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Docket Control
Arizona Corporation Commission
1200 W. Washington Street
Phoenix, Arizona 85007

ARIZONA CORPORATION COMMISSION
DOCKET CONTROL

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Re: Notice of Inquiry Regarding Feed-In-Tariffs/Docket No.: E-00000J-09-0505

Feed-In-Tariff ("FIT") programs have been incredibly successful worldwide at stimulating and increasing the adoption of renewable energy and particularly solar. FIT programs have been responsible for the incredible levels of solar adopted in both Spain and Germany, and are thus directly responsible for the rapid maturation of the solar industry worldwide. As the Commission considers the adoption of a FIT for Arizona this last point should be kept in the forefront: not only would a FIT greatly increase the adoption of renewable energy in Arizona but it would lead to development and maturation of the industry as a whole in AZ and the Southwest. A FIT would mean not only additional MW of renewable energy, but increased manufacturing, transportation, research and jobs. Adoption of a FIT would yield multiple benefits for all Arizona residents both now and in the future.

It is important to note that the Commission has done a commendable job to date of crafting and implementing renewable energy policies. The Commission's REST rules, net-metering rules, and interconnection rules are progressive and hallmarks in the industry. Because of these rules and tireless work of the Commission and Arizona's Utilities, the solar industry in Arizona has a successful foothold and is growing steadily. This shows that the Commission's policies are working. Because of this, it would be ill-advised to adopt a FIT that is contrary to, duplicative of, or seeks to replace the existing policies. However, a properly designed FIT program would serve as a compliment to existing programs and help target market segments that are currently underserved or un-servable.

For this reason, we suggest that the Commission seek to develop a FIT program that would facilitate solar development for community groups, homeowners associations, net-leased commercial buildings, apartment buildings and non-profits. Currently these groups are unable to adopt solar for a variety of reasons:

- Serving multiple meters would likely make the project owner a Public Service Corporation
- Net metering is unavailable for single-owner multiple meter buildings like apartment complexes and net leased retail and office buildings
- Community groups and HOAs often do not have sufficient credit to attract 3rd party investors to finance a system

The ideal FIT program would resolve these issues and be complimentary to the Commission's existing residential and commercial DG programs. Further, the program should be designed to fit in-between the DG program and utility scale projects.

This letter will seek to answer the Commission's questions in the docket based on a FIT program that is designed to address these existing gaps while leaving currently functioning programs and market segments in-tact. The bottom line is that renewable energy and Arizona ratepayers would likely benefit greatly from a well-designed FIT program.

Commission Questions in the FIT Docket

1. Should the Commission develop a new policy to support procurement of wholesale distributed generation resources?

Yes. As described above a FIT program which enables wholesale procurement would address a number of practical and legal issues which currently restrict the market place for solar. A well designed and complimentary FIT program would drive the AZ market and ensure that AZ utilities achieve the RES requirements and exceed them.

a. To what extent can AZ look to other states/ bodies/ countries to apply lessons learned and best practices on developing a FIT program?

The most recent comprehensive FIT program to be adopted is in Ontario Canada. The Commission should study this program carefully as it is widely thought to be the most comprehensive and well-designed program. In addition, the Commission should look to the success of the German FIT and the successes and failures of the Spanish FIT for guidance.

b. What states/ countries have "model" FIT programs that can provide good insight? What are the various models of FITs, and what are their main distinguishing features?

See response to 1.a

2. Should the Commission develop a new policy to support the development of customer-sited distributed generation through a FIT?

As discussed above, a well-designed FIT program in AZ would be complimentary to existing programs. Because a true FIT provides for wholesale sale of electricity to the grid (i.e. in front of a customer's meter) a FIT does not directly allow a customer to offset their electricity demand from their grid utility. It is this offset that provides the customers with the greatest long term benefit and therefore a FIT should NOT be used to support what is traditionally thought of as customer-sited (i.e. behind the meter) DG. These projects are adequately incentivized through the Commission's existing Commercial PBI and residential UFI programs.

Instead, a true FIT would support customer segments that cannot for practical or legal reasons avail themselves of true "behind the meter," customer-sited DG and the programs supporting these systems. For example, the owner of an apartment building may have a great desire and ability to install a solar system. However, as the existing commercial DG PBI program and net-metering rules are designed they are unable to adopt a system that does anything more than serve their common area needs. In other words due to the multiple meters, the owner is unable to recognize and pass-on the true value of a solar system and thus is disincentivized to adopt one.

