I am writing this email to bring to your attention the practice of Nation Grid, where National Grid is allowed to charge residential customers for upgrades required to National Grid's transformer for installation of residential solar + batteries. I believe that these additional charges from National Grid are neither fair nor are consistent with MA renewable energy goals. I am being told by my installer - