

Hirshfield-Gold, Shayna

From: Ed Pike <epike@energy-solution.com>
Sent: Tuesday, December 06, 2016 9:08 AM
To: Hirshfield-Gold, Shayna
Subject: RE: Meeting with Greg McConnell

Hi Shayna-

The scenarios do not include transformer upgrades. The code language includes cost-caps for utility-side transformer upgrades, though they would not explicitly address transformers owned by the customer for instance at a large commercial site. Barry has been digging into this question, I would suggest trying to reach him. I would be happy to join that conversation if convenient for you, and have availability from noon until 12:50.

I have access to DOE cost estimates released as part of an energy efficiency rulemaking. While the base case cost for transformer varies widely based on size and other factors, none are six figures or above. (and I don't think that DOE adopted standards would push the cost of even the most expensive into the six figure range)

Best,
Ed

Table 8.7.2 Average Transformer Installed Cost (\$2010)

Design Line	Rated Capacity kVA	Efficiency Level							
		Base	1	2	3	4	5	6	7
1	50	4,147	4,474	4,716	4,716	4,893	5,217	5,939	
2	25	2,924	3,159	3,241	3,320	3,457	4,346	4,731	4,670
3	500	11,945	12,883	13,253	13,905	14,081	14,803	17,495	21,596
4	150	9,546	9,984	10,626	10,626	10,634	10,760	12,199	15,310
5	1500	33,829	37,125	37,671	39,747	41,010	44,946	66,632	
6	25	2,135	2,410	2,577	2,773	2,708	2,802	3,141	4,354
7	75	4,749	5,281	5,281	5,281	5,344	5,613	6,000	8,411
8	300	9,505	10,312	11,410	12,826	14,072	14,942	14,940	22,935
9	300	17,545	17,704	18,506	20,332	20,931	21,936	28,495	
10	1500	49,796	50,510	54,698	65,502	73,850	79,271	94,669	
11	300	25,411	26,754	28,964	30,672	30,979	33,999	40,678	
12	1500	62,167	64,493	68,209	76,537	80,211	85,546	95,403	111,860
13A	300	31,786	32,654	34,425	37,994	40,670	43,227	54,983	
13B	2000	79,667	81,065	89,004	102,084	113,266	126,624		

From: Hirshfield-Gold, Shayna [mailto:SHirshfield-Gold@oaklandnet.com]
Sent: Monday, December 05, 2016 9:06 PM
To: Ed Pike <epike@energy-solution.com>
Subject: Re: Meeting with Greg McConnell

ALSO,

Greg said that one developer claimed that these requirements could cost them \$1million more for a single project. That was largely based on the number of additional transformers that he expected would be needed. I think I calmed him a

bit by explaining the role of load management, and how that would cut the required electrical capacity by 80%. But that still sounds preposterous.

I'm looking at your SF study and I see an incremental cost at NC of \$860-\$920 per space. That's for just the full and nearly full circuits. So let's take a 100-unit bldg. For Oakland's code, it would be 10 FC spaces (10 x the average of the two costs, for fairness, is \$8,900), and then we have to add 90 spaces of inaccessible conduit and the marginal increase in panel size to charge 20 cars at full speed. I'm not sure how much those extra costs are:

1. I assume they're nowhere near a million;
2. Assuming you don't have an estimate of the incremental cost of the 90 PEV Ready spaces, I'm wondering if you can do a 20-minute back-of-the-envelope estimate? Just an order of magnitude would be great. PEV Readiness in the Oakland report was \$200-\$540 (ignoring the surface lot scenario), but that didn't account for the savings from the panel capacity being kept to 20%.
3. I see you did include transformers in your model for both the Oakland and SF studies, but it doesn't say how much they specifically cost. Do you have an estimate?

Shayna Hirshfield-Gold
Energy Policy Analyst, Environmental Services Division
City of Oakland

On Dec 5, 2016, at 3:08 PM, Ed Pike <epike@energy-solution.com> wrote:

Hi Shayna-

What type of engagement would you like with PG&E? Do you want me to reach out to them?

