

Proceeding No.: R.20-11-003  
Exhibit No.: DGC-01  
Witnesses: Paul Shepard



**Order Instituting Rulemaking to Establish Policies,  
Processes, and Rules to Ensure Reliable Electric Service in  
California in the Event of an Extreme Weather Event in  
2021**

**Opening Testimony of Diamond Generating Corporation**

Before the California Public Utilities Commission

Sacramento, California  
September 1, 2021

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1           **I. INTRODUCTION**

2           Diamond Generating Corporation (hereinafter referred to as “Diamond” or “Diamond  
3           Generating LLC”) submits this written testimony in response to Administrative Law Judge Brian  
4           Stevens’ August 16, 2021 E-Mail Ruling Issuing Commission Developed Staff Concepts Proposal  
5           Document And Seeking Comment In Opening Testimony Due September 1, 2021.

6           **II. TESTIMONY OF PAUL SHEPARD ON BEHALF OF DIAMOND**

7                           **A. Description of Party and Witness**

8           My name is Paul Shepard. I am the Chief Operating Officer of Diamond Generating  
9           LLC. I have over 20 years of experience in the power industry with a comprehensive  
10          background in Asset Management, financial planning & analysis, and EPC managing power  
11          projects for Fluor, Duke Energy North America, Constellation Energy and Diamond Generating  
12          LLC. I have been the direct asset manager for multiple projects across a diverse technology  
13          range including coal, biomass, geothermal, hydro, wind, solar and gas-fired generation. I have  
14          performed commercial functions ranging from structuring for production tax credits to leading  
15          the construction of a power plant in Alberta Canada. I hold a Master’s and Bachelor’s degree in  
16          Chemical Engineering and an MBA from the University of Southern California.

17          Diamond owns and operates several existing fast starting, firm capacity, peaking  
18          facilities. These facilities have strong operational histories, making capacity available to grid  
19          operators when needed, such as during system emergencies and during net peak demand periods.  
20          As such, these facilities provide necessary reliability insurance to the grid.

21          Diamond’s assets have performed especially well during the times of greatest system  
22          need. One example of importance of our peaking facilities was identified by California’s energy  
23          agencies and the California Independent System Operator (“CAISO”) Final Root Cause Analysis  
24          of the September reliability events. In response to projected supply-side shortfalls during the

25 August 16 through 19 extreme heat event, Sentinel Energy Center contributed an additional 45  
26 MW to cover projected supply-side shortfalls beyond what was already committed through the  
27 Resource Adequacy program.<sup>1</sup> As discussed below, the Commission should use this proceeding  
28 to not only ensure that new capacity is available, but also ensure that existing facilities remain  
29 available to grid operators.

### 30 **B. Purpose of My Testimony**

31 The purpose of my testimony is to respond to ALJ Stevens’ August 16, 2021 ruling seeking  
32 comments on the Energy Division Staff Concept Paper Proposals for Summer 2022 and 2023  
33 (hereinafter “Concept Paper”). Additionally, the topics of this testimony are consistent with the  
34 expanded scope for Phase 2 of this rulemaking provided in the Assigned Commissioner’s  
35 Amended Scoping Memo and Ruling for Phase 2, issued August 10, 2021, and which calls for  
36 consideration of an increase in peak and net peak supply resources in 2022 and 2023. Herein, I  
37 address certain supply-side issues. In particular, Diamond supports regulatory measures that open  
38 pathways for thermal resources to transition to integrate decarbonization solutions, such as  
39 renewable natural gas (“RNG”) and blending hydrogen (“H2”) into the fuel supply.

### 40 **C. Existing Natural Gas Generation Resources and Untimely Risk of** 41 **Retirement Due to Restrictive or Untimely Procurement Directives**

42 Existing firm capacity resources face risks of retirement prior to their assumed 40-year  
43 lifetimes when there is not a clear signal or opportunity for longer term contracting. The  
44 existence of this risk and need to protect the CAISO system from retirement of existing firm  
45 capacity resources is inherent in the CAISO’s backstop capacity procurement programs. CAISO  
46 attempts to address this risk through its reliability must run mechanism, which allows CAISO to

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<sup>1</sup> Final Root Cause Analysis Mid-August 2020 Extreme Heat Wave, January 13, 2021, p. 68. Please note that the Sentinel Energy Center is identified as CPV Sentinel Energy Project in the report.

