staff Report) on the current project timeline, assuming a Permit to Construct is issued by June 2022.

In the December Draft, however, SCAQMD has reduced the emissions limit past the point that would allow SCE to meet forecasted electric demand on the Island and comply with PAR 1135 in the required time frame. SCE discusses its significant concerns about the achievability of the new proposed emissions limit below.

1. U.S. EPA Tier 4 Final-certified generator sets are currently considered BARCT for the unique power generating operation at PBGS.

In its 2018 Staff Report for the initial draft of PAR 1135, the SCAQMD stated that U.S. Environmental Protection Agency (U.S. EPA) Tier 4 Final-certified engines are considered Best

[1] October Draft at subparagraph (d)(3)(A).

Available Retrofit Control Technology (BARCT).[2] The SCAQMD did not revise its BARCT analysis in the 2021 Staff Report on the rule amendment.[3] SCE conducted a BARCT and Best Available Control Technology (BACT) analysis as part of our PBGS permit application submitted on April 30, 2021 and agreed with the SCAQMD that U.S. EPA Tier 4 Final-certified generator sets are BARCT (and BACT, which the SCAQMD did not address).

In its Feasibility Study SCE and its partners National Renewable Energy Laboratory (NREL) and NV5 evaluated a wide variety of zero-emissions technologies options (including solar, wind, and tidal power, demand response and energy efficiency) but not zero-emissions fuel cells explicitly. However, SCE determined these technologies were not feasible as the primary power generation on the island due to their intermittent nature, land constraints, ability to meet compliance timelines and costs. SCE does see these technologies as complements to its proposed BARCT diesel compliance project to further reduce emissions and is committed to launching a clean energy "All Source" solicitation in 2022 for renewables, energy storage, demand response and energy efficiency. At the same time SCE continues to engage the landowners on Catalina to access land for renewable energy and energy storage. In its comment letter on the October Draft, Community Environmental Services (CES)[4] asserted that zero-emission fuel cells should be evaluated as BARCT for PBGS and urged SCAQMD to revise its original BARCT analysis accordingly. [5]

SCE understands CES's concerns regarding the continued long-term use of fossil-fuel-fired generators and has engaged fuel cell representatives to evaluate this technology and its feasibility to reliably compliment SCE proposed project to meet Catalina electrical customers' demands and SCAQMD's compliance requirements at a reasonable cost. SCE is committed to identify and implement the best option to balance reliability, affordability, and environmental stewardship at PBGS. SCE expects to complete a new BARCT analysis addressing these alternative technologies for PBGS by the end of 2022. Conducting a thorough, fact-based analysis is the only way to ensure that BARCT requirements are feasible and the implementation timeline is achievable, given the

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[2] SCAQMD. Draft Staff Report. Proposed Amended Rule 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities (October 2018). The report is available at www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1135/par-1135---dsr---final.pdf?sfvrsn=12.

[3] SCAQMD. Preliminary Draft Staff Report. Proposed Amended Rule 1135 – Emissions of Oxides of Nitrogen from Electricity Generating Facilities. Proposed Rule 429.2 – Startup and Shutdown Exemption Provisions for Oxides of Nitrogen from Electricity Generating Facilities (October 2021). The report is available at www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1135/par-1135-and-pr-429-2-preliminary-draft-staff-report---10-21-22.pdf?sfvrsn=14.

[4] Community Environmental Services to SCAQMD RE: Proposed Amended Rule 1135 (November 10, 2021). The comment is available at http://www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1135/proposed-amended-rule-1135---ces.pdf?sfvrsn=6

[5] Email from Community Environmental Services to SCAQMD RE: Proposed Amended Rule 1135 (November 10, 2021). The comment is available at www.aqmd.gov/docs/default-source/rule-book/Proposed-Rules/1135/proposed-amended-rule-1135---ces.pdf?sfvrsn=6.

unique location and operating challenges of PBGS. However, in the meantime SCE needs to move forward with the proposed project to meet SCAQMD's new requirements and timelines.

