

Application No.: 05-12-\_\_\_\_\_

Exhibit No.: SCE-1\_\_\_\_\_

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SOUTHERN CALIFORNIA  
**EDISON**

An *EDISON INTERNATIONAL* Company

(U 338-E)

***PREPARED TESTIMONY***

**PUBLIC VERSION**

Before the

**Public Utilities Commission of the State of California**

Rosemead, California

December 23, 2005

# PREPARED TESTIMONY

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I.

INTRODUCTION

By this Application, Southern California Edison Company (SCE) seeks approval of a power purchase agreement (KRCC Contract)<sup>1</sup> between SCE and Kern River Cogeneration Company (KRCC), a qualifying cogeneration facility under the Public Utility Regulatory Policies Act of 1978<sup>2</sup> (PURPA) which is 50% owned by an SCE affiliate. The KRCC Contract will provide SCE's customers with a unique opportunity to receive up to 303 MW of reliable generation over the next five years. Significantly, and in contrast to SCE's current standard offer contract with KRCC and other comparable standard offer contracts, approximately half of this power will be dispatchable by SCE or the California Independent System Operator (ISO), reducing SCE's net long exposure and thereby providing substantial benefits to SCE's customers that are unavailable under standard offer contracts, which do not provide for dispatchability.

The terms of the KRCC Contract provide substantially more value to SCE customers than those of standard offer contracts that have traditionally been made available to qualifying facilities (QFs). The KRCC Contract offers advantages to ratepayers as compared to the standard offers with respect to performance requirements, energy forecast requirements, responsibility for imbalance costs, credit and collateral requirements, dispute resolution and other terms. Likewise, the pricing terms of the KRCC Contract are consistent with SCE's forecast avoided cost of generation over the next five years [REDACTED]

[REDACTED]. For example, separate and apart from the benefits of dispatchability, the energy price for the baseload product is calculated using an annual average heat rate of [REDACTED], a value [REDACTED] lower than the 9,140 Btu/kWh heat rate currently used in SCE's short-run avoided cost (SRAC) transition formula and incorporated into KRCC's current reformed

<sup>1</sup> A copy of the KRCC Contract is provided in Appendix B.

<sup>2</sup> Pub.L. No. 95-617 (Nov. 9, 1978), *codified in part at*, 16 U.S.C. § 824a-3 *et seq.*

1 Standard Offer No. 1 (RSO1) contract. In addition, the pricing contained in the KRCC Contract  
2 will result in lower costs to SCE's customers than if KRCC continued with its current RSO1  
3 contract and were paid based on pricing proposed by various QF parties in the on-going avoided  
4 cost proceeding, Rulemaking R.04-04-025.<sup>3</sup>

5 SCE's negotiations with KRCC were at arms length. The parties had separate  
6 negotiating teams, and SCE rejected KRCC's counteroffers for prices which SCE considered  
7 excessive. Furthermore, the terms of the KRCC Contract are consistent with those contained in  
8 contracts entered into by SCE in its competitive renewable and all-source solicitations. SCE is  
9 prepared to offer comparable terms to other similarly situated non-affiliated QFs. Accordingly,  
10 approval of the KRCC Contract will confer ratepayer benefit and will not harm unaffiliated QFs.

11 The Commission issued two recent decisions, D.03-12-062 and D.04-01-050,  
12 which effectively provide three ways for the utilities to comply with PURPA with respect to  
13 existing QFs with expiring contracts: (1) by allowing such QFs to compete in competitive  
14 solicitations; (2) by conducting bilateral negotiations for contracts or contract extensions with  
15 such QFs; or (3) by offering a five-year RSO1 contract with energy priced at the monthly posted  
16 SRAC for QFs with contracts expiring prior to December 31, 2005.<sup>4</sup> In D.05-12-009, the  
17 Commission extended the availability of the five-year RSO1 contract option initially provided  
18 for in D.04-01-050 to QFs with contracts expiring between January 1, 2006 and the  
19 Commission's issuance of a final decision on policy and pricing of QF contracts in R.04-04-003  
20 and R.04-04-025.<sup>5</sup> SCE engaged in bilateral negotiations with KRCC pursuant to the second  
21 method to comply with PURPA described in D.03-12-062 and D.04-01-050.

22 SCE requests that the Commission issue a decision approving the KRCC Contract  
23 at the earliest possible time, but no later than April 30, 2006, so that the decision may become

<sup>3</sup> In Section II.D below, SCE compares the cost of the KRCC Contract to the cost that SCE would incur if KRCC were to sell its power to SCE under an RSO1 contract at current SRAC prices or at the prices proposed by various QF parties in the avoided cost proceeding, Rulemaking R.04-04-025.

<sup>4</sup> D.04-01-050, *mimeo.*, at 155-58; D.03-12-062, *mimeo.*, at 54-56.

<sup>5</sup> See D.05-12-009, *mimeo.*, at 7-8, 11.

1 final and no longer subject to appeal by the commencement of the 2006 summer on-peak season.  
2 Because the term of the KRCC Contract will not commence until the Commission has issued a  
3 final and nonappealable decision approving the contract, adherence to this schedule is critical to  
4 ensure that SCE and its ratepayers fully realize the benefits of the KRCC Contract.

## 5 II.

### 6 THE KRCC CONTRACT IS THE RESULT OF ARMS-LENGTH NEGOTIATIONS, 7 COMPARES FAVORABLY TO STANDARD OFFER CONTRACTS, IS IN THE 8 CUSTOMERS' INTEREST, AND WILL NOT HARM NONAFFILIATED QFS

#### 9 A. KRCC Contract History

10 On January 16, 1984, SCE entered into a 20-year Parallel Generation Agreement  
11 with KRCC (Original Contract). The project is described in the Original Contract as a  
12 combustion turbine generator heat recovery steam cogeneration facility located at the Kern River  
13 oil field near Bakersfield, California. The project was to provide steam to the field for enhanced  
14 oil recovery and electricity to SCE. At the time the Original Contract was executed, Southern  
15 Sierra Energy Company (SSEC), a wholly owned subsidiary of SCE, owned a 50% partnership  
16 share of KRCC.<sup>6</sup>

17 The Original Contract expired on August 9, 2005, at which time KRCC elected to  
18 execute an RSO1 contract pursuant to D.04-01-050. KRCC is currently delivering energy and  
19 as-available capacity to SCE pursuant to an RSO1 contract that will expire in August 2010  
20 subject to being replaced and superseded by the KRCC Contract if the KRCC Contract is  
21 approved in a final and nonappealable Commission decision.

