

Application No: A.10-07-XXX
Exhibit No.: _____
Witness: Michael R. Niggli

_____)
Application of San Diego Gas & Electric Company)
(U 902 E) to Amend Renewable Energy Power)
Purchase Agreement with NaturEner Rim Rock Wind)
Energy, LLC and for Authority to Make a Tax Equity)
Investment in the Project.)
_____)

Application 10-07-_____
(Filed July 15, 2010)

CHAPTER 1
PREPARED DIRECT TESTIMONY OF
MICHAEL R. NIGGLI
ON BEHALF OF
SAN DIEGO GAS & ELECTRIC COMPANY

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

July 15, 2010

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1 **CHAPTER 1**

2 **PREPARED DIRECT TESTIMONY OF**

3 **MICHAEL R. NIGGLI**

4 **ON BEHALF OF**

5 **SAN DIEGO GAS & ELECTRIC COMPANY**

6 **I. INTRODUCTION AND SUMMARY**

7 In this proceeding, San Diego Gas & Electric Company (“SDG&E”) is seeking approval
8 from the California Public Utilities Commission (“CPUC” or “Commission”) to make a tax
9 equity investment in a limited liability project holding company that is developing the NaturEner
10 “Rim Rock” wind project in Toole and Glacier Counties, Montana. To SDG&E’s knowledge,
11 this is the first instance of a regulated investor owned utility (“IOU”) participating in a project
12 development through a tax equity investment, using its financial strength to significantly advance
13 the development, construction and operation of renewable generation to meet the renewable
14 energy policy objectives of the State.

15 This innovative approach will reduce the cost of renewable energy to SDG&E’s
16 customers when compared to a transaction that does not have the utility tax equity investment.
17 SDG&E believes that this structure can also be used to lower customer costs with similar
18 projects now being developed in San Diego and Imperial Counties, but none of these are ripe for
19 investments at this time. This structure illustrates well the level of the commitment that SDG&E
20 has made to achieve the State’s ambitious RPS goals. It showcases the innovation that
21 California’s RPS program continues to foster and further promotes the development of
22 renewable power projects in a constrained capital market. The Commission has already
23 approved a power purchase agreement (“PPA”) between Rim Rock and SDG&E. An

1 amendment to that PPA is being submitted for approval as part of the package of agreements
2 that, altogether, constitute the transaction for which SDG&E is seeking approval.

3 The full scope of the transaction involves NaturEner USA, developing, constructing and
4 managing the Rim Rock LLC project through a project holding company. SDG&E's role is to
5 provide up to 79.99% of the project's equity in the project holding company. The Rim Rock
6 project will sell its output to SDG&E according to the terms of the Amended PPA. The
7 Amended PPA is for a term of twenty years. During this twenty year period SDG&E will be
8 both an equity holder in the holding company and the purchaser under the PPA.

9 The testimony of other witnesses will explain in detail:

- 10 • The amendments proposed to the existing PPA and, with regard to the tax equity
11 investment, the commercial structure of this investment transaction and why this
12 particular investment furthers the public interest in renewable generation to serve
13 SDG&E ratepayers and meet California's ambitious renewable energy goals,
14 representing value for ratepayers that is received when SDG&E is both an owner
15 of the project and a customer under the PPA (Mr. McClenahan),
- 16 • The role of tax equity in financing the development of renewable generation and
17 the financial details of this proposed SDG&E investment (Mr. Moftakhar),
- 18 • The applicable tax rules and treatments that are an important value driver for the
19 project (Mr. Reeves), and finally

20 The ratemaking treatment of this transaction (Mr. Deremer).

1 **II. IOU PROCUREMENT OF RENEWABLE GENERATION**

2 The 2010 deadline for compliance with the State of California’s Renewables Portfolio
3 Standard (“RPS”) is rapidly approaching. In recent decisions approving the RPS Procurement
4 Plans for the three IOUs, the Commission has reaffirmed that the IOUs are to “undertake all
5 reasonable actions to comply with RPS targets, including UOG [Utility Owned Generation]
6 when necessary and appropriate.”¹ In discussing its role in assessing the IOU’s RPS compliance
7 efforts, the Commission further noted that it would consider

