

**BEFORE THE PUBLIC UTILITY COMMISSION
OF OREGON
UM 1505**

In the Matter of)	
Public Utility Commission of Oregon)	Dave Sullivan's response to the
)	February 28th staff recommendation
Solar Photovoltaic)	
Comments and Recommendations)	
)	

Executive Summary

On February 28th, the PUC Staff filed an eDocket recommendation to reduce the pilot solar program's allotted capacity on April 1st and leave incentive rates so high that investor demand will overwhelm the allotted capacity. If adopted, this recommendation would be a clear violation of the PUC's fiduciary responsibility to ratepayers: No public purpose would be served by deliberately overpaying people who supply solar-generated electricity.

Oregon's courts are unlikely to intervene if the PUC decides to overpay for solar energy. But I know how the court of public opinion would react: people would stop trusting the PUC. People also would question the whole idea of using solar incentives in Oregon. No one who supports the use of renewable energy in Oregon wants the pilot solar program tainted with a widespread and well-founded perception of unfairness.

Do not accept the February 28th Staff recommendations. Doing so would be a clear violation of your mission statement and fiduciary responsibility to ratepayers.

Sincerely,



Dave Sullivan, signed on March 12, 2011

Overview of the Process So Far

On May 28, 2010, the PUC created the pilot solar incentive program by writing:

A critical element of the success of the pilot program is setting the initial rates for energy produced by small-scale and medium-scale systems under the net metering arrangements. ... The consequences of setting rates too high cannot be undone. Eligible capacity will be reserved without recourse for ratepayers. In contrast, rates set at levels too low to promote participation can be raised during later stages of the pilot program. ...

Staff's six-month adjustment window, with rebuttable price adjustments correlated to changes in capacity availability, provides a workable and reasonable means to adjust the VIRs as necessary to meet the goals of the pilot programs. ...

Any party can challenge a rebuttable presumption prior to the next rate period.¹

On December 13, 2010, I filed an UM 1505 eDocket request for a discussion of incentive rates.² My request included a detailed economic analysis showing incentive rates have been set at least 30 percent too high for small-scale and medium-scale systems. It also included a formal rebuttal of the presumption incentive rates should only fall by 10 for the upcoming April 1st enrollment period.

On December 14, 2010, in their regular public meeting, the PUC Commissioners acknowledged receiving my December 13th eDocket filing, and in response they opened a new round of eDocket UM 1505 discussions on December 30, 2010. Thus, by January, any informed observer of the process would have expected incentive rates for the small- and mid-scale solar systems to fall by more than 10 percent for the April 1st enrollment period.

On February 11, 2011, the PUC Staff filed an UM 1505 eDocket response that said:

Given the level of demand in the previous reservation windows, Staff believes that a decrease of more than 10 percent is appropriate and will make a recommendation for a rate reduction that is greater than 10 percent.³

I've carefully followed both the UM 1505 eDocket filings and recent PUC public meetings about the pilot solar incentive program. Prior to February 28th, no one publicly discussed the idea of reducing the program's allotted capacity on April 1st while deliberately leaving incentive rates so high that investor demand would overwhelm allotted capacity. So it was quite surprising to read on February 28, 2011 that the PUC Staff has reversed its position:

¹ "Order: Pilot Program Established," May 28, 2010, by Ray Baum, Susan Ackerman, and John Savage. (Available at <http://edocs.puc.state.or.us/efdocs/HDB/um1505hdb135032.pdf>).

² "Dave Sullivan's request for an eDocket discussion of incentive rates", December 13, 2010. (Available at <http://edocs.puc.state.or.us/efdocs/HAC/um1505hac105014.pdf>).

³ "Staff's Opening Comments and Recommendations" February 11, 2011. (Available at: <http://edocs.puc.state.or.us/efdocs/HAC/um1505hac164332.pdf>).

There is a general consensus that the high level of demand at the time of enrollment is due to an inappropriately high VIR. Most of the parties, including RNP, CUB and Tanner Creek Energy, have advocated for a thorough review of the forthcoming VIRs. PacifiCorp and PGE provided participant information of installed cost data which showed that with expected generation these customers would likely be paid back in as little as four years based on their incentive payments.

Staff proposes the following change to the Pilots for the upcoming April 1st enrollment window; reduce the allotted capacity for small and medium-scale systems to one-quarter of what is currently scheduled to be awarded and reduce the VIR [incentive rate] rate by the currently prescribed 10 percent.⁴

This potential change in the pilot solar incentive program raises troubling new questions:

1. How fair would this new process be?
2. Can this change be reconciled with the PUC's mission statement?
3. How will the public view this change?

I will explore each question in turn.