<sup>6</sup> On January 28, 1988, the Commission approved a proposed plan of reorganization for SCE pursuant to which SCE Holding Company (SCECorp) was created. SCE became a wholly owned subsidiary of SCECorp. Mission Group, an unregulated non-utility subsidiary of SCECorp, owned Mission Energy Company of which SSEC was a subsidiary. Accordingly, at the time D.90-09-088 was issued, an SCE affiliate owned a 50% share in KRCC. Today, SSEC continues to hold a 50% partnership interest in KRCC. SSEC is owned by Edison Mission Energy which is owned by Mission Energy Holding Company. Mission Energy Holding Company is owned by Edison Mission Group, which is 100% owned by Edison International (EIX), SCE's parent company.

1 **B. The KRCC Contract Is The Result Of Arms-Length Negotiations**

2 Discussions leading up to the KRCC Contract began in May 2003, when the  
3 parties met to discuss the potential for renewal of the Original Contract. Over the summer of  
4 2003, the parties began discussing whether the contemplated renewed contract would be a  
5 baseload contract, a peaking contract, or a contract involving a mixture of baseload and peaking  
6 power. SCE asked for and received from KRCC information about the KRCC facility, including  
7 turbine performance and operating characteristics at different load levels.

8 In September 2003, KRCC sent SCE a term sheet proposing a renewed agreement  
9 using a combination of baseload and peaking power,<sup>7</sup> and the parties negotiated based on this  
10 proposal in several meetings and calls during the fall of 2003. In December 2003, SCE made a  
11 counterproposal to the KRCC term sheet.

12 [REDACTED]  
13 [REDACTED]  
14 [REDACTED]  
15 [REDACTED]

16 In March, 2004, KRCC rejected SCE's proposal

17 [REDACTED]  
18 [REDACTED]

19 In response, SCE projected its avoided cost of generation for a five-year period  
20 both for baseload and dispatchable power commencing with the August 2005 termination date of  
21 the Original Contract and, in early July 2004, communicated those prices to KRCC. SCE also

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<sup>7</sup> Under this KRCC proposal, two of the four gas turbines would be dedicated to operating in a baseload mode, producing steam for the oil field. The other two gas turbines would be dedicated to operating in a dispatch mode

22 [REDACTED]

8 [REDACTED]

1 advised KRCC that any extended agreement must contain terms and conditions similar to those  
2 contained in agreements offered by SCE to bidders in its renewable and all-source competitive  
3 solicitations.

4 In October 2004, KRCC submitted a counteroffer contemplating higher prices  
5 than those proposed by SCE. In December 2004, SCE rejected that counteroffer, noting that the  
6 pricing it had previously offered was its best and final offer. The parties met at SCE's offices in  
7 Rosemead in January 2005 and had continued discussions throughout the month related to  
8 pricing for the proposed baseload and dispatch products. KRCC sought higher pricing for the  
9 dispatchable product than had been proposed by SCE. SCE held firm to its pricing proposal. By  
10 approximately the end of January 2005, the parties had reached an agreement on the baseload  
11 and dispatch pricing terms that SCE had proposed the previous summer.

12 The parties spent approximately the next 11 months working out the precise terms  
13 and conditions of the contract. The negotiation and drafting of the KRCC Contract was  
14 particularly complex. Both the baseload and dispatch features of the contract required extensive  
15 customized drafting. Additionally, combining the baseload and dispatch features of the contract  
16 into a single agreement was particularly difficult as the parties had no pre-existing form of  
17 agreement for such a combined product. [REDACTED]

18 [REDACTED]

19 [REDACTED]

20 [REDACTED]

21 [REDACTED]

22 [REDACTED]

23 [REDACTED]

24 Additional terms which required extensive negotiation included:

25 • Air Emission Terms [REDACTED]

26 [REDACTED]

27 [REDACTED]

1 [REDACTED]  
2 [REDACTED]  
3 [REDACTED]  
4 • Credit and Collateral Terms  
5 [REDACTED]  
6 [REDACTED]

7 and

8 • Financial Disclosures  
9 [REDACTED]  
10 [REDACTED]

11 Throughout these lengthy and complex negotiations, SCE treated KRCC like any  
12 other QF or any other unaffiliated procurement counterparty. SCE was committed to negotiating  
13 terms that provided significantly more value to its customers than the terms of the Original  
14 Contract and the RSO1 contract currently authorized by the Commission for QFs with expiring  
15 contracts, such as KRCC. Moreover, unlike the negotiations leading to the execution of the  
16 Original Contract, SCE and KRCC had entirely separate negotiating teams. SCE negotiated  
17 primarily with KRCC personnel who are not employees of Edison Mission Energy (EME) or any  
18 other SCE affiliate.<sup>2</sup> No person negotiated on “both sides of the table.”

19 In addition, SCE thoroughly reviewed the proposed KRCC Contract with its  
20 Procurement Review Group (PRG). In October 2005, SCE provided its PRG with a near-final  
21 draft of the KRCC Contract and a comparison of the terms of the KRCC Contract to existing  
22 standard offer contracts. SCE discussed this comparison with its PRG in an October 27, 2005  
23 conference call. In response to questions from SCE’s PRG participants, SCE additionally  
24 provided its PRG with a cost-benefit analysis of the KRCC Contract and a comparison of the  
25 expected costs of the KRCC Contract to various RSO1 pricing proposals advanced by QF trade

<sup>2</sup> Pursuant to SCE’s affiliate guidelines, SCE documented the relatively few occasions when SCE negotiators interfaced directly with EME employees.

1 organizations in the avoided cost rulemaking. SCE discussed these analyses extensively during a  
2 November 10, 2005 conference call with its PRG. Finally, in response to several additional  
3 questions from one PRG participant, SCE conducted a third PRG conference call on November  
4 18, 2005 and thoroughly responded to all outstanding questions posed by SCE's PRG  
5 participants.

