

Filed 7/6/11; pub. order 8/3/11 (see end of opn.) **Caution:** On 8/3/11, the opinion in G043087, involving the same parties, but reviewing different PUC decisions, was mistakenly posted in lieu of G043088. G043087 was not certified for publication and has been deleted from the published opinion page of this Web site.

IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA

FOURTH APPELLATE DISTRICT

DIVISION THREE

DOUGLAS A. AMES,

Petitioner,

v.

PUBLIC UTILITIES COMMISSION,

Respondent;

SOUTHERN CALIFORNIA EDISON
COMPANY et al.

Real Parties in Interest.

G043088

(CPUC Decision Nos. D.09-08-027 &
D.10-03-023)

O P I N I O N

Original proceedings; review of decisions of the Public Utilities
Commission of the State of California. Decisions affirmed.

Douglas A. Ames, in pro. per., for Petitioner.

Frank R. Lindh, Helen W. Yee, and Pamela Nataloni for Respondent.

Jennifer T. Shigekawa and R. Olivia Samad for Real Party in Interest
Southern California Edison Company.

Lise H. Jordan and Mary A. Gandesbery for Real Party in Interest Pacific Gas and Electric Company.

Steven D. Patrick for Real Party in Interest San Diego Gas & Electric Company.

* * *

Petitioner Douglas A. Ames asserts the California Public Utilities Commission (commission or PUC) erred by approving certain budget proposals by real parties in interest (collectively, the utilities).¹ Citing Public Utilities Code section 454.5, subdivision (b)(9)(C),² and section 454.55, Ames contends the commission should have endorsed his proposal and thereby compelled the utilities to subsidize the “thermal energy storage” industry with a substantial portion of the \$349,509,463 collective budget for “demand response activities” undertaken by the utilities (i.e., programs designed to incentivize or otherwise convince customers to use less electricity, particularly during high demand time periods). Our review of the entire record leads us to conclude that the commission acted according to law and the findings in the decisions are supported by substantial evidence. We therefore affirm commission decisions D.09-08-027 (the initial decision) and D.10-03-023 (modifying the initial decision and denying Ames’s request for reconsideration of the initial decision).

¹ Real parties in interest are Southern California Edison Company (SCE), Pacific Gas and Electric Company (PG&E), and San Diego Gas & Electric Company (SDG&E).

² All statutory references are to the Public Utilities Code.

FACTS

We will summarize the relevant contents of the commission's decisions before turning in the discussion section to Ames's assertions of error.

Decision D.09-08-027 – General Description

On August 24, 2009, the commission issued its “Decision Adopting Demand Response Activities and Budgets for 2009 Through 2011” (Demand Response Decision). This 247-page document approved the use of \$349,509,463 by the utilities to pursue certain approved demand response programs in 2009-2011. The Demand Response Decision was the end result of a process that began on June 2, 2008, when the utilities submitted program and budget applications as ordered by a prior decision of the commission. The commission invited outside comments and reviewed the applications. Only after the filing of amended applications and multiple days of hearings did the Demand Response Decision issue.

The commission identified 13 factors it relied on in assessing the demand response programs: (1) cost effectiveness; (2) track record of existing programs; (3) projected future performance; (4) cost; (5) flexibility or versatility; (6) adaptability to changes in electricity market; (7) locational value; (8) integration with advanced metering infrastructure and other emerging technology; (9) consistency of offerings throughout the state; (10) simplicity/understandability; (11) customer acceptance and participation; (12) environmental benefits; and (13) contribution to existing policy goals.

It is outside the purview of this opinion to discuss each of the myriad demand response programs (dozens of programs were proposed by each of the utilities) either approved or rejected at varying funding levels in the Demand Response Decision. By way of illustration, however, we note several programs: financial incentives available to customers to reduce usage during specified time periods; installation of technology

allowing the utilities to unilaterally reduce customer air conditioning load during peak demand periods; technical assistance for customers pursuing efficiency changes or utilizing demand reduction technology; research and development; and customer outreach (public education, awareness).