If a FIT program were available however, the apartment owner along with a suitable project developer could build a project that enters the grid directly upstream of all the apartments and is sized to approximate the complexes load. The apartment owner would then be able to realize a significant income stream (which also makes the project financeable) and the benefits can be passed on to the apartment residents via lower rent.

This would be absolutely huge for Arizona residents. Currently any resident that lives in apartment building pays into the REST surcharge fund but is functionally unable to avail themselves of the benefits. In addition this would open up a very significant market segment to solar companies that is currently untapped. A FIT would also mean that HOAs, and net-leased retail and office buildings would be able to do the same.

- a. Would the adoption of a FIT for customer-sited distributed generation create customer confusion?

As discussed above, a FIT should be designed to compliment existing programs and not overlap them. Traditional "behind the meter" customer-sited DG should continue to be processed under the existing PBI and residential UFI programs.

- b. If the Commission adopts a FIT designed to address customer-sited distributed generation, should it replace, in whole or in part, UFIs and/or PBIs? Should the FIT be entirely additive to existing incentives?

See answer to 2.a above. A FIT program should be entirely additive and serve customers that cannot avail themselves of the existing PBI and UFI programs.

- c. What type of incentive (FIT, UFI or PBI) is likely to result in the lowest overall lifetime cost of utilities meeting their annual renewable energy production responsibilities under the REST?

This is a difficult question because it depends on numerous factors. For example a PBI (especially an auction based PBI) is generally thought to achieve lower costs than a UFI because there is no chance that a utility will be paying for RECs that are not being generated. Similarly a FIT program achieves the same assurances. However as discussed above a well-designed FIT program in AZ should be additive and complimentary to existing programs. It is this combination (as opposed to a single type of program) that is likely to achieve the overall lowest

lifetime cost. As outlined above a FIT program would allow an apartment owner to install a solar system that is impractical today. By expanding the available market, competition increases and costs decrease. Furthermore, the more solar that is installed in AZ the greater likelihood of attracting manufacturing and new technologies which further drive cost down (eliminating transportation costs for example).

Another cost reduction benefit of a FIT program is that it has the potential to significantly decrease the administrative costs associated with the Commission's existing PBI program. For example a properly designed FIT would eliminate the complicated PBI auction and bid process and would not require extensive discussions during the RES implementation process. Further the higher certainty offered to developers under a FIT provides projects with a lower cost of capital and lower risk premium translating to a lower cost of energy. The bottom line is that FIT programs have been demonstrated to achieve an overall lower cost of renewable energy. See NREL State Clean Energy Policies Analysis Project: An Analysis of Renewable Energy Feed-in Tariffs in the United States, Pg. 3 (May 2009).

d. What are the comparative advantages or disadvantages of a FIT versus a PBI?

Although a FIT and a PBI are very similar (payments based on production), as discussed above the primary difference is that a FIT is a wholesale-sale of energy while a PBI is still reliant of a retail purchase of energy. As such a FIT can be designed to address market segments that cannot utilize a PBI or net-metering. Further as the NREL study suggests a FIT appears to achieve a lower overall cost than a competitive PBI auction process.

e. What are the comparative advantages or disadvantages of a FIT versus a UFI?

One of the disadvantages of a FIT is that it does not solve the up-front cost barrier to solar adoption. While a FIT facilitates third-party investment and financing, this financing is still required and thus remains a significant barrier. On the contrary, a UFI, goes much further to solving this up-front cost barrier because the rebate is paid up-front rather than over time. Because of this it appears that a UFI likely is more suitable to incentivizing residential adoption. Thus the Commission should keep the UFI program for residential systems in-tact. Although the Commission has recognized that participation in this program has been slower than desired to-date. The rate of residential adoption is increasing greatly even in the face of an economic recession. The UFI program is working and should remain in place for residential systems. A FIT program should be additive and complimentary to address market segments that cannot utilize the UFI or PBI.

f. Would the adoption of a FIT affect the analysis of whether owners of distributed generation systems are public services corporations? If so, how?