6 **C. The KRCC Contract Compares Favorably To Standard Offer Contracts**

7 The KRCC Contract will provide significantly greater economic and operational  
8 benefits to ratepayers than either the RSO1 contract to which KRCC is currently a party or  
9 Interim Standard Offer No. 4 (ISO4), a standard offer contract commonly entered into by  
10 cogeneration projects which contains firm performance standards.<sup>10</sup> Specifically, the KRCC  
11 Contract offers substantial advantages over RSO1 and ISO4 in the areas of dispatchability,  
12 baseload product energy pricing and performance standards, incentives to accurately forecast  
13 deliveries and reduce ratepayer exposure to the risk of imbalance charges, credit and collateral,  
14 specification of default events and default remedies, dispute resolution and overall clarity of  
15 terms. These and other terms are summarized in *Table 1* and are discussed in more detail below.

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<sup>10</sup> Another commonly available standard offer contract containing firm performance standards is Standard Offer No. 2 (SO2). The key difference between ISO4 and SO2 is that ISO4 contained fixed energy pricing for the first ten years of the contract in addition to the firm capacity option. The firm capacity performance standards of ISO4 and SO2 are identical. Thus, the description below of certain ISO4 terms, and the comparison of those terms to the terms of the KRCC Contract, would also substantially apply to SO2.

Table 1

Comparison of KRCC Contract Terms With RSO1 And ISO4 Contract Terms

	KRCC Contract	RSO1 <sup>11</sup>	ISO4
Dispatchability	[REDACTED]	<ul style="list-style-type: none"> <li>No dispatchability – entire capacity is baseload</li> </ul>	<ul style="list-style-type: none"> <li>No dispatchability – entire capacity is baseload</li> </ul>
Baseload Energy Price	[REDACTED]	SRAC transition formula: <ul style="list-style-type: none"> <li>9,140 Btu/kWh annual average heat rate</li> <li>burnertip gas</li> <li>0.2 cent/kWh O&amp;M adder</li> </ul>	SRAC transition formula: <sup>12</sup> <ul style="list-style-type: none"> <li>9,140 Btu/kWh annual average heat rate</li> <li>burnertip gas</li> <li>0.2 cent/kWh O&amp;M adder</li> </ul>

<sup>11</sup> Sellers under an RSO1 agreement receive SRAC energy and capacity as determined from time-to-time by the Commission. SRAC energy pricing is currently determined based upon an administrative formula approved by the Commission in D.96-12-028 and revised in D.01-03-067. The Commission is currently considering revisions to the SRAC energy and capacity pricing regime in R.04-04-025. Any changes to SRAC would be incorporated into an RSO1.

<sup>12</sup> Existing ISO4 contracts are typically now in their "Second Period," i.e., they are into years beyond the first ten years of the contract term. During the Second Period, ISO4 contracts provide for energy to be paid based upon SRAC.

Baseload Capacity Price	KRCC Contract	RSOI <sup>II</sup>	ISO4
	<p>[REDACTED]</p>	<ul style="list-style-type: none"> <li>• \$4.95/kW-yr</li> <li>• No bonus</li> </ul>	<p>Under Original Contract:</p> <ul style="list-style-type: none"> <li>• average firm capacity + bonus of approximately [REDACTED]</li> </ul> <p>All SCE firm capacity contracts in 2004:</p> <ul style="list-style-type: none"> <li>• average firm capacity + bonus of [REDACTED] with a range of [REDACTED]</li> </ul>
<p>Performance Requirements for Firm Capacity Payment for Baseload Portion</p>	<p>[REDACTED]</p>	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• Seller receives a capacity payment for all electricity provided</li> <li>• To avoid deration, Seller must provide 80% of firm capacity during on-peak hours in each peak month</li> <li>• Performance is measured on an entire monthly peak period basis</li> <li>• Under-performance in one on-peak hour during a month can be made up for by over-performance in another on-peak hour during that month</li> <li>• Performance is excused for scheduled maintenance, major</li> </ul>

	KRCC Contract	RSO1 <sup>13</sup>	ISO4
<b>Maintenance for Baseload Portion</b>	[REDACTED]	<ul style="list-style-type: none"> <li>• None</li> </ul>	overhauls, force majeure and forced outages on the SCE system <ul style="list-style-type: none"> <li>• Seven weeks of maintenance per year (30 hours maximum during peak periods)</li> <li>• Leftover maintenance hours are banked up to 45 days toward major overhauls</li> </ul>
<b>Curtaillability of Baseload Units during System Overgeneration</b>	[REDACTED]	<ul style="list-style-type: none"> <li>• None<sup>13</sup></li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>
<b>Performance Requirements for Dispatchable Units</b>	[REDACTED]	<ul style="list-style-type: none"> <li>• Not applicable – units are not dispatchable</li> </ul>	<ul style="list-style-type: none"> <li>• Not applicable – units are not dispatchable</li> </ul>

<sup>13</sup> Under RSO1, SCE is entitled to order a facility to shut down or take a reduced price during periods of “hydrospill” or “negative avoided cost.” These provisions are or have become impossible to administer and, accordingly, as a practical matter do not afford a realistic curtailment option to SCE.