The program category most relevant to the instant case is “permanent load shifting.” “The phrase ‘permanent load shifting’ refers to the shifting of energy usage . . . from one-time period to another on a recurring basis. Permanent load shifting often involves storing electricity produced during off peak hours and then using the stored energy to support load during periods when peak energy use is typically high. Examples of permanent load shifting technologies include battery storage and thermal energy storage. Thermal energy storage draws electricity during off-peak hours, which it stores in the form of thermal energy in ice, chilled water or a eutectic salt solution. That stored energy can be used during peak hours, generally to cool buildings without drawing additional electricity from the power grid during the day.”

In a prior decision, “the Commission noted that permanent load shifting may not fit within the definition of energy efficiency if the technology used does not reduce overall energy consumption. Similarly, permanent load shifting is not like most demand response programs in that it is not usually dispatched on a day-ahead or day-of basis, nor does it respond to short-term price fluctuations. Still, permanent load shifting, like demand response, can reduce summer peak demand and is reasonably considered in the context of demand response programs that produce a similar end result. The Commission recognizes that permanent load shifting could ‘reduce the likelihood of shortages during peak periods and lower system costs overall by reducing the need for peaking units.’”

“Benefits of permanent load shifting highlighted in the record include its ability to reliably and persistently lower on peak demand, to reduce carbon dioxide and nitrous oxide emissions to the extent fossil fuel plants are displaced during peak hours,

and to utilize energy generated during off peak hours by wind resources. The attributes of thermal energy storage not disputed in the record are the reliability of these technologies, which have been operational for up to 20 years, and the ability to effectively measure equipment performance.” (Fns. omitted.)

The utilities requested additional funds to maintain their permanent load shifting programs already in place (pursuant to a separate proposal and commission decision), but did not (other than PG&E) propose any additional permanent load shifting programs in the proposals at issue here. The commission approved the funding requests of the utilities to continue to administer their already approved programs (\$138,000 for PG&E and \$308,371 for SDG&E, plus authorization for SCE to carry forward \$4.4 million in unspent funding).

Decision D.09-08-027 — The Ames Proposal

Ames (identifying himself as Transphase, the name under which he does business) was one of 12 parties filing responses or protests to the electric companies’ applications. Ames is a private businessman who sells thermal energy storage systems to utility consumers.

Ames’s proposal estimated the total three-year cost of his program would be \$111 million, based on installing sufficient equipment to reduce peak demand six megawatts in 2009, 40 megawatts in 2010, and 65 megawatts in 2011. “Under the Transphase proposal, utilities would be required to provide a permanent load shifting ‘standard offer’ program that would offer rebates of up to \$1,400 per installed kilowatt of permanent load shifting over the 2009-2011 period.” “[E]ach utility would offer a payment of \$800 per kilowatt to the vendor of an installed Thermal Energy Storage system, in addition to \$300 per kilowatt to be paid from the customer to the vendor. In addition, the company proposes a \$200 per kilowatt incentive for each of the first three years after the technology is installed, contingent on the installed system providing

verified savings at an agreed-upon level.” (Fn. omitted.) Ames testified as to the incentive structure: “I wanted to structure this in a way that would . . . give the customer a tremendous payback to get things going again. And I wanted to also have a component that would be an annual payment that would ensure that the systems were being controlled and operated to their maximum efficiency.”

The utilities opposed Ames’s proposal. The utilities argued the proposed standard incentive was too high, the amount of the incentive would encourage customers to buy expensive permanent load shifting systems despite the existence of more modestly priced systems, and the cost effectiveness analysis performed by Ames was insufficient. PG&E expressed a preference to manage competitive bids itself through a request for proposal process, rather than structuring a standard incentive and allowing utility customers to select a permanent load shifting vendor.