Yes. In fact this is one of the distinct benefits of a FIT in Arizona and should be instrumental in the design of the program. As discussed above, because a FIT program is a wholesale purchase of energy, the owner of a system does not make retail sales to the public and

thus is not a public service corporation (the retail sales or “furnishing” remains with the incumbent utility). This is what would enable the apartment building scenario outlined above.

- g. If owners of distributed generation systems are somehow public service corporations under a FIT, would the Commission have to determine the fair value of each system before approving the FIT?

See answer to 2.f above.

- 3. If you believe the Commission should develop a policy to support procurement of wholesale distributed generation resources, what policy goals should guide the development of such a program? For example, is the goal to guarantee reasonable profit to developers, provide for procurement at lowest cost to ratepayers, promote local economic activity, etc? The Commission has developed a draft list of policy goals that might guide the development of a FIT program for AZ. Please comment on the proposed policy goals. Please also provide a response to this question if you answer in the affirmative to question 2.**

The Commission’s FIT policy should be designed to achieve the following goals in order of priority:

- Provide sufficient payment to stimulate untapped market segments at the distribution level and build new projects while minimizing rate payers costs and preserving competition
- Compliment but not impede or duplicate existing renewable energy programs
- Greatly accelerate the amount of wholesale renewable energy installed in the state
- Help Arizona’s developing renewable energy industries mature by bringing down costs and enhancing expertise.

- 4. What is the appropriate size range of projects to target? What is the size of the potential market for projects in the size range you suggest?**

The appropriate size range of projects is likely in the 200kw to 10 MW range. This range allows projects that are large enough to fill the customer segments discussed above (i.e. apartments, HOAs, etc.) but are generally smaller than utility scale projects sought through the RFP process (see recent APS RFP requesting a minimum project size of 15MW).

- a. Would a FIT provide a benefit to rural areas, urban areas, or both? Why or why not?

Likely, both. A properly designed Arizona FIT would enable less complex and credit worthy entities (e.g. a rural community gardening club) to finance and develop projects, but would also significantly benefit apartment dwellers as discussed above.

- b. What benefits would procurement from projects in this size range provide to AZ ratepayers? Would a FIT assist utilities in more quickly meeting their overall RES requirements, particularly in light of the apparent difficulty facing large-scale projects in achieving financing?

A FIT designed to encourage wholesale projects of 200kw to 10 MW would greatly enhance and accelerate the ability of utilities to meet the REST requirements. Currently projects are either rooftop behind the meter or large utility scale projects. Developers working on projects in-between are greatly lacking. A FIT is likely to achieve a lower cost of compliance for the utilities and their ratepayers and will allow a much larger cross section of customers to participate in and benefit from renewable energy.

- c. Should it be used as an incentive for higher value locations, such as recognized congestion zones or areas with anticipated higher capital costs?

A FIT should incentivize untapped market segments.

- d. Should it be used as a tool to attract customers who would otherwise be unable to make use of current programs such as Non-Profits, Non-taxable entities, Home Owner Associates and multi-family dwellings?

Yes. A FIT designed with this primary goal in mind would provide the greatest benefit to Arizona and would be the best way to integrate the program with existing functioning PBI and UFI programs. See discussion above for greater detail.

5. Should the Commission adopt a statewide FIT, or should FITs vary by utility?

A Statewide FIT would be most beneficial. One of the difficulties of the US market is the great variation in incentive programs. Utility specific FITs would add to this problem and likely achieve no significant benefits.

6. In light of the proposed policy goals, what would be the most appropriate procurement method to use in procuring power from projects in the size range you recommend, and what cost or capacity limits should be applied to the program?

A well designed FIT program should use fixed incentive rates based on the levelized cost of energy from specific technologies and the size of the system plus a reasonable rate of return for the investor. These rates should decrease over time as market penetration increases and the overall size of the program should be capped at a level that will allow REST compliance with a reasonable impact to ratepayers.

7. Assuming a capped program, on what basis should winning contracts be selected?

As the NREL study suggests a first-come-first-served selection process actually is likely to achieve lower costs than a competitive auction process. This is because greater certainty results in lower risk premium and lower cost of capital.