	<b>KRCC Contract</b>	<b>RSO11</b>	<b>ISO4</b>
<b>Scheduling; Delivery Forecasts To Support Scheduling</b>	[REDACTED]	<ul style="list-style-type: none"> <li>• SCE schedules facility's power</li> <li>• Recent RSO1s require Seller to forecast deliveries</li> </ul>	<ul style="list-style-type: none"> <li>• SCE schedules facility's power</li> <li>• Some sellers provide forecast information which is aggregated on a quarterly or annual basis – i.e., not an hourly forecast.</li> </ul>
<b>Imbalance Costs for Facility</b>	[REDACTED]	<ul style="list-style-type: none"> <li>• SCE pays all imbalance costs</li> </ul>	<ul style="list-style-type: none"> <li>• SCE pays all imbalance costs</li> </ul>
<b>Events of Default and Termination</b>	[REDACTED]	<ul style="list-style-type: none"> <li>• No explicit events of default or termination remedies</li> <li>• Rights and remedies determined under applicable law</li> </ul>	<ul style="list-style-type: none"> <li>• No explicit events of default or termination remedies</li> <li>• Rights and remedies determined under applicable law</li> </ul>
<b>QF Status</b>	[REDACTED]	<ul style="list-style-type: none"> <li>• Seller must maintain QF status</li> </ul>	<ul style="list-style-type: none"> <li>• Seller must maintain QF status</li> </ul>
<b>Credit/Collateral</b>	[REDACTED]	<ul style="list-style-type: none"> <li>• None</li> </ul>	<ul style="list-style-type: none"> <li>• None</li> </ul>

	KRCC Contract	RSO111	ISO4
Financial Accounting Standards Compliance	[REDACTED]	<ul style="list-style-type: none"> <li>No explicit financial information requirement</li> </ul>	<ul style="list-style-type: none"> <li>No explicit financial information requirement</li> </ul>
Alternative Dispute Resolution	[REDACTED]	<ul style="list-style-type: none"> <li>None</li> </ul>	<ul style="list-style-type: none"> <li>None</li> </ul>

1           **1.     Dispatchability**

2                     Under the KRCC Contract, two of the four units (approximately 50% of the facility  
3 capacity) are dispatchable. The dispatch capacity price is [REDACTED]. Neither RSO1 nor ISO4  
4 offer any dispatchability. Under these standard offer contracts, the entire contract capacity is  
5 baseload.

6           **2.     Baseload Energy Price**

7                     Under the KRCC contract, the baseload energy price in cents/kWh is determined by the  
8 following formula:

9 [REDACTED]

10                    Both RSO1 and ISO4 contracts are paid SCE's monthly posted short-run avoided cost  
11 (SRAC) of energy, as determined by SCE's SRAC transition formula.<sup>15</sup> This formula  
12 incorporates a 9,140 Btu/kWh annual average heat rate, a burnertip gas price, and a 0.2 cent/kWh  
13 O&M adder.

14           **3.     Baseload Capacity Price**

15                    Under the KRCC Contract, firm baseload capacity is paid at [REDACTED].  
16 [REDACTED] Under the Original Contract, KRCC received an average firm  
17 capacity price plus bonus of approximately [REDACTED]. For all of SCE's firm capacity  
18 contracts, in 2004, SCE paid an average firm capacity price plus bonus of [REDACTED], with a

<sup>14</sup> Burnertip gas price in \$/MMBtu.

<sup>15</sup> SCE's SRAC energy pricing is currently determined based upon an administrative formula approved by the Commission in D.96-12-028 and revised in D.01-03-067. The Commission is currently considering revisions to the SRAC energy and capacity pricing regime in R.04-04-025. Any changes to SRAC would be incorporated into an RSO1. Existing ISO4 contracts are typically now in their "Second Period," *i.e.*, they are into years beyond the first ten years of the contract term. During the Second Period, ISO4 contracts provide for energy to be paid based upon SRAC.

1 range of [REDACTED]. SCE's current as-available price for RSO1 is \$4.95/kW-yr. No  
2 capacity bonus payment is available under RSO1.

3 **4. Performance Requirements for Firm Capacity Payment for Baseload Portion**

4 [REDACTED]  
5 [REDACTED]  
6 [REDACTED]  
7 [REDACTED]  
8 [REDACTED]  
9 [REDACTED]  
10 [REDACTED]  
11 [REDACTED]

12 Under ISO4, the seller receives a capacity payment for all electricity provided but, to  
13 avoid being placed on probation and derated, must provide 80% or more of expected deliveries  
14 during on-peak hours in each peak month. Performance in each TOD period is measured over  
15 the course of a month such that under-performance in one hour in a particular TOD period during  
16 the month can be made up for by over-performance in another hour during that same TOD period  
17 within a month. The seller is excused from its performance obligation for scheduled  
18 maintenance, major overhauls, force majeure and forced outages on the SCE system, regardless  
19 of the performance of the units not under maintenance. RSO1 has no performance requirements.

20 **5. Maintenance for Baseload Portion**

21 [REDACTED]  
22 [REDACTED]  
23 [REDACTED]

24 ISO4 provides for seven weeks of maintenance per year (30 hours maximum during peak  
25 periods). Leftover maintenance hours are banked up to 45 days toward major overhauls. RSO1  
26 is an as-available contract and does not have maintenance provisions.

1        **6.     Curtaibility of Baseload Units during System Overgeneration**

2        [REDACTED]

3        [REDACTED]

4        [REDACTED] Neither RSO1 nor ISO4 offer curtaibility.<sup>16</sup>

5        **7.     Performance Requirements for Dispatchable Units**

6        [REDACTED]

7        [REDACTED]

8        [REDACTED]

9        [REDACTED]

10       [REDACTED]

11       [REDACTED] As

12       discussed above, neither RSO1 nor ISO4 offer any dispatchability.

13       **8.     Scheduling, Delivery Forecasts To Support Scheduling and Imbalance Costs**

14       [REDACTED]

15       [REDACTED]

16       [REDACTED]

17       [REDACTED]

18       [REDACTED]

19       [REDACTED]

20       [REDACTED]

21       Recent RSO1s require the seller to forecast deliveries. The seller must provide rolling

22       30-day forecasts, which are updated weekly, and must advise SCE promptly of any significant

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<sup>16</sup> Under RSO1, SCE is entitled to order a facility to shut down or take a reduced price during periods of “hydrospill” or “negative avoided cost.” These provisions are or have become impossible to administer and, accordingly, as a practical matter do not afford a realistic curtailment option to SCE.

1 change (five MW or more) to the weekly update if the seller anticipates that deliveries will vary  
2 significantly from forecast. However, as discussed below, the seller is not held financially  
3 accountable for discrepancies.

4 Some sellers under ISO4 contracts provide forecast information to SCE. However, this  
5 information is aggregated on a quarterly or annual basis – it is not an hourly forecast. In  
6 addition, the seller is not held financially accountable for discrepancies.