Decision D.09-08-027 — The Commission’s Discussion and Rejection of Ames’s Proposal

“At this point, it is not clear whether the standard offer proposal as described by Transphase is cost effective or in the public interest. On the one hand, PG&E found its own ongoing permanent load shifting pilot (Shift and Save) to be cost effective, despite the fact that the program has an incentive of up to \$1,950 per kilowatt, which is higher than the \$1,400 per kilowatt proposed by Transphase. [It is also argued that permanent load shifting products] are cost effective because they deliver load shifting over the 15-year life of the equipment, helping to offset the initial cost. These points suggest that even if the proposed \$1,400 per kilowatt standard offer is unnecessarily high, a program with this incentive level could still be cost effective. In order to be in the public interest, however, cost effectiveness of a program may not be enough. For this proposed expenditure of ratepayer money, the incentive should be set at the lowest level possible that will stimulate investment in the technology. If a standard

offer is set too high, the utilities assert that the availability of the incentive payment could insulate permanent load shifting providers from competition with other technologies with a result that is not . . . in the best interest of ratepayers.” (Fn. omitted.)

“In the case of permanent load shifting, as in many demand response activities, it is not always clear what is the lowest incentive that will be effective in motivating participation or stimulating investment, and this complicates the review of many activities.” “A standard offer set at a level higher than needed to encourage investment in Permanent Load Shifting would represent a transfer of funds from ratepayers to Permanent Load Shifting vendors and purchasers. More investigation of the costs and benefits of different mechanisms for supporting Permanent Load Shifting is warranted before the investment of ratepayer money supporting Permanent Load Shifting is expanded. Setting the maximum payment too high could encourage Thermal Energy Storage vendors to overcharge for their systems, which would not be in the public interest. In the case of the Transphase proposal, a comparison of the incentive amount with objective measures such as the cost of the initial investment in Thermal Energy Storage equipment makes a compelling case that the incentive may be too high.”

“The [Request for Proposal] process conducted by the utilities in 2007 did not result in rapid installation of permanent load shifting projects in time for the summer of 2007 or in subsequent years. For example, PG&E proposed 3.9 megawatts of demand response for its permanent load shifting programs during the time period covered by the permanent load shifting contracts, but as of January 2009, only 40 kilowatts were installed and operational. Given these lower-than-expected results, it is possible that, as Transphase argues, a standard offer will promote competition at the customer level that will result in operational permanent load shifting sooner than if the utilities go through [a Request for Proposal] process. In addition, a standard offer would enable customers to choose from any vendor that offers thermal energy storage technologies, rather than from the one to three vendors that the utility selects through [a Request for Proposal process],

and having more options to choose the technology and vendor that best suits the needs of their facility may encourage more customers to participate in permanent load shifting.”

(Fn. omitted.)

“Unfortunately, no party to this proceeding proposed an alternative (lower) standard offer, and the record in this case does not contain sufficient information to determine an appropriate or optimum level of incentives for a Thermal Energy Storage-specific or a more general permanent load shifting standard offer, or to determine if any incentive for Permanent Load Shifting is necessary or appropriate.” “[T]he Commission is already pursuing permanent load shifting activities through a Commission-ordered [Request for Proposal] process and resulting contracts for Permanent Load Shifting installations. This decision orders further study of possible strategies for increasing the availability of Permanent Load Shifting in the future. This is consistent both with the provisions of the public utilities code and with the Commission’s responsibility to spend ratepayer funding effectively and efficiently.”

“Based on information provided by parties in this proceeding we do not have enough information to . . . decide whether a [Request for Proposal] process to solicit contracts with third parties or a standard offer eligible to all types of permanent load shifting vendors is the best answer going forward for permanent load shifting. . . . [W]e order the utilities to work with parties to examine ways of expanding the availability of permanent load shifting. A standard offer proposal that could apply generally to any permanent load shifting technologies . . . should be considered in this study.” The commission ordered the utilities to prepare and serve a report by December 1, 2010, pertaining to the results of their study, so the commission could order the utilities to include appropriate requests in their 2012-2014 demand reduction budget applications.