Based on the current BARCT analysis conclusions separately reached by the SCAQMD and SCE, SCE intends to replace three engines with U.S. EPA Tier 4 Final-certified generators in order to expeditiously reduce NOx emissions at the facility by January 1, 2024. SCE will continue to conduct additional BARCT analysis to identify other alternative technologies for submission to SCAQMD by January 1, 2023.

2. <u>The new emissions-reduction target of 40 tons/year is infeasible</u>.

In the December Draft, the SCAQMD proposes a NOx emissions limit of 40 tons/year starting on January 1, 2024 (down from 55 tons/year in the October Draft).[6] It is unclear how this 40 tons/year limit was derived. However, based on the SCAQMD's analysis in its 2018 Staff Report, at least five existing generators must be replaced by U.S. EPA Tier 4 Final-certified generators to achieve an annual NOx emissions target of 40 tons/year as shown in Table 1 (69.4 – 30.5 = 38.9 tons).

Taking into account PBGS's configuration, the need for a reliable electricity supply on the Island, anticipated changes to Rule 1135, and all parties' desire for significant near-term emissions reductions, SCE has planned to replace Units 8, 10, and 14 by January 1, 2024. SCE would achieve approximately 16.5 tons of NOx emissions reduction per year upon replacement of the three units. Under this plan, by January 1, 2024, total NOx emissions from the Electric Generating Units at PBGS are projected to be 52.9 tons/year—slightly lower than the 55 tons/year limit proposed in the October Draft. Accordingly, SCE respectfully requests that the NOx emission limit for Electric Generating Units in subparagraph (d)(2)(A) be revised from 40 tons/year to 53 tons/year. The latter target is both ambitious and realistic.

*Table 1. NOx Emissions Profile at PBGS*

| **SCAQMD 2018 Staff Report Unit** | **SCE Unit** | **Size (bhp)** | **2016 Annual NOx Emissions (tons)** | **NOx Permit Limit (ppmv @ 15% oxygen dry)** | **Proposed BARCT NOx Emission Limit (ppmv @ 15% oxygen, dry)** | **Annual Emission Reductions (tons)*** |
|---|---|---|---|---|---|---|
| ICE1 | Unit 10 | 1,575 | 16 | 6.5 lbs/MWh | 45 | 9.9 |
| ICE3 | Unit 14 | 1,950 | 5.3 | 6.5 lbs/MWh | 45 | 2.7 |
| ICE6 | Unit 8 | 2,150 | 8.2 | 6.5 lbs/MWh | 45 | 3.9 |
| ICE5 | Unit 7 | 1,500 | 12 | 6.5 lbs/MWh | 45 | 5.6 |
| ICE2 | Unit 12 | 2,200 | 22 | 6.5 lbs/MWh | 45 | 8.4 |
| ICE4 | Unit 15 | 3,900 | 5.9 | 51 | 45 | 0.7 |
| *Total* | | | 69.4 | | | 31.2 |

[6] Compare subparagraph (d)(3)(A) of the October Draft with subparagraph (d)(2)(A) of the December Draft.

3. The reference to "facility-wide" mass emissions should be changed to "mass emission limit from Electric Generating Units."

Separately from the six diesel units, SCE uses other emissions-producing equipment at PBGS such as emergency generators, microturbines, power washers, and other Rule 219 permit-exempt equipment. It is our understanding that the emissions limit proposed in the Rule 1135 amendment pertains to the six Electric Generating Units at PBGS, not to other emission sources. SCE requests that the phrase "facility-wide mass emissions" in subparagraph (d)(2) be changed to "emissions from Electric Generating Units."

4. Additional analysis must be conducted to confirm whether an annual NOx limit of 13 tons/year is possible.

The December Draft's NOx emissions limit of 13 tons/year (effective January 1, 2026) proposed in subparagraph (d)(2)(c) rests on the assumption that SCE could either (1) implement 100% zero-emissions technologies such as solar or wind power; or (2) connect the Island to the mainland via undersea cables with some backup generation for planned or unplanned outages from the existing diesel generators for up to three months. This assumption may not be accurate and the 13 tons/year emissions limit may not be achievable by the proposed deadline (even with the three-year extension). SCE has learned that maintenance/outage-related downtime associated with an undersea cable could be up to one to two years, so the proposed three-month allowance for backup diesel generation will not suffice. The 13 tons/year cap also assumes the Island's load demand will remain the same in the future. Certain significant load increases are difficult to predict in the future (such as cruise ship electrification, which would be significant and outside of SCE's control). A hard emissions cap would effectively disallow any future load growth.