Question #1: How fair would this new process be?

Throughout the business and financial world, most prices are adjusted dynamically in real time. For example, stocks and bonds move instantly up or down to balance supply and demand. No one is surprised when milk or gasoline prices change from day to day.⁵ Similarly, no one would have a valid complaint if the PUC adjusts incentive rates enough to balance supply and demand during the April 1st to September 30th enrollment period. Dropping the incentive rates by 30 percent would leave the pilot program's current rules intact and would reduce demand to more closely match the allotted supply of capacity.

In contrast, the February 28th Staff recommendation asks the PUC to change the pilot program and deliberately set prices too high to balance investor demand with allotted capacity. This would provoke a feeding-frenzy at 8:00 a.m. on April 1st as anxious investors attempt to enter successful capacity reservations. We've seen this happen before. Last year solar industry insiders competed with progressively faster methods of entering data into the online capacity reservation forms.

For example, last September a sales representative for National Solar told me many of their July 1st capacity applications weren't accepted because the registration process closed too

⁴ "Staff's Reply Comments and Recommendations" February 28, 2011. (Available at: <http://edocs.puc.state.or.us/efdocs/HAC/um1505hac91030.pdf>).

⁵ Counterexample: My wife says she feels cheated when gas prices rise at the pump.

quickly. He said National Solar had expected each typist who started at 8:00 a.m. to enter several applications. In response, he said they hired Microsoft engineers to develop software to enter applications quickly, and he promised they could get my applications approved on October 1st.

As another example, I had lunch in November with a local solar installation firm's sales representative. He explained everyone who worked for his firm came to the office to type in applications on October 1st. Their plan was to have each worker enter one application. All the workers knew exactly what to type. This was the same successful strategy that this firm had used on July 1st, but it backfired on October 1st. Most workers could not enter their application before the registration window closed – no human can type as fast as a custom software program designed to fill out forms quickly. When this sales representative learned about my skill at writing software, he offered to pay me a fee to develop software to enter applications on April 1st.

More recently, I learned a Portland-based solar firm offered a reward to sixty-six University of Utah students. Each student was offered \$50 for entering a successful capacity application on October 1st. Since the University of Utah has a School of Computing, it should be no surprise that sixty-two of the sixty-six students earned a \$50 reward.

To keep perspective on how much is at stake, the Staff recommendation would set incentive rates at least 20 percent higher than necessary to balance investor demand with allotted capacity. This means each successful small-scale capacity application will generate \$5,000 to \$20,000 of excess and unwarranted profits. As we've seen before, when you put that much extra money on the table, people will use creative and sophisticated ways to grab it.

In response to these problems, the utilities have promised to modify the on-line application process:

To address the issue of gaming, the Joint Commenters [Pacific Power and PGE] propose to implement changes in the application system that will slow down the application process. ... For fairness purposes, the Joint Commenters intend to keep the prospective changes confidential; however, we would be willing to brief Staff on the changes if interested.⁶

I brainstormed with colleagues about the modifications Pacific Power and PGE will make. I feel qualified to discuss these issues because I am an emeritus Professor of Information Systems at the College of Business at Oregon State University. Likely modifications include:

- Limit each IP address so it can submit only one successful application.

⁶ "UM 1505 - Joint Reply Comments of Pacific Power and Portland General Electric" February 28, 2011. (Available at: <http://edocs.puc.state.or.us/efdocs/HAC/um1505hac135514.pdf>).

- Build intentional delays in the on-line form to keep one computer from submitting more than one successful application.
- Change internal names for fields within the online form in an attempt to prevent scripts from locating fields automatically.
- Use a Captcha field to ensure each application is being submitted by a human. For non-computer people, here is a definition and an image of a Captcha field:

A CAPTCHA is a type of challenge-response test used in computing as an attempt to ensure that the response is not generated by a computer. The process usually involves one computer (a server) asking a user to complete a simple test which the computer is able to generate and grade. Because other computers are supposedly unable to solve the CAPTCHA, any user entering a correct solution is presumed to be human.^{7, 8}



Solar industry insiders and their software gurus will use these countermeasures:

- Make sure each application is submitted from a different IP address.
- Make sure each computer submitting an application has a human available to complete the Captcha portion of the application.
- Automate all other portions of the application process in a robust manner. Two likely programs to help with this task include:
 - **AutoIt** v3 is a freeware BASIC-like scripting language designed for automating the Windows GUI and general scripting. It uses a combination of simulated keystrokes, mouse movement and window/control manipulation in order to automate tasks in a way not possible or reliable with other languages (e.g. VBScript and SendKeys).⁹
 - **Autofill Forms** enables you to fill out web forms with one click or a keyboard shortcut.¹⁰

So to prepare a successful application, an applicant will need to:

- Predict the modifications being made by Pacific Power/PGE.
- Build a combination software/human system that submits a capacity reservation in a lickity-split manner despite the Pacific Power/PGE modifications.
- Work faster than the systems being constructed by other applicants. From the viewpoint of a residential customer, this means building a system that will work

⁷ “CAPTCHA” published by Wikipedia. (Available at: <http://en.wikipedia.org/wiki/CAPTCHA>).