Decision D.10-03-23 — Order Modifying Decision and Denying Rehearing

In a subsequent 16-page decision, the commission reiterated and clarified its prior decision. The commission set forth formalized findings of fact pertaining to Ames’s proposal: “46. There is conflicting evidence regarding the cost-effectiveness of Transphase’s proposed thermal energy storage project. [¶] 47. The State Standard Practice Manual and Consensus Framework set forth the tests for cost-effectiveness of demand response programs. [¶] 48. Public Utilities Code section 454.5 applies to utility proposed procurement plans. [¶] 49. It is unclear from the record that Transphase’s thermal energy storage proposal is cost-effective or in the public interest.”

The decision also set forth a formal conclusion of law pertaining to the Ames proposal: “Public Utilities Code section 454.5 does not apply to require approval of Transphase’s proposal.”

DISCUSSION

Ames challenges the propriety of the commission’s decision adopting the demand response activities and budget, as well as the commission’s decision denying Ames’s request for reconsideration. Ames asserts, as to the commission’s ultimate decision not to adopt Ames’s proposed plan to incentivize utility customers to purchase thermal energy storage systems: (1) the commission misinterpreted relevant statutes; (2) the commission’s findings are not supported by the evidentiary record; and (3) the commission’s conclusion to deny Ames’s proposal is not supported by the commission’s findings.

Standard of Review

“There is a strong presumption of validity of the commission’s decisions [citations], and the commission’s interpretation of the Public Utilities Code should not be

disturbed unless it fails to bear a reasonable relation to statutory purposes and language [citations].” (*Greyhound Lines, Inc. v. Public Utilities Com.* (1968) 68 Cal.2d 406, 410-411.) “Statutorily, PUC is authorized to supervise and regulate public utilities and to ‘do all things . . . which are necessary and convenient in the exercise of such power and jurisdiction’ [citation]. . . . Adverting to these provisions, we have described PUC as “‘a state agency of constitutional origin with far-reaching duties, functions and powers’” whose “‘power to fix rates [and] establish rules’” has been “‘liberally construed.’”” (*Southern California Edison Co. v. Peevey* (2003) 31 Cal.4th 781, 792.)

“No new or additional evidence shall be introduced upon review by the court. In a complaint or enforcement proceeding, or in a ratemaking or licensing decision of specific application that is addressed to particular parties, the review by the court shall not extend further than to determine, on the basis of the entire record which shall be certified by the commission, whether any of the following occurred: [¶] (1) The commission acted without, or in excess of, its powers or jurisdiction. [¶] (2) The commission has not proceeded in the manner required by law. [¶] (3) The decision of the commission is not supported by the findings. [¶] (4) The findings in the decision of the commission are not supported by substantial evidence in light of the whole record. [¶] (5) The order or decision of the commission was procured by fraud or was an abuse of discretion. [¶] (6) The order or decision of the commission violates any right of the petitioner under the Constitution of the United States or the California Constitution.” (§ 1757, subd. (a).)

Statutory Interpretation

Ames, relying on selected statutes, argues the commission was required to approve his permanent load shifting proposal because the evidence in the record establishes the cost effectiveness, reliability, and feasibility of his proposal. (See §§ 454.5, subd. (b)(9)(C), 454.55.)

Section 454.5 provides, in relevant part: “(a) . . . Each electrical corporation shall file a proposed procurement plan with the commission not later than 60 days after the commission specifies the allocation of electricity. . . . [¶] (b) An electrical corporation’s proposed procurement plan shall include, but not be limited to, all of the following: . . . (9) A showing that the procurement plan will achieve the following: [¶] (A) The electrical corporation will . . . procure renewable energy resources [¶] (B) The electrical corporation will create or maintain a diversified procurement portfolio consisting of both short-term and long-term electricity and electricity-related and demand reduction products. [¶] (C) *The electrical corporation will first meet its unmet resource needs through all available energy efficiency and demand reduction resources that are cost effective, reliable, and feasible.*” (Italics added.)