8 [T]he degree to which each utility implements Commission
9 orders; reasonably elects to take or reject the guidance provided
10 herein; reasonably demonstrates creativity, innovation and vigor
11 in program execution; reaches program targets and requirements;
12 and shows it took all reasonable actions to achieve compliance....²
13

14 Among the guidance provided in the referenced decision, the Commission noted that utilities
15 should build and operate their own plants, if necessary, to meet the RPS targets.³ The
16 Commission has encouraged SDG&E and Southern California Edison to expand their
17 contracting options similar to the proposal from Pacific Gas and Electric Company (“PG&E”)
18 which includes joint development and ownership of projects along with the project developer,
19 and encouraged the other two IOUs to adopt a similar expansion of their contracting options.⁴

20 In directing the IOUs to explore their options, the Commission observed that certain
21 federal income tax credits that had previously not been available to utility owned or developed
22 projects had been extended to the utilities by Congress. Along with those tax credits, the
23 Commission observed that financial markets had deteriorated⁵– all of which dramatically

¹ Decision (D.) 09-06-018. Conclusion of Law 24.

² *Id.* at Ordering Paragraph 5.

³ *Id.* at pp. 32-33, citing D.08-02-008 at pp. 26, 32. *See, also* D.07-12-052 at p. 79 and D.07-02-011 at pp. 23-24 (as modified by D.08-11-008) *citing* D.06-05-039 at p. 24.

⁴ D.09-06-018 at p. 50.

⁵ *Id.* at p. 51.

1 changed the landscape with respect to the possibility of utility investment in renewable
2 generation.

3 The above language from the Commission highlights the “hybrid” state of California’s
4 markets for electricity generation, wherein UOG exists side-by-side with generation facilities
5 developed and operated by independent power producers (“IPPs”). As described below, the
6 proposed transaction with NaturEner USA, LLC in its Rim Rock facility reflects the hybrid
7 market concept in the context of a single project by contemplating direct utility investment in an
8 IPP project, thus representing both UOG and IPP elements of facility ownership and operation.

9 **III. THE ROLE OF TAX EQUITY IN FINANCING RENEWABLE GENERATION**

10 The federal government offers significant tax incentives to assist in the development of
11 renewable resources. First, Production Tax Credits (“PTCs”) are direct dollar-for-dollar
12 reductions in an investor’s tax liability. A wind project will generate a PTC of \$22 (as of 2010)
13 for each MWh produced. Next, the Modified Accelerated Cost Recovery System (“MACRS”)
14 depreciation rules allow for faster recovery of the costs of a wind energy facility. Most of the
15 facility can be depreciated within five years, rather than the normal 20-25 year book life of the
16 equipment. PTCs and MACRS together provide investors with a very large percentage - nearly
17 45% - of the return on their investment.

18 Traditionally, tax equity investors have been large investment or commercial banks, with
19 large tax appetites and low financing costs. The U.S. economic recession has reduced corporate
20 profitability. With the onset of the financial crisis, fewer of these tax equity investors have a
21 sizeable tax appetite. Additionally, a tight credit market has made the availability of low cost
22 financing more scarce.