Further, SCE opposes the inclusion of a mass emissions cap in addition to concentration-based limits, as the stated goal of the RECLAIM transition was to move away from facility emission caps to command-and-control limits. Imposing both at the same time will add operational (i.e., hourly) restrictions that go above and beyond a command-and-control approach and may impede SCE's ability to reliably serve load and meet compliance requirements.

Finally, subparagraph (d)(2)(B) should be revised to allow major engine maintenance (that could constitute reinstallation or replacement) for new Electric Generating Units so long as it is SCAQMD-approved and meets the BARCT standard at the time of the maintenance.

SCE respectfully requests the following revisions to subparagraph (d)(2):

(2) Electric Generating Units Located on Santa Catalina Island

The owner or operator of an electricity generating facility located on Santa Catalina Island with ~~diesel internal combustion engines~~ **Electric Generating Units** shall:

(A) By January 1, 2024, meet ~~a facility-wide~~ mass emission limit **from Electric Generating Units** of **53** ~~40~~ tons of NOx annually, including mass emissions from startups and shutdowns;

(B) Not install or replace any **Electric Generating Units** ~~diesel internal combustion engines~~ after January 1, 2024 **unless the Electric Generating Unit meets the Best Available Retrofit Control Technology standard and is approved by the Executive Officer**; and

(C) On and after January 1, 2026, **either: remove Electric Generating Units that do not meet the emissions limits in subparagraph (d)(3) and the Best Available Retrofit Control Technology standard in subparagraph (d)(2)(B); OR** meet a ~~facility-wide~~ mass emission limit **for Electric Generating Units** of 13 tons of NOx annually, **including** mass emissions from startups and shutdowns.

**B. The deadline-extension provision should be revised to allow the operation of the existing diesel generators as backup units after January 1, 2024.**

SCE recognizes the urgency in reducing NOx emissions as soon as January 1, 2024 and we have designed our compliance plan accordingly. However, the revised time-extension provision in the December Draft would prevent SCE from continuing to operate the existing generators (as backups) starting January 1, 2024. SCE requests the reinstatement of the time-extension concept from the October Draft, which would have allowed the existing generators to be used as backups until they are replaced by the new Electric Generating Units that meet the BARCT requirement. This is critical to SCE's ability to serve load and meet all compliance requirements.

SCE requests the following revisions to subparagraph (d)(4):

> (4) Time Extension
>
> (A) The owner or operator of an electricity generating facility on Santa Catalina Island may submit a request to the Executive Officer for a time extension of up to three years to meet the ~~facility-wide mass~~ emissions limits specified in subparagraph**s** (d)(2)(C) **and (d)(3)**.

**C. An exemption should be created for portable and emergency engines.**

Although the term "Electric Generating Units" is clearly defined, the term "Diesel Internal Combustion Engines" is used in several locations without reference to the term "Electric Generating Units." This could be misinterpreted to include emergency internal combustion engines and portable engines registered under the California Air Resources Board Statewide Portable Equipment Registration Program ("PERP"), which are critical to the construction and maintenance of SCE's electricity distribution system on the Island. SCE requests that SCAQMD add an explicit exemption for emergency and PERP engines to subparagraph (g)(5):

> (g) Exemptions
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> (5) **Santa Catalina Island**
>
> **(A)** Internal combustion engines located on Santa Catalina Island are exempt from subdivision (f).
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> (B) **The provisions of this rule shall not apply to emergency internal combustion engines and portable engines registered under the California Air Resources Board Statewide Portable Equipment Registration Program (PERP) located on Santa Catalina Island.**

Thank you for your consideration of SCE's comments on the proposed rules. We look forward to continuing to work with you and your staff on this process. If you have any questions or would like to discuss these issues, please contact Joy Brooks, Senior Air Quality Manager at (626) 302-8850 or joy.s.brooks@sce.com.

Sincerely,

DocuSigned by:
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