The commission rejected Ames’s interpretation of section 454.5: “Transphase appears to interpret [section 454.5] to mean that if any demand reduction proposal is cost effective as proposed, as it argues that its standard offer proposal may be, the Commission is obligated to adopt the proposal, regardless of the proposal’s cost or other implications. This logic is flawed in several ways. First, Section 454.5 directs utilities in the development of their overall procurement plans, and does not directly address Commission approval of specific resources proposals. The provisions cited by Transphase require development of energy efficiency and demand reduction strategies and technologies more broadly, rather than the adoption of every specific proposal for increasing demand response.”

We agree with the commission’s interpretation of section 454.5. Section 454.5 must be applied as a whole to utilities’ “proposed procurement plan[s].” As part of its evaluation of proposed procurement plans (a much broader proposal than that dealing only with individual demand reduction programs), the commission must ensure unmet resource needs are addressed with energy efficiency and demand reduction resources. But the *entirety* of the \$349 million demand reduction budget approved by the

commission in the Demand Response Decision appears to be part of the utilities' efforts to meet resource needs with "energy efficiency and demand reduction resources." By allocating funds to these efforts, the utilities and the commission were complying (at least in part) with the statutory requirements of section 454.5. Ames does not argue otherwise; he does not specifically attack any of the programs actually approved in the Demand Response Decision.

Section 454.5, subdivision (b)(9)(C), does not provide Ames with the right to have a private proposal evaluated in isolation from the utilities' overall demand reduction programs and budgets. Procurement plans must enable and remain consistent with "just and reasonable rates" for all customers' electricity needs. (§ 454.5, subd. (d)(1), (5).) The necessary corollary of this principle is that there are limits to the funds available for allocation to demand reduction strategies because such strategies are ultimately funded by utility customers.

As evidenced by the multiplicity of demand reduction programs approved in its decision, the commission agreed with the utilities that there are many cost effective, reliable, and feasible ways to reduce demand in compliance with the expressed preferences of the Legislature and the general policy of the commission. The commission approved varying amounts of money for each approved program. Ames's petition does not point to error in the commission's approval of the money allocated in the demand reduction budget. The commission implicitly rejected a policy prescription of either increasing total funding for demand reduction programs or reducing the number of programs employed by the utilities and consolidating funding in a few programs (such as increasing the budget for permanent load shifting to more than \$100 million). Ames's request to the commission asked it to vote up or down on his funding proposal without consideration of the impact of this decision on the utilities' overall demand reduction strategies. The commission properly rejected Ames's framing of the issue.

The commission never discounted the cost effectiveness, reliability, or feasibility of using permanent load shifting to reduce peak demand. Indeed, the commission approved additional funding of the utilities' previously approved permanent load shifting programs. Moreover, the commission did not reject the suggestion by Ames that a program providing a standard incentive offer to consumers (rather than relying on the utilities to evaluate requests for proposal) merited additional study and consideration. Instead, the commission rejected Ames's aggressive request to allocate a significant part of the budget to the permanent load shifting solution for peak demand.

Ames also points to section 454.55: "The commission, in consultation with the State Energy Resources Conservation and Development Commission, shall identify all potentially achievable cost-effective electricity efficiency savings and establish efficiency targets for an electrical corporation to achieve pursuant to Section 454.5." We agree with the commission that this statute has no bearing on Ames's claim that the commission erred with regard to his proposal. The commission has "identified" (here and in other proceedings) permanent load shifting as one way to increase efficiency. But this has nothing to do with whether the commission was required to approve Ames's demand reduction activities budget proposal.

Factual Findings

Ames challenges the commission's finding that the record does not clearly establish the cost effectiveness of his proposal. Ames also argues the commission committed error by basing its decision in part on a finding that the reimbursement level may have been too high because it would allow permanent load shifting vendors to "overcharge" for their systems.

Despite the abundance of evidence submitted by Ames demonstrating the merits of thermal energy storage, the commission was entitled to conclude that questions

remained about the desirability of implementing Ames's proposal — questions which required further analysis before imposing a change in policy.