7 **9. Events of Default and Termination**

8 [REDACTED]  
9 [REDACTED]  
10 [REDACTED]

11 Neither RSO1 nor ISO4 contain explicit events of default or termination remedies.  
12 Rights and remedies are determined under applicable law.

13 **10. QF Status**

14 [REDACTED] RSO1 and ISO4 [REDACTED] require the seller to maintain QF status.

15 **11. Credit/Collateral**

16 [REDACTED]  
17 [REDACTED]  
18 [REDACTED]  
19 [REDACTED]

20 Neither RSO1 nor ISO4 contain credit or collateral  
21 terms.

22 **12. Financial Accounting Standards Compliance**

23 [REDACTED]

1 [REDACTED] Neither RSO1 nor ISO4 contain an explicit financial  
2 information requirement.

3 **13. Alternative Dispute Resolution**

4 [REDACTED]  
5 [REDACTED] Neither RSO1 nor ISO4 contain alternative dispute resolution provisions.

6 **D. The Pricing Under The KRCC Contract Provides Greater Ratepayer Benefits Than RSO1**  
7 **Pricing Terms Proposed By QF Trade Organizations In The Avoided Cost Rulemaking**

8 In the avoided cost rulemaking, R.04-04-025, several QF trade organizations<sup>17</sup> have  
9 asserted that the Commission should authorize *as-available* RSO1-type standard offer contracts with  
10 administratively-determined avoided cost pricing terms that are much higher than the pricing terms for  
11 *firm* baseload and *firm* dispatchable generation in the KRCC Contract. For example, CAC/EPUC's as-  
12 available proposal includes an annual average heat rate in excess of 10,000 Btu/kWh, while CCC's as-  
13 available proposal includes a fixed charge of \$110/kW-yr. In comparison, the firm baseload portion of  
14 the KRCC Contract has an annual average heat rate of [REDACTED] and a fixed charge of [REDACTED].  
15 [REDACTED]. *Table 2*, below, summarizes the various as-available pricing proposals advocated by CCC,  
16 CAC/EPUC and IEP in the avoided cost rulemaking and SCE's current as-available RSO1 pricing.<sup>18</sup>

<sup>17</sup> See opening and rebuttal testimonies of the California Cogeneration Council (CCC), the Cogeneration Association of California and the Energy Producers and Users Coalition (collectively, CAC/EPUC), and the Independent Energy Producers Association (IEP).

<sup>18</sup> CAC/EPUC proposes that the Commission revert to the SRAC transition formula adopted in D.96-12-028 without the factor adjustment adopted in D.01-03-067. This formula would have yielded an implicit heat rate of approximately 10,400 Btu/kWh over the past three years. IEP proposes that the Commission continue to use the current SRAC transition formula, including the factor adjustment adopted in D.01-03-067.

1  
2  
3  
**Table 2**

**As-Available Pricing Proposals**

4

	CCC	CAC	IEP	Current RSO1
Annual Average Heat Rate (Btu/kWh)	9,822	10,400	9,140	9,140
Annual Fixed Charge (\$/kW-yr)	110	83.50	90.95	4.93

5  
6  
**1. Methodology**

SCE calculated the costs associated with the different pricing regimes as the present value of all payments incurred by SCE customers under each pricing proposal. These costs included all fixed and variable components including fuel expense (heat rate and gas), variable operating and maintenance costs, startup costs and fixed charges. The costs were calculated on an annual basis and present valued to the beginning of the year for 2006. These costs do not include cost of mitigating debt equivalence and collateral costs. In all pricing proposals, these costs are calculated using the same methodology for consistency.

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1. Fuel expense: This component is comprised of a contract heat rate and gas price. The contract heat rate is determined by the pricing proposal itself, and is exogenous to the methodology. The gas price for the baseload portion of the contract is based on burnertip prices from October 7, 2005 NYMEX forwards and the October 2005 Global Insight gas price forecast. On a relative basis, the gas price forecast is not a determining factor with regard to the rank order of the different pricing proposals, as long as a single forecast is consistently applied. The dollar value of payments associated with fuel expense is calculated by multiplying the gas price (\$/MMBtu) by the heat rate (Btu/kWh) and the kWh production, with appropriate adjustments for units.

1           2. Variable operating and maintenance expense: This component is a simple cost adder  
2 ranging from \$0 – 3/MWh depending on the pricing proposal. The dollar value of payments is the  
3 product of the output (MWh) and the variable operating and maintenance charge (\$/MWh).

4           3. Startup costs: For all pricing proposals except the KRCC scenario, the startup cost is  
5 implicitly embedded in either the contract heat rate or the variable operating and maintenance expense.  
6 For the KRCC scenario, startup costs are explicitly calculated to mirror actual unit operations and  
7 economics.

8           4. Fixed Charge: The fixed charge component is a representation of the capital and  
9 fixed operating costs of the contract. This is determined exogenously by the contract and is expressed in  
10 \$/kW-yr. The payments for fixed charges are calculated as the product of the fixed charge and the  
11 capacity of the contract, appropriately adjusted for forced and scheduled outage allowances.

12           **Table 2** specifies heat rates as annual averages. The analysis shown below in **Figure 1** assumes  
13 that, under the CCC, CAC/EPUC, IEP or current RSO1 scenarios, one-half (150 MW) of the KRCC  
14 facility would operate as baseload (all hours) and one-half (150 MW) of the KRCC facility would  
15 operate as must-take during summer on-peak hours (approximately 500 hours) with time of use (TOU)  
16 differentiated heat rates. Costs under these scenarios are shown relative to the proposed KRCC contract  
17 using a 10.5% discount rate. Benefits are excluded. Detailed workpapers are provided in Appendix C.

