July 9, 2008

California Energy Commission
Dockets Office, MS-4
1516 Ninth Street
Sacramento, CA 95814-5512

Subject: 2009 IEPR – Feed-In Tariff;
Docket No. 08-IEP-1 and No. 03-RPS-1078

This writer wishes to extend his compliments to the Commission for both the KEMA Draft Report and the Workshop on feed-In Tariffs held on June 30, 2009. In particular Wilson Rickerson is to be commended for his insightful, knowledgeable comments on the Feed-In Tariff practices currently in use in Europe. In particular as Mr. Rickerson points out Feed-In Tariffs should be seriously considered because:

- State is not on track to meet the RPS requirements by 2010
- New policy framework perceived as necessary if 33% renewables target is to be achieved by 2020
- Feed-in tariffs have driven rapid expansion in some markets

The Feed-In Tariff system appears to have worked rather well in Europe. The three most successful countries have been Denmark, Germany, and Spain. All EU countries are required to adopt policy to meet RE targets, but the majority of EU countries have some form of feed-in tariff, but with different designs. As Mr. Rickerson pointed out the success of the program is in the details.

In the CPUC presentation "Status of California's Renewable Portfolio Standard" the report states the RPS procurement process is working. The report states that the Commission has approved 95 contracts for 5900 MW for new and existing RPS capacity. If all approved capacity were online by 2010 the RPS target would be more than achieved. The report further states that response to RPS solicitations are robust and increasing indicating the market is maturing. The present process emphasizes competitive solicitations with a focus on long-term contracts. The report acknowledges however that Project Development has been slow, that at present only 14 contracts for ~400 MW have come online and RPS generation has not kept pace with overall load growth. If the RPS target is to be met, more than 3,000 additional MW of generation would be needed. The CPUC is working to create multi-agency solutions to RPS barriers such as Transmission by a combination of a "Streamlined Permitting Process", "RETI", and working closely with CAISO on queue reform. Site control issues to be worked out with the BLM and other relevant agencies and of course the onerous permitting issues with the CEC and County and local agencies. The last set of issues deal with the problem(s) California is trying to solve. Is it:

– Problem with the procurement process?
– Problem with the project development process?
– How significant are these problems?
– How would a feed-in tariff address these problems?
What challenges associated with implementation and administrative oversight might a feed-in tariff create?
– Could these challenges outweigh the benefits of a feed-in tariff?

While there may be many facets of the current RPS program that are working well, the question arises why then is the program languishing? Why is it if 5900 MW of capacity have been approved there is only ~400 MW on line? Why is there an acknowledged consensus that the 2010 target goal of 20% renewable energy will not be met and the increased target of 33% by 2020 is even in more serious jeopardy? Why if the present system is working well would the CEC in the 2007 IEPR recommend that the state immediately establish "feed-in tariffs" for systems under 20 MW and that the CEC collaborate with the CPUC to explore feed-in tariffs for systems larger than 20 MW to incorporate the value of a diverse mix of renewables as well as features of the most successful European programs?

The KEMA Report notes: California is not on track to meet its current RPS target of 20 percent by 2010, absent the liberal use of flexible compliance rules, and is expected to need new policy tools to meet the renewable energy target of 33 percent by 2020. A number of market barriers exist to meeting the current RPS, including:
• Permitting and siting challenges.
• Transmission availability, timing, and cost allocation.
• Development risks, including securing site control and obtaining financing.
• Complexity of the RPS solicitation processes (including suitability of RPS solicitation processes for smaller projects).

• Lack of transparency.
• Contract failure, which may be caused by a wide variety of reasons, including over aggressive bidding in solicitation processes
• Cost changes during the project development process, which may cause some projects to become infeasible; such cost changes are often caused by external factors, ranging from whether federal tax credits will be extended, to rising costs of equipment.
• Potential limitations on the availability of funds for any above MPR contract costs.

On the other hand feed-in tariffs can address a number of these issues and this may help California meet its percent by 2020 renewable energy target. Feed-in tariffs can:
• Reduce project developer costs, risks, and complexity without increasing ratepayer cost (relative to the cost of viable projects, as opposed to speculative bids, which result in contract failure).
• Reduce utility and regulator administrative burdens.
• Reduce transaction costs. Current complexity hampers the ability for small businesses and small projects to participate.
• Increase the willingness of developers to take on risk in addressing siting, permitting, or other barriers because the reward has a higher degree of certainty than under the current regime.
• Add the possibility of lower overall costs. Currently, lowcost viable projects are allowed to bid up to the MPR, which may act as a price floor, contrary to legislative intent.
• Shift competitive pressure from generators to manufacturers and suppliers of renewable energy generation equipment.
• Reduce the rate of contract failure. Many cost factors can change between a solicitation response and a project's resolution of permitting, siting, interconnection, and equipment procurement. Once projects have progressed to the point where costs become certain, previously signed contracts may become infeasible. Under the current approach, such contracts would fail (or their proponents would seek to renegotiate with the purchasing utility, a practice that would tend to encourage more speculative bidding). For comparable feed-in tariff prices to that of RPS contracts that do succeed, it is possible that a greater number of projects could move forward because the potential for reduced costs under a feed-in tariff regime could leave a project more headroom to absorb costs increases related to potential project delays.