⁸ Image from <http://www.captcha.net/>.

⁹ “AutoIt: Automation and Scripting Language” published at AutoItScript.com. (Available at: <http://www.autoitscript.com/site/autoit/>).

¹⁰ “Mozilla Firefox Add-ons: Autofill Forms” published Mozilla.org. (Available at: <https://addons.mozilla.org/en-us/firefox/addon/autofill-forms/>).

faster than the ones being built by software gurus at Microsoft, the School of Computing at the University of Utah, faculty associated with Oregon State University, and other software wizards. *I can't imagine any normal residential customer will beat these computer gurus at their own game. Despite the changes being made by Pacific Power and PGE, this process will remain inherently unfair to the ordinary customer.*

Conclusions:

- No advance notice is required if the PUC decides to lower incentive rates appropriately; that is, by at least 30 percent. This would leave the pilot program's current rules intact and would naturally restrict demand to more closely match the allotted capacity.
- If the PUC decides to provoke another feeding frenzy by leaving incentive rates too high while also cutting the allotted capacity, then industry insiders will once again hire software specialists to grab nearly all available capacity. Once again, ordinary residential customers will be locked out of the program. Anyone who believes otherwise probably didn't watch last month when IBM's Watson computer beat the world's best Jeopardy players. *It simply is not fair or honest to suggest ordinary people can compete with the solar-industry-funded computer gurus when it comes to filling online forms quickly.*

Question #2: Can this change be reconciled with the PUC's mission statement?

In 2000, the PUC revised its mission statement to reflect an increased emphasis on competition in the statutes and in commission hearings. The revised mission statement says the PUC will:

Ensure that safe and reliable utility services are provided to consumers at just and reasonable rates¹¹

This mission statement is directly at odds with the idea of deliberately setting incentive rates too high to balance allotted capacity with investor demand.

¹¹ From the Oregon Public Utilities Commission website. (Available at: http://www.oregon.gov/PUC/about_us.shtml).

Question #3: How will the public view this change?

News organizations have started paying attention to how quickly this program's capacity reservations have been snatched up. Consider the kind of publicity this program will get if the April 1st enrollment closes faster than the October 1st enrollment. I can see both local and nationwide news articles, editorials, and video segments that describe the cops-and-robbers game being played between utilities and solar industry insiders. The utilities have said they will make secret changes to the online capacity registration forms in an attempt to keep custom software from auto-filling the forms – but solar industry insiders will hire software gurus to develop robust countermeasures that complete the forms faster than any human can type (except for the Captcha field). *Is this really the sort of publicity the PUC wants?*

Lowering capacity for April 1st will not make anyone happy. Solar firms will complain that it adversely impacts their industry. Because this change is coupled with deliberately paying too much for solar power, ratepayers will react as they would to a criminal who says, “I burglarized twenty homes – but that was only one-quarter as many as I initially planned on robbing.”

The PUC needs to reform the pilot program to protect its reputation. Everyone agrees the PUC set incentive rates too high last year, but I've found many informed observers are willing to forgive those blunders as start-up errors in a new pilot program. I fall in this category, and I've stopped writing editorials attacking the PUC partly I don't want to undermine our society's trust of government, but also because I hope the pilot program's obvious start-up problems will be fixed.

People won't be so charitable if the PUC decides to set incentive rates so demand will overwhelm the allotted capacity. What message would that send to ratepayers, news reporters, and editors? *Does the PUC want to be seen as defending ratepayers and promoting competition – or does it want to be seen as being “in the tank” for the solar industry?*

Joint Certificate of Service

I certify that today I served the following two documents:

1. **“Dave Sullivan’s second formal rebuttal of the presumption that incentive rates should drop by 10 percent on April 1st”**
2. **“Dave Sullivan’s response to the February 28th staff recommendation”**

... on the parties on the service list for Docket No: UM 1505. I sent these documents via email to the nice people who have waived paper service. I printed copies and mailed them first-class to the grumpy folks who haven’t moved into the electronic age.

Signed on March 12, 2011.

Sincerely – and in good cheer,

A handwritten signature in black ink that reads "Dave Sullivan". The signature is written in a cursive, slightly slanted style.

Dave Sullivan