1 The impact of this credit crisis and global economic crisis has caused a disruption in
2 renewable energy project development. One major cause of this is the lack of capital available
3 for financing renewable energy projects by typical bank investors. SDG&E recognized this
4 challenging development environment as the financial crisis was unfolding. As one market
5 analyst study noted at the time:

6 The current US financial crisis, which began in earnest in
7 September 2008, has created turmoil in the US wind project debt
8 and tax equity investment markets [internal citations omitted]. The
9 credit crunch has virtually frozen wind project debt finance, and
10 the cost of debt that is available has risen sharply. At the same
11 time, the supply of US third-party wind project tax equity has
12 shrunk significantly. The two major dominant investors—JP
13 Morgan and GE Energy Financial Services (GEFS)—have scaled
14 back, and the bankruptcy of Lehman Brothers and near bankruptcy
15 of Wachovia and AIG has further reduced the pool of investors.⁶
16

17 Although the market for renewable project finance may have improved somewhat,
18 SDG&E does not believe that the market is as robust as it was prior to the September 2008
19 Lehman bankruptcy. For example, as recently as May 2010, Tom Emmons of Rabobank made
20 the following observations regarding the renewable financing situation in the U.S.:

21 There is a shortage of tax equity available, and the supply of senior debt is still
22 somewhat tight. There is caution in the banking market. . . Banks have higher
23 funding costs and liquidity costs than before the crisis. Furthermore, the number
24 of banks lending large amounts to the sector is not increasing.⁷
25

26 In addition, and perhaps more importantly, the very size of this investment (up to \$600
27 million) would demand a level of liquidity in the market that is hard to access without a complex
28 syndication of the transaction. For example, in an April 2010 panel discussion regarding
29 renewable finance, one panelist observed that of the banks investing in renewable energy this

⁶ Emerging Energy Research “US Wind Hit by Financial Crisis”, November 12, 2008

⁷ Bloomberg New Energy Finance Monthly Briefing, “China and Wind Deals Dominate Project Financings in a Quiet First Quarter,” May 2010, Volume V-Issue 37 (at p. 4).

1 year, “about half of them will commit to \$100 million on a transaction, with the average bank
2 debt per transaction being about \$40 million.”⁸

3 This reduction in available financing is occurring at a time when the requirements for
4 renewable power are increasing and the pipeline of projects seeking financing is also increasing.
5 This competing demand for tax equity investment, not just for wind but for other technologies
6 such as solar and geothermal, creates further challenges.

7 Evidence of the need for utility assistance in financing can also be found in NaturEner’s
8 interest in pursuing financing through SDG&E; were cheaper financing terms available in the
9 market, SDG&E’s approved cost of capital likely would not be the developer’s preferred source
10 of funds.

11 The important point here is that SDG&E believes that there is a constructive role utilities
12 can play in financing renewable energy projects to facilitate their development and construction,
13 and bring down the delivered price of renewable energy for our customers’ benefit.

14 **IV. THE BENEFITS OF UTILITY TAX EQUITY PARTICIPATION**

15 The current environment is well suited for IOU investment in tax equity wind projects.
16 With few developers able to fully monetize tax benefits (PTCs and MACRS) or secure
17 construction financing, it makes sense to look to IOUs to monetize these tax benefits. IOUs with
18 healthy balance sheets and an established customer base are able to secure financing at a
19 reasonable cost in the constrained credit environment.

20 As the IOUs resumed procurement in 2003, the Commission established a “hybrid”
21 market where generation was provided through both UOG and PPAs with IPPs. As described
22 below, the proposed transaction with NaturEner USA, LLC in its Rim Rock facility reflects the

⁸ Novogradac Journal of Tax Credits, “Panelists Predict Sunny Skies for Energy Tax Credit Projects.” June 2010, Volume I, Issue VI (at p. 1).

1 hybrid market concept in a new manner through a new direct utility investment in an IPP project,
2 thus representing both UOG and IPP elements of facility ownership and operation in a single
3 project. If approved by the Commission, the Rim Rock deal could potentially serve as a template
4 for future IOU tax equity investments, demonstrating a means for utilities throughout the country
5 to assist the development of renewable projects in these constrained capital markets.