## 18           2. Results

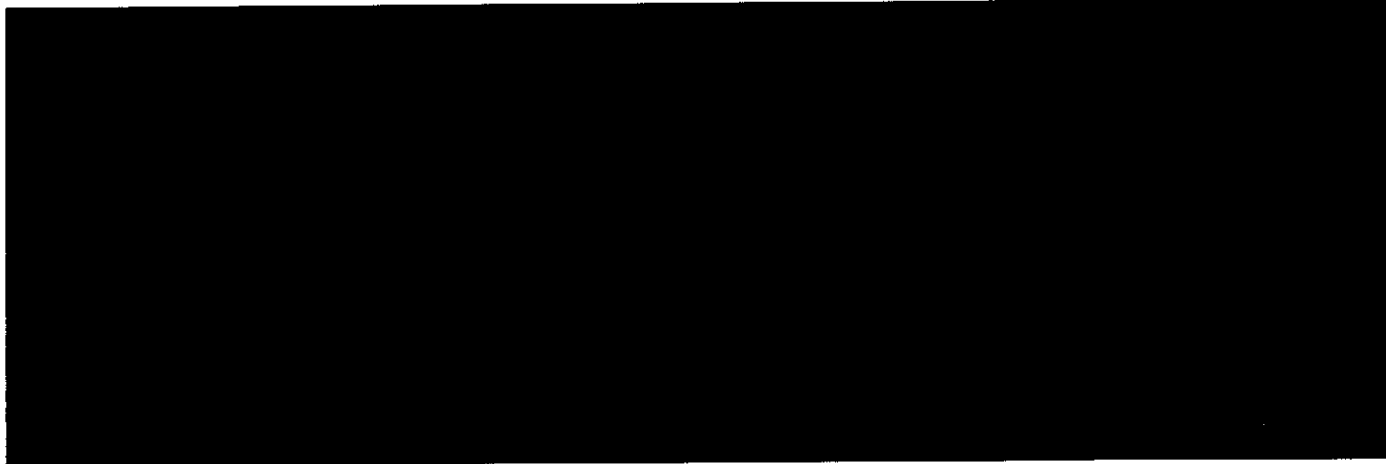
19           The results of the comparative analysis of the pricing proposals show a range of the  
20 present value of costs between [REDACTED]. The primary drivers leading to this wide  
21 range are differences in heat rates and fixed charges. The CAC/EPUC proposal includes an annual  
22 average heat rate in excess of 10,000 Btu/kWh, while the CCC proposal includes a fixed charge of  
23 \$110/kW-yr. These compare to the KRCC Contract baseload annual average heat rate of  
24 [REDACTED] and fixed charge of [REDACTED].

25           Pricing under the KRCC Contract results in significantly lower costs to SCE's customers  
26 than pricing under the QF parties' proposals in the avoided cost rulemaking, even without considering

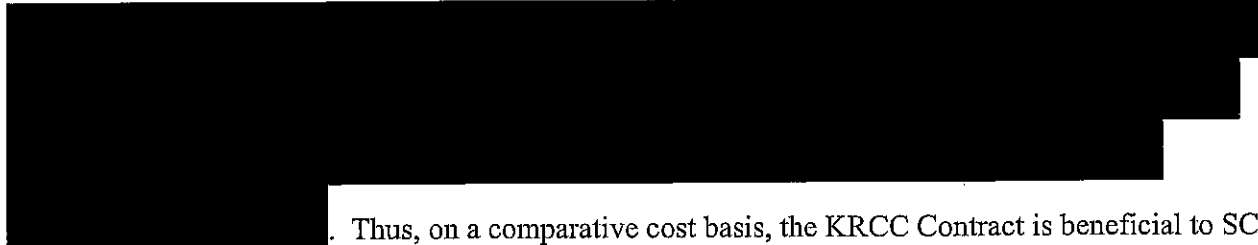
1 that the KRCC Contract provides SCE's customers with firm baseload and dispatchable capacity  
2 products that are much more valuable than the as-available product proposed by the QF parties. *Figure*  
3 *1*, below, summarizes the total costs associated with the QF parties' as-available contract proposals  
4 *relative* to the costs of the firm KRCC Contract.

5 *Figure 1*

6  
7 **Cost Differences Between KRCC Contract and**  
8 **Various As-Available Pricing Proposals**  
9 (present value 2006 \$ million)  
10



11  
12 As shown above, the as-available alternatives proposed by CCC, CAC/EPUC and IEP  
13 would result in additional costs to SCE customers ranging from [redacted]



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17 Thus, on a comparative cost basis, the KRCC Contract is beneficial to SCE  
18 customers *vis-à-vis* these alternative proposals.

19 **E. The KRCC Contract Is In The Ratepayers' Interest**

20 SCE performed a cost-benefit analysis demonstrating that the pricing terms of the KRCC  
21 Contract are consistent with SCE's forecast avoided cost of generation over the next five years<sup>19</sup> [redacted]

19 [redacted]

1 [REDACTED]. As discussed above, in January 2005, KRCC accepted an offer  
 2 made by SCE in July 2004, which was based on SCE's then-current forecast of its avoided energy and  
 3 capacity costs. At that time, SCE negotiated pricing terms that reflected SCE's best judgment of its  
 4 future avoided cost of generation. For capacity, the parties agreed to a price of [REDACTED] for firm  
 5 baseload capacity and [REDACTED] for firm dispatchable capacity, which includes ancillary services  
 6 from the dispatchable units.<sup>20</sup> For energy, the parties agreed to an annual average incremental energy  
 7 rate (IER) of [REDACTED]<sup>21</sup> for baseload energy and [REDACTED]<sup>22</sup> for dispatchable energy.

8 During the negotiations to finalize the non-price terms and conditions, SCE's avoided  
 9 cost forecast changed due to evolving market conditions. However, as discussed below, the original  
 10 pricing terms agreed upon still provide SCE's customers reasonable value for firm baseload and firm  
 11 dispatchable generation. *Table 3*, below, summarizes the present value of total benefits (avoided energy  
 12 and firm capacity) and the present value of total costs (operating and fixed) for the KRCC Contract.

**Table 3**  
**Summary of KRCC Benefit-Cost Analysis**  
**Present Value<sup>23</sup> (\$million)**  
 (results subject to rounding)

<i>Benefits</i>	
Avoided Energy Benefit	[REDACTED]
Firm Capacity Value	[REDACTED]
<b>TOTAL</b>	[REDACTED]
<i>Costs</i>	
Variable Operating Cost	[REDACTED]
Fixed Charge	[REDACTED]
<b>TOTAL</b>	[REDACTED]
<i>Net Present Value</i>	[REDACTED]
<i>Benefit-Cost Ratio</i>	[REDACTED]

<sup>20</sup> \$/kW-yr prices are fixed for the contract term.