47 procure retiring or mothballing generating units still needed to ensure compliance with  
48 applicable reliability criteria. For example, in 2021, CAISO has denied retirement or mothball  
49 requests from generators needed for system-wide reliability.<sup>2</sup> However, relying on CAISO for  
50 procurement from generators is not ideal from a ratepayer perspective, and does not incentivize  
51 the project owner/operator to make environmentally beneficial plant modifications, such as  
52 efficiency improvements that add capacity to an existing plant with an improved GHG profile.

53 **D. The CPUC Should Protect System Reliability While Progressing**  
54 **Toward California’s Carbon Reduction Goals by Encouraging**  
55 **Integration of Hydrogen and Renewable Gas Technologies at**  
56 **Generators Capable of Serving Net Peak Demand.**

57 As opposed to relying on CAISO’s Reliability Must Run (“RMR”) contracting  
58 mechanism, the CPUC should be focused on creating pathways for existing facilities that are  
59 crucial to maintaining system reliability to convert their operations to preferred technologies to  
60 the greatest extent possible. Consideration of this conversion is currently a topic in the  
61 Integrated Resource Planning rulemaking where use of a blend of renewable hydrogen at  
62 existing gas plants is a possible capacity solution in the IRP proceeding.<sup>3</sup> While Diamond does  
63 not support the entirety of the ruling’s proposal, we do support the discussion around permitting  
64 procurement from natural gas resources using a blend of renewable natural gas or hydrogen.

65 In particular, converting existing facilities to use hydrogen or renewable natural gas  
66 provides an immediate opportunity to ensure that capacity from these existing peaking facilities  
67 remains available to grid operators through the mid-term, while at the same time reducing their  
68 overall emissions profile within the 2022 and 2023 timeframes set forth in the Ruling.

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<sup>2</sup> CAISO Clarification to the Reliability Must Run Designation Process Issue Paper, Aug. 10, 2021, p. 1.

<sup>3</sup> Administrative Law Judge’s Ruling Seeking Comments on Proposed Preferred System Plan, R. 20-05-003, Aug. 17, 2021, pp. 39-42.

69 Integration of RNG is also consistent with the CPUC’s work in the pipeline biomethane  
70 proceeding, which has declared capture and use of RNG in the public interest.<sup>4</sup> Diamond is  
71 ready and willing to take measures and investment in its existing facilities to allow the use of up  
72 to 30 percent hydrogen. Based on our discussions with technology providers, 30% hydrogen  
73 blending is feasible within the 2022 and 2023 timeframes. Higher levels of hydrogen blending  
74 will likely not be available by 2022 and 2023 due to the need for more significant changes to the  
75 generating facilities. This type of technology option (i.e., procuring RNG and/or blending 30%  
76 hydrogen) should be prioritized in any procurement authorizations that may be made in Phase 2  
77 of this rulemaking. At a minimum, these types of technology solutions should not be excluded  
78 from any longer-term procurement authorizations adopted in this phase of the OIR.

79 **E. Procurement from Existing Power Plant Sites May Avoid Barriers to**  
80 **Deliverability Associated with the Interconnection Process**

81 The expanded scope for Phase 2 includes consideration of how interconnection issues  
82 could impact efforts to increase peak and net peak supply resources in 2022 and 2023.<sup>5</sup> In that  
83 regard, the CPUC must recognize that capacity deliverability delays due to the lengthy  
84 transmission interconnection process, and possibly necessary system upgrades, are avoided or  
85 unlikely when utilizing existing interconnections and deliverability capability present at existing  
86 generator sites. This is a particularly important consideration for the 2022-2023 timeframe.

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<sup>4</sup> D.20-08-035, Decision Adopting the standard Renewable Gas Interconnection Tariff, p. 9.

<sup>5</sup> Assigned Commissioner’s Amended Scoping Memo and Ruling for Phase 2, Aug. 10, 2021, p. 4.

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**III. VERIFICATION**

I, Paul Shepard, hereby certify under penalty of perjury that this testimony was prepared by me or at my direction, and that this testimony is true and correct, to the best my knowledge.

Signed: \_\_\_\_\_/s/  
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