6 At a high level, the deal is structured such that, upon Commission approval, SDG&E will
7 be authorized to make a tax equity investment in the project, upon commercial operations, equal
8 to the lesser of \$600 million, or up to 79.99% of the total equity to be invested. As discussed in
9 Mr. Deremer's testimony, SDG&E's tax equity investment will be treated as an intangible
10 capital asset and earn a return similar to ratebased plant in service at SDG&E's currently
11 authorized cost of capital (8.4% pre tax, or 7.36% after tax). By virtue of its investment,
12 SDG&E will become a passive partner (although with consent rights over major decisions),
13 along with the developer/manager, in a limited liability project holding company that will own
14 and manage the wind project. The developer will remain an owner/manager, with a similar stake
15 in the project and serving the same role as if the tax equity investor had been a bank rather than
16 SDG&E. Thus, the tax equity investment simultaneously exhibits the benefits and characteristics
17 of both a UOG and IPP project. The utility lends its strong balance sheet to the project to assure
18 financing and the IPP lends its development and managerial expertise to the wind facility. The
19 developer and the investor (SDG&E shareholders) each individually earns a return on the
20 portions of capital investment that each has placed at risk in the project.

21 Ratepayers benefit from the development, in a difficult financial environment, of an
22 important new renewable resource that supports SDG&E's RPS goals. Ratepayers also benefit
23 because a utility tax equity investment will lower the cost of the renewable energy resource in

1 the current market and increase the likelihood that such clean energy projects are constructed.
2 As an investor in a tax-equity arrangement, ratepayers will receive the benefits of project
3 ownership while at the same time incurring lower risk. As further explained in the testimony of
4 other witnesses, this is due to a number of factors. First, SDG&E's portion of the overall
5 investment retains characteristics that are similar to debt in that ratepayers are repaid their
6 investment in full, with a return on such investment, prior to the developer receiving a large
7 portion of the return of, and on, its investment. In fact, while ratepayers will reimburse SDG&E
8 for its investment over the 20-year project life, the ratepayer investment should be fully repaid
9 after ten years, meaning that the expected benefits from the Rim Rock LLC will have fully offset
10 the cost of their investment. After ten years, ratepayers will retain a small interest in the project
11 and share of cash flows through year 20, such that the investment's impact on rates will be \$0
12 over the life of the project (the PPA, like all PPAs, will impact rates). This important concept is
13 described in more detail in the testimony of Mr. Moftakhar and Mr. Deremer.

14 Second, throughout the term of the investment, ratepayers will have a PPA with the
15 project through which SDG&E as the buyer obtains the project's Green Attributes; if the project
16 does not perform, ratepayers are largely free of any obligation to pay for these Green Attributes
17 (as discussed in the testimony of Mr. McClenahan, it may be beneficial for SDG&E to enter into
18 certain hedging or collateral arrangements to support the null power sales from the project).

19 Third, the method of ratepayer repayment of their investment comes primarily through
20 reasonably assured tax benefits. Fourth, ratepayers' investment is not made until construction is
21 complete and upon commercial operations, thus mitigating construction risk for ratepayers.

22 Lastly, and perhaps most importantly, tax equity financing by SDG&E will provide
23 enhanced project economics – to the benefit of ratepayers – in the current financial environment.

1 As further explained by Mr. Moftakhar, there currently exists a gap between the utility's cost of
2 capital and the rate charged by traditional tax equity investors for capital. While in years past the
3 utility rate of return had been higher than bank rates, that relationship has now been reversed.
4 SDG&E can offer the project lower financing and this savings is passed through directly to
5 ratepayers. During the course of negotiations regarding this transaction, SDG&E has estimated
6 these savings to be as much as \$15 per MWh, as is discussed in the testimony of Mr.
7 McClenahan. For every 100 basis points that SDG&E's cost of capital is below the market cost
8 of capital, customers will save approximately \$120 million over the life of the project.

9 **V. SDG&E'S INVESTMENT IN THE RIM ROCK PROJECT**

10 Given the current financial climate and the loss of tax appetite for many traditional tax-
11 equity investors, it makes sense to allow SDG&E to become a tax-equity investor in this
12 renewable project. Because of the nexus of the project and ratepayer interests (that is, the
13 delivery of green attributes to ratepayers), SDG&E is interested in this particular investment.
14 The investment in the Rim Rock project is envisioned as the first of what could eventually be
15 multiple such investments. SDG&E is currently evaluating similar transactions, all with in-state
16 projects, but none of these is ripe for investment at this point in time.