<sup>21</sup> TOU differentiated per the KRCC Contract.

<sup>22</sup> Full-load heat rate, not TOU differentiated per the KRCC Contract.

<sup>23</sup> 2006 dollars at 10.5% discount rate. These assumptions are applied to all present value calculations in SCE's analysis.

1           **1.       Overview of Methodology**

2           SCE evaluated the generation economics of the KRCC Contract in a manner consistent  
3 with its evaluations of the costs and benefits of other supply- (and demand-) side resources, such as the  
4 Mountainview project, the Mohave Generating Station analysis, the San Onofre Nuclear Generating  
5 Station (SONGS) steam generator replacement filing and various demand-side management (DSM)  
6 cost-effectiveness applications. Specifically, SCE separately measured the expected energy and  
7 capacity benefits and costs of the KRCC Contract. Energy value is derived by comparing the resource's  
8 operating costs to the short-run cost of marginal energy, and capacity value is based on the resource's  
9 reliability contribution as compared to the cost of firm capacity. The following sections describe in  
10 greater detail the processes applied to evaluate the generation benefits against the costs of the KRCC  
11 Contract.

12           **2.       Determination of Energy Benefits and Costs**

13           The forecast energy benefits of the KRCC Contract are calculated by means of  
14 conventional production simulation analyses. The forecast energy benefits of the KRCC Contract are  
15 measured as the average difference in total portfolio operating costs for 250 stochastic-based simulations  
16 in which KRCC is included in SCE's resource portfolio – the “in” case – and total portfolio operating  
17 costs for 250 stochastic-based simulations in which KRCC is excluded from SCE's resource portfolio  
18 and substituted with an equivalent amount of combustion turbine (CT) capacity – the “out” case.

19           SCE used the Global Energy Decisions Inc.<sup>24</sup> RISKSYSM production simulation model  
20 for this analysis. The baseline assumptions for the RISKSYSM simulations are consistent with SCE's  
21 2004 Long Term Procurement Plan<sup>25</sup> (LTPP) with updated assumptions for gas prices, loads and

<sup>24</sup> Formerly Henwood Energy Services, Inc.

<sup>25</sup> R.04-04-003. The 2004 LTPP was found reasonable and adopted by the Commission on December 16, 2004 in D.04-12-048, subject to modifications that do not significantly affect the need, timing, costs or benefits analysis of the KRCC Contract. SCE's LTPP can be found at <http://www3.sce.com/law/cpucproceedings.nsf/vwUFiling?SearchView&Query=long+term+procurement+plan&Start=1&Count=30>. Specifically, the analysis used to evaluate the economics of the KRCC Contract ties directly to SCE's Medium Load Scenario.

1 resources to better reflect more recent forecast conditions and procurement activities. The baseline  
2 assumptions were designed around the overall intent and “loading order” of the joint agency Energy  
3 Action Plan.<sup>26</sup>

4 SCE's forecast of marginal energy costs integrates near-term market views of electricity  
5 and gas prices with a longer-term fundamental view of SP-15 energy prices. A stochastic (Monte Carlo)  
6 analysis is applied to both the “in” and “out” cases to better capture the effects on resource value based  
7 on historical volatility and correlation in gas prices, loads and energy prices.

8 In the “in” case, SCE integrated KRCC as part of its overall resource portfolio, consistent  
9 with the terms and conditions of the KRCC Contract,<sup>27</sup> subject to the limitations of the RISKSYSM  
10 modeling software.<sup>28</sup> In the “out” case, SCE removed the KRCC resource and substituted it with an  
11 equivalent amount of CT capacity (~300 MW) of the same kind which defines SCE's long-run  
12 incremental cost of firm capacity (CT proxy).<sup>29</sup> This substitution is necessary for two reasons. First, the  
13 CT capacity backfills the resource plan to maintain portfolio reserve margin levels when the KRCC  
14 resource is removed. Without any such capacity, the plan would be under-resourced which may then  
15 overstate energy prices. Second, the CTs provide a necessary ceiling on the energy benefits equal to the  
16 operating cost of a CT since the CT may realize contributions to its fixed costs when dispatched.<sup>30</sup> This  
17 ceiling is necessary to prevent double-counting capital cost recovery already provided in the capacity  
18 value proxy, discussed in the next section. Based on the difference in total portfolio operating costs  
19 between the “in” and “out” cases, SCE forecasts the energy benefits of the KRCC Contract to be [REDACTED]  
20 [REDACTED] on a present value basis.

<sup>26</sup> State of California Energy Action Plan, adopted May 8, 2003. See [http://www.energy.ca.gov/energy\\_action\\_plan](http://www.energy.ca.gov/energy_action_plan).

<sup>27</sup> See the accompanying workpapers for additional production simulation modeling specifications.

<sup>28</sup> [REDACTED]

<sup>29</sup> SCE's CT proxy is based on a General Electric “F-type” 7FA simple-cycle natural gas-fired CT.

<sup>30</sup> For economic valuation purposes, the “pure” value of capacity should never be higher than the capital cost of a CT proxy because any greater capital investment would be justified by lower energy costs.

1 The energy costs, or variable operating costs, of the KRCC Contract are simply based on  
2 the operating costs under the KRCC Contract – *i.e.*, the “in” case. These costs include dispatch fuel,  
3 variable operations and maintenance (O&M), startup fuel and non-fuel startup costs. SCE’s analysis  
4 shows the KRCC Contract incurring [REDACTED] in variable operating costs on a present value basis.