PG&E advocated for higher levels of PEV infrastructure and closing the MF loophole back when the original state government codes were adopted. The local government reach code program supported the recent SF-specific cost-effectiveness study for the higher levels similar to what Oakland and SF are considering. The PG&E PEV subject matter experts were not directly involved so reaching out to them could be a logical next step.

Best,
Ed

From: Hirshfield-Gold, Shayna [<mailto:SHirshfield-Gold@oaklandnet.com>]
Sent: Monday, December 05, 2016 2:48 PM
To: Ranelletti, Darin <DRanelletti@oaklandnet.com>; Hamilton, Daniel <DHamilton2@oaklandnet.com>
Cc: Ed Pike <epike@energy-solution.com>
Subject: Meeting with Greg McConnell

Daniel and Darin,

I'm reporting back on my meeting just now with Greg McConnell, which lasted just over an hour. Overall, the meeting was cordial and forthright, and very detailed. He was primarily (and very) concerned about adding costs to the developers, as expected. I led with the cost effectiveness findings and the rate of EV adoption (already seen and expected); I think he heard what I was saying. I stressed first the reduction in parking minimums (although I couldn't remember the exact new numbers) and second the immediacy with which we (and all PEV industry experts) expect that these cost savings would accrue (i.e. how soon we expect that the charging infrastructure would actually be needed and utilized).

His additional concerns:

1. What stage of development applications will be affected? I told him that my understanding was that anything that had been submitted to the City in any form prior to the Ordinance's passage would not be subject to it, but he was dubious because there are so many stages with Planning. **Darin, can you clarify?**
2. Who decides where the Full Circuit and PEV Ready spaces need to be placed? I told him that we absolutely don't care (though we didn't get into accessibility at all), that we intentionally left as much as possible up to the discretion of the developers, and that we would include guidance in the public outreach. He said that it needs to be spelled out in the ordinance itself, because he has experience of "people" creating havoc by insisting that certain parking amenities have to be in specific places. **Darin: Would you add anything to this? Do you think it's really worth going in and amending the Ordinance?**
3. He was concerned about what PG&E had to say about this; PG&E was (I think it was past tense) a client of Greg's other arm, the McConnell Group, and they worked together when PG&E had to enlarge the Temescal substation to accommodate the new Children's Hospital. I told him that we didn't anticipate that level of grid impact; that that was exactly the reason for emphasizing the importance of load management technologies; and that PG&E was aware of this. **Ed, can you come prepared with additional details on PG&E's disposition re: these types of requirements?**
4. Clarify: We are ONLY talking about new construction at this point – no major retrofits, not even change of occupancy, correct? **(Darin)**
5. Clarify: What is the difference in parking minimums compared to previous requirements? **(Darin)**

I remain somewhat concerned that he may ask that the item be continued again. He said that as of last Thursday, he spoke with Mike Ghielmetti (sp?) of Signature and Mike still hadn't heard about it from Frank Flores (the person with whom I spoke back in August/Sept). I assured him that I had emailed Frank the same day I emailed Greg (the day of the last CED) and explained that Frank didn't get back to me until last Friday, saying that he would talk to Mike. Hopefully that happens. I told him that Jim Moore (former Planning Commissioner, head of Oakland Builders' Alliance) was highly supportive, and I'm talking with the Alliance this Friday. Greg felt that was too late because it will have already gone to CED. He asked me why/if there was a rush to get this through, and I said that it boiled down to avoiding market confusion. He mentioned that Greg Pasquale (?) of Carmel (Developer) "hates" this proposed ordinance...

I stressed our plans to do extensive outreach about the ordinance and the new requirements upon Council's adoption thereof, and said that I wanted his input on what I should include and how it should be framed.

All, but Darin in particular: Any concerns? Anything that I should be particularly prepared to do or say? *Any way of pre-empting another attempt to postpone the item at CED?*

Shayna H. Hirshfield-Gold

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