17 Rim Rock offers a number of strengths, including its high viability, favorable pricing, and
18 the significant quantity of RPS-eligible energy it is expected to contribute to SDG&E's portfolio.
19 Most importantly, it is at a critical stage where financing is required to move to construction and
20 begin timely deliveries in 2012. SDG&E is pursuing this Rim Rock investment because SDG&E
21 is relying upon its Commission approved PPA with Rim Rock to meet a significant portion of its
22 RPS needs.

1 SDG&E’s support of Rim Rock will not come at the expense of SDG&E’s support for in-
2 state renewable development. In fact, SDG&E has an important commitment to ensure flows of
3 renewable power across the Sunrise Powerlink and has shown a preference for California
4 projects that do so. The State needs to use all options available to it if it is to realize its RPS and
5 greenhouse gas (“GHG”) ambitions, and so it would be unwise to exclude any important project
6 solely on the basis of location.

7 Although SDG&E believes that this structure will result in more projects being
8 completed, with a lower cost to customers, SDG&E recognizes that this kind of tax investment
9 has not previously been presented to the Commission and that the Commission may ultimately
10 decide it is not ready to authorize this type of IOU investment in an IPP project. Regardless of
11 whether the tax equity investment is approved, SDG&E requests that the Commission approve
12 the Amended PPA on a stand-alone basis. This request to move forward with the PPA alone
13 demonstrates both that the amendments to the PPA reflect arms-length negotiations, and the Rim
14 Rock project is critical to meeting SDG&E’s RPS goals. While the project would be challenged
15 to perform under the proposed price cap given current market rates for – and availability of – tax
16 equity, it is important that the Commission afford Rim Rock every opportunity to succeed.

17 This concludes my prepared direct testimony.
18

1 **VI. STATEMENT OF QUALIFICATIONS**

2 My name is Michael R. Niggli. My business address is 8306 Century Park Court, San
3 Diego, California, 92123-1593. Since April 3, 2010, I have served as President and Chief
4 Operating Officer of San Diego Gas & Electric (“SDG&E”). Prior to that time (since 2006), I
5 served as Chief Operating Officer of SDG&E and Southern California Gas Company. From
6 2000 to 2006, I was president of Sempra Generation, where I was responsible for the operation
7 and maintenance of merchant power plants and energy infrastructure throughout North America.

8 Prior to joining Sempra Energy in 2000, I was chairman and chief executive officer of
9 Nevada Power Company and Sierra Pacific Resources. From 1988 through 1997, I served as a
10 senior executive with Entergy Corporation, with significant corporate responsibilities for
11 strategic planning, customer service, fuels acquisition, marketing and sales. Finally, I began my
12 career in 1971 at SDG&E, where I held management positions involving electric and gas
13 operations, fuels acquisition, project management and customer service.

14 I hold a bachelor’s and a master’s degree in electrical engineering from California State
15 University, Long Beach and San Diego State University, respectively. I founded the graduate
16 program in power engineering at San Diego State University and lectured there for five years. In
17 addition, I have participated in the Advanced Management Program at Harvard Business School.

18 I have previously served on numerous boards, including the Edison Electric Institute,
19 Electric Power Research Institute, Electric Power Supply Association, University of Nevada Las
20 Vegas (UNLV) Foundation, and United Way of Southern Nevada. I currently serve on the
21 boards of the Great Basin National Park Foundation, San Diego Chamber of Commerce, and the
22 Energy Efficiency Center at the University of California at Davis. I am also the co-chair of the
23 Dean’s Advisory Council for Engineering, California State University, Long Beach. I also have

1 | been closely involved in business and education partnerships in San Diego, New Orleans and Las
2 | Vegas.