The feed-in tariff is analogous to the SO4 programs utilized in the 80s. Those programs led to the development of many renewable projects. The feed-in tariff is far more transparent that the current system in place today. The feed-in tariff can offer a fixed price contract over a specific term with specific operating conditions to eligible renewable energy generators. The feed-in tariff can be structured to offer an all inclusive rate or a fixed premium payment on top of the prevailing spot market price for power. There are a variety of design issues that can be applied differentially across different groups of generation in order to address fundamental differences in resource cost or quality. Feed-in tariffs should reduce the cost associated with contract evaluation and approval, as well as reducing developer costs associated with bid preparation and negotiation. Properly structured the feed-in tariff program can reduce developer risk thus leading to reduced costs of investment thus enhancing the possibility of building increased renewable generation capacity.

During the discussion section of the Workshop it was noted that representatives of the IOUs were not in favor of an all inclusive feed-in tariff system. It appears that with the feed-in tariff system the IOUs believe that a great deal of control over the amount and type of renewable resources purchased would be lost. Also it was stated that the overall costs of generation could be increased. This need not be the case, the feed-in tariff system could be structured in such a manner to allow the purchaser to determine the amount and the type of renewable resource by setting purchase priorities as to the type of generation purchased and even possibly from which locality the energy could be purchased. The "Standard Offer" pricing feature of the feed-in tariff was utilized in the past. The Standard Offer contract has resulted in the construction of many renewable facilities. As with any successful system the structure must be carefully developed just as it appears to have been in the successful European renewable systems.

From the generator's perspective, the benefits of a feed-in tariff include the availability of a guaranteed price, buyer, and long term revenue stream. Market access is enhanced, as project timing is not constrained by rigidly scheduled periodic solicitations, completion dates may not be constrained by contractual requirements, quantities are often uncapped, and interconnection can be guaranteed. Together, these characteristics can help to reduce or alleviate generator revenue uncertainty and associated financing concerns. Because standing tariffs are less costly and less complex than competitive solicitations, they can increase the ability of smaller projects or developers to help the state meet its RPS and maybe even the greenhouse gas emission reduction goals. Feed-in tariffs reduce transaction costs for both buyer and seller and are more transparent to administer than the current system. Policy makers can use feed-in tariffs in a targeted fashion to encourage specific types of projects and technologies, if so desired.

The following questions are taken from Attachment A of the Staff Workshop Notice.

A. What are the key policy objectives for a feed-in-tariff in California?

1. Should feed-in-tariffs be expanded or limited to projects 20 MW or less?

Definitely expanded! The same advantages that accrue to projects of < 20 MW can be expected in the larger programs.

2. What are the barriers to renewable resource development that have led to delay or project failure of RPS contracts that feed-in tariffs may overcome?

Although the KEMA Report cited above lists a number of barriers to meeting the RPS targets, one of the primary barriers to development has been the inability of the Independent Power Producers (IPPs) to obtain project finance. In too many cases this writer and his associates have been informed by the financial community that within the present system of remuneration for renewable energy, the revenue produced is not worth the risk associated with renewable energy finance. The reasons most commonly cited by the investment community include the cost, time and uncertainties associated with project permitting and obtaining short-listing. This is in addition to the risks associated with renewable energy such as the fuel supply and processing. The costs associated with obtaining "short-listing" and permitting are two major deterrents to investment. The investment community states it is necessary to invest a great deal of "pure risk" money without the remuneration to provide it with the level of comfort necessary to encourage investment. In effect, the reward does not warrant the risk. Also, the cost of finance assumed in the MPR is the cost to a super creditworthy borrower, the normal IPP does qualify for this cost of borrowing. In addition, depending upon the technology offered the IPP may have to provide efficacy insurance in order to obtain project finance. Obviously, the IOUs do not have the same financing issues as does the IPP,for among one of the many reasons the IOUs have a guaranteed rate of return. The inclusion of the IOUs into a discussion involving project finance and project cost should either be discouraged completely or placed into a separate category, their situation does not reflect the problems affecting the IPPs in their quest to obtain finance.