8. **Would projects located in certain areas (eg. congested areas), provide greater benefits to AZ ratepayers, and if so, how might the Commission focus policy design to promote project development in these areas?**

N/A

9. **Please discuss what price-setting method would be most likely to: a) capture changes in generator costs, b) produce the lowest cost to ratepayers, c) be easiest for Commission and staff and utilities to administer, d) encourage competition, e) be most likely to result in viable projects, f) exert a downward pressure on prices and g) best support the Commission's goals?**

As discussed above FIT prices should be designed based on the levelized cost of renewable energy from various types and sizes of projects plus a reasonable rate of return for the investor. The price could be adjusted annually or bi-annually or once annual program caps are met. Although a reverse auction seems desirable to achieve a lower cost, the NREL study suggests that this actually has the opposite effect.

- a. Should a FIT be created so as to be based on avoided costs or cost of technology plus a small return on investment?

Cost of technology plus a reasonable return on investment. Studies suggest this structure is most likely to achieve significant market adoption.

- b. Should the rates be a fixed premium or a variable premium on price?

A fixed premium that is subject to adjustment annually or bi-annually (or once an annual program cap is reached) will provide the greatest stability to the industry, and is likely to lead to the lowest cost of energy and most stable and mature industries over the long term.

- c. Which technologies should be eligible to participate in this program?

The Commission could decide that all technologies should be eligible for the program. However the greatest benefit would likely be achieved by targeting the program to solar PV. This technology is accepted by consumers, can be applied just about everywhere, and has the greatest industry potential in AZ.

- d. Should the FIT rate be the same for all qualified technologies, irrespective of technology type or generator size? If not, why?

No. Different technologies require different rates. Without this, some developers will achieve a windfall and others will see a negative rate of return based on variances of production and project costs.

- e. Should it vary depending on time of day and reward generators more for on-peak production than for off-peak production? If not, why?

Potentially. The Commission would have to weigh the benefits of such a system against the increased complexities and administrative costs.

- f. What should be the applicable payment term of a FIT? 5, 10, 15 or 20 years?

The longer the FIT term the greater certainty for project developers and investors. Thus a 20 year term is likely to achieve the greatest results.

- 10. In light of the policy goals and procurement mechanism you recommend, what additional elements must the Commission consider, e.g. standard contract development, rate recovery for regulated utilities, contract approval requirements, etc?**

The Commission should consider setting base performance standards for FIT systems so that utilities can have some assurance that the system will produce as expected. In addition the Commission must consider how the first-in-time selection process would interplay with available interconnection to the grid. For example would a project be able to reserve a FIT payment if it requires upgrades to the grid to allow interconnection, or would the developer have to put up some assurance.

- 11. How should this new program fit into existing renewable energy requirements? Should it be additive to the RES requirement? Should generation procured under this policy qualify toward the Distributed Renewable Energy Requirement in the RES? Toward the non-distributed requirement in the RES?**

A well-designed fit program should be complimentary and additive to existing RES programs. However the RECs obtained by the utility from a FIT should be counted towards their RES requirements on the non-distributed side. The Commission's DG carve-outs are designed to allow customers to obtain the benefits of behind the meter customer sited facilities. FIT programs on the other hand are much more akin to wholesale utility-scale projects and thus should be treated as such.

- a. Should all FIT expenses be recouped via the RES surcharge? If not, how should they be recouped?

In order to protect existing RES programs and to minimize administrative costs for a FIT program the best avenue for utilities to recoup FIT expenses would be to build them into the rate base. Because the FIT allows for in-front-of-the-meter wholesale energy (akin to a utility scale

project), recovery of FIT costs should be similar. Furthermore this eliminates the difficulties of the Commission trying to guess how much a program will cost each year via the implementation plan process.

- 12. Should there be any additional restrictions or prioritization of siting opportunities (e.g. should the program be restricted to rooftops, etc.)?**

N/A

- 13. Are there legal or jurisdictional issues that should be considered in the development of a FIT program? If so, how might the Commission address those concerns in the design of the program?**

As discussed there are significant legal benefits to a FIT program. The issues with Public Service Corporation status and multiple meters do not exist under a FIT. In addition, a FIT program is clearly rate policy under the Commission's Constitutional authority. Adoption of a FIT program could be useful as a hedge against potential problems created by legislative or judicial efforts to repeal the REST.

- 14. Please discuss any additional elements that the Commission should consider.**

N/A

Sincerely,



M. Ryan Hurley

cc: Janice Alward
Steve Olea
Lyn Farmer