There is no dispute in the record with regard to the effectiveness of permanent load shifting as a method to reduce peak demand of electricity. The pertinent debate is whether the utilities should directly subsidize (with dollars obtained from the payment of electricity rates by customers) the purchase of permanent load shifting technology and, if so, to what extent. The commission's decisions do not prevent any electricity consumer from spending their own money to install permanent load shifting systems. As noted by one witness, there is already an incentive built into electricity rates to utilize permanent load shifting — the general time-of-use rate differential between peak and off-peak electricity rates.

Ames argues that the electricity rate differential is insufficient to convince customers to make a substantial investment in permanent load shifting technology. But even if an additional incentive is appropriate, the commission was concerned that Ames's proposal was excessive. Some evidence in the record suggested the incentives proposed by Ames would exceed the capital costs of certain thermal energy storage systems, and greatly exceed incentive structures utilized to accomplish projects in other states. It is legitimate for the commission, when assessing various demand reduction programs administered by the utilities, to concern itself with preventing windfalls to private parties. As one witness explained, “by providing \$1,400 per kW on top of the incentives that are already in the rate, that constitutes a very clear example of overcompensation or double dipping or paying too much for capacity. We would be paying based on the standard offer that Transphase proposes \$1,400 per kW as an incentive over four years plus an ongoing revenue stream in the form of bill reductions throughout the life of the project”

The record also discloses several alleged methodological shortcomings in the cost analysis submitted by Ames to the commission. First, Ames did not disclose the

actual equipment costs in his cost-effectiveness analysis. Second, Ames's cost figures did not "net out" energy costs in compliance with the commission's framework for analyzing cost effectiveness. The commission was entitled to consider the technical merits of Ames's analysis in making its decision.

In sum, the commission was not required to adopt Ames's proposal. There was substantial evidence supporting the commission's factual findings, and the commission's factual findings supported its decision not to implement Ames's proposal. We will not usurp the commission's constitutionally designated task of weighing technical evidence and making difficult policy decisions within the applicable statutory framework. We emphasize that we express no opinion on the questions still under study by the commission and the utilities. Nothing in this opinion, or for that matter in the decisions under review, precludes the future adoption of a standard offer to utility consumers for adoption of permanent load shifting technology.

Indeed, the Legislature recently enacted, as of January 1, 2011, the following requirement: "[o]n or before March 1, 2012, the commission shall open a proceeding to determine appropriate targets, if any, for each load-serving entity to procure viable and cost-effective energy storage systems to be achieved by December 31, 2015, and December 31, 2020. As part of this proceeding, the commission may consider a variety of possible policies to encourage the cost-effective deployment of energy storage systems, including refinement of existing procurement methods to properly value energy storage systems." (§ 2836, subd. (a)(1).) "[E]nergy storage systems" are defined to include systems that "[s]tore thermal energy for direct use for heating or cooling at a later time in a manner that avoids the need to use electricity at that later time." (§ 2835, subd. (a)(4)(B).) Although we agree with Ames that this recent legislative guidance to the commission does not directly affect the resolution of this case, section 2836 should ensure that the commission adequately exploits the potential of thermal energy storage technology to address California's energy and environmental needs.

DISPOSITION

Commission decisions D.09-08-027 and D.10-03-023 are affirmed. Ames's request for judicial notice is granted. The commission and the utilities shall recover costs incurred in this review proceeding.

IKOLA, J.

WE CONCUR:

RYLAARSDAM, ACTING P. J.

BEDSWORTH, J.

CERTIFIED FOR PUBLICATION

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O R D E R

Respondent has requested that our opinion, filed July 6, 2011, be certified for publication. It appears that our opinion meets the standards set forth in California rules of Court, rule 8.1105(c). The request is GRANTED.

The opinion is ordered published in the Official Reports.

IKOLA, J.

WE CONCUR:

RYLAARSDAM, ACTING P. J.

BEDSWORTH, J.