On May 21st 2007 Commissioner Geesman held an "IEPR Committee Workshop" at the California Energy Commission. One of the issues discussed was the practices of the European Community relative to renewable energy. In the Workshop it was stated the European Renewable Energy Program is "On Track", the goals set are being met, everyone is happy with the progress and with the results. In reviewing the transcripts of the meeting it became quite apparent the European Community recognizes the costs associated with the production of renewable energy and is willing to pay the price necessary to obtain it. They recognize that renewable energy is more expensive to produce than fossil fueled energy, hence if renewable energy is wanted the price must be payed. In addition, the transcript stated that financial institutions were encouraged to invest in renewable energy and that permitting issues were being streamlined in order to stimulate renewable construction.

In the present workshop the emphasis is upon the feed-in tariff system used by the 3 most successful systems. Unfortunately this writer listened in to the Workshop by telephone and was unable to ask Mr. Rickerson the following set of questions:

- In the European system, on average or specific to a country what is the cost relationship between renewable energy and fossil-fuel energy?
- In the European system how are the lending institutions encouraged to finance renewable energy projects? Do the European nations have any lending institutions such as the CPCFA (California Pollution Control Funding Authority) or the I Bank? If so, are they encouraged to invest in renewable energy projects? If so, how?
- How are the European countries streamlining their permitting process?

Although this writer has declared to both Commissions that revenue for renewable projects are too low, that State of California lending institutions should be encouraged to assist in renewable energy finance and that the onerous California permitting processes should be streamlined. The Commissions have been reluctant to acknowledge the veracity of the statements.. In addition, the problem of building transmission to access huge amounts of wind energy and solar energy, the onerous permitting process are already acknowledged by Commissions. Add to these items the severe cost escalation issue that is presently plaguing the entire construction industry and the need for a new procurement policy can be understood.

3. What are the costs and benefits associated with feed-in tariffs for larger projects from the administrator, ratepayer, and societal perspective?

Depending upon the structure of the feed-in tariff, the costs of contract negotiation and regulatory oversight could be greatly reduced because the cost of energy per technology would be essentially the same, the only variables could be attributed to adders such as resource type, perhaps location, TOD etc. If a system were structured ensuring to some degree a rate of return for the power producer, costs could be regulated both upward and downward based upon the price or value of the energy. In this manner development risk would be reduced thus making investment easier to obtain and less costly. More renewable facilities could be developed and placed on-line. In this case both rate payer and societal benefits could accrue. Further, the system would be completely transparent.

4. Could feed-in-tariffs help increase the mix of renewable energy resources in California and thereby have a dampening effect on electricity price fluctuations?

Feed-in tariffs alone will not increase the mix of renewable energy in California. Priorities could be set designating the amount of energy that is purchased from each renewable technology. As an example, the priorities could be set by the IOU or the POU purchasing the energy, with or without strict regulatory guidance..

5. Are feed-in-tariffs supported by the same guiding principles used to develop the same RPS procurement process?

If the RPS process insists upon a "competitive-non disclosure" solicitation then the answer is no. The feed-in tariff would remove much of the mystery and uncertainty involved with procurement today.

6. Can feed-in tariffs be designed to bring down costs over time and limit ratepayer exposure?

As explained in question 3., the feed-in tariff could be structured in such a manner in order to produce a win-win situation for all parties concerned.

B. What are the key feed-in-tariff design issues?

1. How should feed-in tariffs be designed to effectively support California's RPS programs and RETI?

Essentially the purpose of the RPS is to increase the amount and use of renewable energy. The program outlines what constitutes renewable energy and what quantities are wanted by when. RETI is a transmission initiative to provide transmission capability to areas where renewable energy such as wind and solar can be generated and conveyed to a point of use. Feed-in tariffs should be designed to augment and enhance the construction of renewable facilities. Feed-in tariffs should establish a rate base per technology that encourages investment by producing revenue that is worth the risk of investing.

2. Should feed-in tariffs be differentiated by selected technologies or size?

Yes to both technology and size. Different technologies have differing costs and value associated with their construction and operation. Also, smaller units usually have larger per unit costs associated with them. To a point there are economies associated with size, therefore the cost per unit is usually greater for a smaller operation.

3. What levels of resource potential, and/or operational characteristics should be considered in determining feed-in tariffs?

The cost of the operational characteristics should be considered. Obviously the overall value of the energy should be the determinant as to whether or not the facility is built. The writer is unclear by what is meant by the levels of resource potential. The resource should have the potential to allow generation for the period of time necessary to at least ensure debt repayment. A feed-in tariff should be structured in such a manner that allows the flexibility to add or subtract from the feed-in cost.

4. Should feed-in tariffs be differentiated by geographical location, or just by an in-state or out-of-state designation?

Feed-in tariffs should be designed with sufficient flexibility so that the more unusual project with generation of value can be included. As an example using biomass as the criteria, if there is a location that has a polluting nuisance that can be utilized as a renewable resource and the cost of generation is "reasonable" the tariff should be designed to allow it's

inclusion. As to in-state or out of state designation the feed-in tariff should be so designed that it can function utilizing the principles of sound economic practice.