5 The variance of benefits relative to costs is primarily due to the difference between  
6 avoided cost pricing terms that had been negotiated in July 2004 and SCE’s most recent estimate of  
7 short-run marginal energy costs. The energy and capacity markets, as well as SCE’s portfolio, have  
8 changed since 2004. Changes include rising gas prices, higher loads and several procurement  
9 solicitations to achieve accelerated resource adequacy requirements. [REDACTED]  
10 [REDACTED]  
11 [REDACTED]  
12 [REDACTED]

13 Workpapers regarding SCE’s energy benefit and energy cost calculations are provided in Appendix C.

14 **3. Determination of Firm Capacity Benefits and Costs**

15 SCE evaluated the capacity benefits of the KRCC Contract based on KRCC’s reliability  
16 contribution as compared to SCE’s five-year forecast of firm capacity value. Capacity value for the  
17 short term (up to 3 years) is derived implicitly from third-party forward price curves for power.<sup>31</sup> SCE  
18 employs an options model approach to calculate the annual price for an hourly call option for firm  
19 energy delivery into SP-15.<sup>32</sup> Capacity value for the long term (beyond 3 years) is based on the annual  
20 deferral value of incremental firm capacity, as described in SCE’s General Rate Case (GRC)  
21 application.<sup>33</sup> Capacity value in all years is allocated across months according to the seasonal capacity

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<sup>31</sup> SP-15 forward power prices (broker quotes) are provided by Tullet Liberty, TFS and Prebon. All are consistent and correlated with NYMEX futures prices for power.

<sup>32</sup> The tool used is also known as a Black spark spread option model, widely used throughout the power industry to price capacity products. The model can be referenced to *Options, Futures, and other Derivatives* by John C. Hull, 6th edition, p.393.

<sup>33</sup> Firm capacity as defined by the deferral value of a CT proxy. Application A.05-05-023, filed September 6, 2005, at 22.

1 valuation factors<sup>34</sup> also consistent with SCE's GRC application.<sup>35</sup> Based on the forecast of annual firm  
2 capacity value and the monthly allocation of that value, SCE estimates the firm capacity benefits of the  
3 KRCC Contract to be [REDACTED] on a present value basis.

4 The fixed costs, or capacity costs, of the KRCC Contract are based on the negotiated  
5 contract terms and conditions, with appropriate adjustments for forced and maintenance outages. SCE  
6 forecasts fixed cost payments under the KRCC Contract to be [REDACTED] on a present value basis.

7 Again, the variance between benefits and costs is due to changing market conditions  
8 since the KRCC Contract was originally negotiated in July 2004. [REDACTED]

9 [REDACTED]  
10 [REDACTED]  
11 [REDACTED]  
12 [REDACTED]  
13 [REDACTED]  
14 [REDACTED]  
15 [REDACTED] Workpapers regarding SCE's capacity benefit and capacity cost  
16 calculations are provided in Appendix C.

17 **F. The KRCC Contract Is Not Unfair To Nonaffiliated QFs**

18 The KRCC Contract is fair to non-affiliated QFs. First, at all times during the KRCC  
19 Contract negotiations, SCE bargained on behalf of itself and its customers at arms-length from KRCC.  
20 Indeed, SCE rejected KRCC's proposals where they were out of line with traditional counteroffers and  
21 insisted upon terms consistent with renewable or all-source contracts then being negotiated. Further, if

<sup>34</sup> Also known as relative loss-of-load probability (LOLP) factors.

<sup>35</sup> Application A.05-05-023, filed September 6, 2005, at 30.

1 the KRCC Contract is approved, SCE will offer comparable contract terms and prices to other similarly  
2 situated QFs. In sum, non-affiliated QFs will not be harmed by the approval of the KRCC Contract and  
3 may, in fact, benefit by the opportunity to enter into firm capacity contracts on similar terms.

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**Appendix A**  
**Witness Qualifications**

**SOUTHERN CALIFORNIA EDISON COMPANY**  
**QUALIFICATIONS AND PREPARED TESTIMONY**  
**OF KEVIN M. PAYNE**

1  
2  
3  
4 Q. Please state your name and business address for the record.

5 A. My name is Kevin M. Payne, and my business address is 2244 Walnut Grove Avenue,  
6 Rosemead, California 91770.

7 Q. Briefly describe your present responsibilities at Southern California Edison Company.

8 A. I am Director of QF Resources. My organization manages our contractual relationships  
9 with Qualifying Facilities and is responsible for the procurement and administration of  
10 renewable contracts pursuant to California's Renewable Portfolio Standard.

11 Q. Briefly describe your educational and professional background.

12 A. I have a degree in mechanical engineering from the University of California, Berkeley  
13 and over 20 years experience working in electric utilities and related businesses. I have  
14 over 18 years of experience at Southern California Edison ("SCE"). My experience at  
15 SCE has included performing and managing the design and analysis of power plants and  
16 cogeneration plants as a project engineer and project manager, managing an account  
17 management organization in the Major Customer Division of Customer Service,  
18 managing a large technical organization in the Major Customer Division of Customer  
19 Service, and managing the QF Resources Department.

20 Q. What is the purpose of your testimony in this proceeding?

21 A. The purpose of my testimony in this proceeding is to sponsor portions of the prepared  
22 testimony above as indicated in the table of contents.

23 Q. Was this material prepared by you or under your supervision?

24 A. Yes, it was.

25 Q. Insofar as this material is factual in nature, do you believe it to be correct?

1 A. Yes, I do.

2 Q. Insofar as this material is in the nature of opinion or judgment, does it represent your best  
3 judgment?

4 A. Yes, it does.

5 Q. Does this conclude your qualifications and prepared testimony?

6 A. Yes, it does.



1 A. Yes, it was.

2 Q. Insofar as this material is factual in nature, do you believe it to be correct?

3 A. Yes, I do.

4 Q. Insofar as this material is in the nature of opinion or judgment, does it represent your best  
5 judgment?

6 A. Yes, it does.

7 Q. Does this conclude your qualifications and prepared testimony?

8 A. Yes, it does.



- 1 A. The purpose of my testimony in this proceeding is to sponsor portions of the prepared  
2 testimony above as indicated in the table of contents.
- 3 Q. Was this material prepared by you or under your supervision?
- 4 A. Yes, it was.
- 5 Q. Insofar as this material is factual in nature, do you believe it to be correct?
- 6 A. Yes, I do.
- 7 Q. Insofar as this material is in the nature of opinion or judgment, does it represent your best  
8 judgment?
- 9 A. Yes, it does.
- 10 Q. Does this conclude your qualifications and prepared testimony?
- 11 A. Yes, it does.