



The Impact of a Faulty PECU Array on Consumption Totals

When energy consumptions are calculated, be it for Non Half Hourly or Half Hourly, the “same” process is carried out. That is,

$\text{Number of Lamps} \times \text{Circuit Watts} \times \text{Operating Hours}$
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For Half Hourly unmetered supplies, this last part is determined by your PECU Array. Each day your Meter Administrator dials into the Array to download the switching times upon which your consumption rests! The reason I say this is that out of the three factors above, this is the only which is not predetermined. You know how many lamps you have, and Elexon determine the circuit watts; the Array is the only variable.

The impact of faults and differences within these 30 Photo Electric Cell Units (PECUs) may not seem obvious at first glance. Yes, it will mean additional consumption, but how much?

Again, this is dependant on a number of factors, such as how good the maintenance of the array is, and how promptly faults are identified and rectified. Not wishing to sound alarmist, there are some that are better than others, and the poor ones are very poor. As an example of the latter, there is an Array which had 12 dead channels in for at least 9 months. I must point out here that such situations are in the extreme! However, in some areas, fault correction could be better. Again, there is one Array of which I am aware, in that erroneous cell activity is causing an additional 10 hours per day of operation. Again, out of the numerous Arrays that I interrogate, this is not the norm.

The following example uses part of a real summary to illustrate the situation, and takes an average “over activity” of 20 minutes per day. If this is left unchecked, the resultant increase in cost for just the electronic cells amounts to almost £12,000.

Regime	Charge Code	Lamp Count	Circuit Watts	"Over" Mins Per Day	Adnl kWh
822	0100400	10	40	20	48.67
822	1100351	187	65	20	1,478.86
822	1100352	5033	48	20	29,392.72
822	1100551	41	84	20	419.02
822	1100552	160	67	20	1,304.27
822	1100901	56	123	20	838.04
822	1100902	1103	104	20	13,956.63
822	1101351	590	175	20	12,562.08

822	1101352	128	159	20	2,476.16
822	1200264	27	33	20	108.41
822	1200362	194	51	20	1,203.77
822	1200364	3077	45	20	16,846.58
822	1200914	28	106	20	361.11
822	1400501	412	62	20	3,107.85
822	1400701	969	90	20	10,610.55
822	1401001	1242	114	20	17,226.54
822	1401501	1760	172	20	36,830.93
822	1402501	420	279	20	14,256.90
822	1404001	81	434	20	4,277.07
822	2102501	2	275	20	66.92
822	3100081	1649	14	20	2,808.80
822	3100201	3	31	20	11.32
822	3100401	1	50	20	6.08
822	3100581	2	71	20	17.28
822	3300553	21	62	20	158.41
Total Adnl kWh					170,374.94
Unit Rate					£ 0.07
					£11,926.25

So, this begs the question, what can you do about it? Well, it's quite easy really, and this is where ICTIS can help.

Firstly, ICTIS can supply computer software called Ganieda, which you can use to interrogate the Array yourself, and monitor cell activity. This serves a number of purposes.

1. Currently, there is no way to prove "best value" for the energy bill. You have to take everything on trust. Audit don't particularly like this! Ganieda has been used to provide the hours of operation to Local Authorities in order for them to calculate their consumption figures before the bill arrives, and keep Audit happy!
2. By monitoring the Array on a daily basis, you can identify faults quickly using the program's reporting facilities, and instruct your Meter Administrator to change the faulty cells.
3. By being able to report on the different *models* of cell used in the array, you can identify what works best in your area. This gives you the ammunition to calculate the cost of operating the different cells against their purchase price, and make a sound economical decision.

Secondly, ICTIS provides a service by which data in the Array is downloaded here, analysed, and a report emailed to you on a daily basis. This helps to identify early faults and takes up very little of your precious time.

Some Authorities are using both services side by side. By having Ganieda themselves, they are able to investigate any faults brought to light by the email report.

If you would like to discuss these, or any other aspects of Array management, please contact ICTIS on 08707 576732, or visit the website at www.ictis.net.