5. How should costs be distributed?

In a manner similar to how they are distributed today however the feed-in tariff system would be exponentially less expensive to administer than the "competitive MPR" system in use today.

6. Should feed-in tariffs replace the current MPR plus 'Above Market Funds' (AMFs) to support the RPS?

Feed-in tariffs could replace the current MPR system. At present the MPR is structured using the price of a natural gas-fired facility and the price of natural gas as the revenue determinant. The system is unwieldy, lacks transparency, is very time consuming and has not produced the amount of generation targeted. The largest cost factor utilized in the MPR is the cost of gas, however gas in not utilized in renewable generation so this produces an erroneous cost. Feed-in tariffs are totally transparent, should eliminate much of the time consuming negotiations necessary to implement the present MPR system and ease regulatory approval. The cost transparency should provide the investment community with greater level of comfort thus perhaps leading to an enhanced investment composure.

7. How could AMFs and feed-in tariffs work together?

By using the AMFs as adders, AMFs could function as the cost-adders to the feed-in tariff.

8. The RETI is working on transmission corridor planning for Competitive Renewable Energy Zones. How should feed-in tariffs be designed to contain costs and encourage renewable energy development in Competitive Renewable Energy Zones?

Obviously the greatest benefactors of this will be the wind and solar generators. Presently much of the projected energy resource is in areas of woefully insufficient transmission. Competitive Renewable Energy Zones would have to be built in areas to accommodate this projected energy generation. Overall that could contain costs to the maximum degree.

C. What are the key feed-in-tariff implementation issues?

1. What is the proper implementation structure for feed-in tariffs for generators larger than 20 MW?

Provide a set of tariffs applicable to all RPS eligible renewables. To address this very issue, the European feed-in tariffs and many of the proposed U.S. feed-in tariffs set different payment levels for different project sizes, with the policy objective of encouraging installations over a wide range of size and cost. Included should be adders for resource type, TOD, reliable or as-generated energy.

2. How should feed-in tariffs be administered?

Feed-in tariffs should match load with need. Priorities as to what type of energy is required should be established and the technologies to produce the energy determined. A queue could be established , however a project should be evaluated not only on the value of it's energy resource to the RPS, but also as to the likelihood of being able to obtain finance.

3. How should feed-in tariffs be adjusted to match supply and demand?

As explained above, priorities should be established as to the generation requirements such as the amount of base load, dispatchable, peaking, as-generated etc. The priorities may or may not need to be approved by the regulating community.

4. How should feed-in-tariffs be linked to statewide RPS targets?

In much the same manner as they are presently established, however priorities as to what type and amount of resource is wanted, i.e. base load, dispatchable, peaking. Priorities should be established outlining the amount of energy required and the technology to generate the amount of energy.

5. What current state and federal legislation may affect development of a feed-in tariff for generators larger than 20MW?

CCP declines to answer, however the superiority of the feed-in tariff system has already been demonstrated in Europe, therefore legislation should be enacted to enhance the development of a feed-in tariff system.

In addition to the questions raised above, the presentation by Messr's Bob Grace and Wilson Rickerson entitled "Exploring Feed-In Tariffs for California" raises a number of questions beyond those found in Attachment A, however important questions were left out of the Workshop. These are questions relating to remuneration for the energy. How much will be paid? How will the amount for remuneration be arrived at? Is reliable (or dispatchable) energy to be considered more valuable than as-generated? Although the feed-in tariff appears to present some benefits that are not present in the current MPR system, it is not a panacea. The investment community must be satisfied that renewable energy finance is worth the investment. The concept of transparency, the idea of a lesser hassle connected with obtaining a power purchase contract, the feature of a known value for energy, interconnection assurance will assist the investment community to develop a greater level of comfort with renewable energy investment. The onerous burden of permitting still exists however. The problem of providing adequate transmission still exists. The importance of structure design for the feed-in tariff can not be over-emphasized. It would be helpful to study the design of some very successful programs and determine it's applicability to what is required here in California. At the Workshop, the concept of an overall feed-in tariff had it's detractors however. It appears that in order to satisfy the needs of the IOUs and very probably the POUs also, it will be necessary to develop a means of control for the type and amount of the energy that will be purchased by these entities. However, it is inconceivable that the "competitive" system, with all of the costs and time connected with that effort could be favored over a feed-in tariff system. Obviously much work and effort will be required to obtain a feed-in tariff system that will function to the necessary degree of satisfaction to accommodate the California RPS.

Sincerely,

Joseph Langenberg
Central California Power
949 E. Annadale Ave. (A210)
Fresno, CA 93706
Tel. (559) 917-5064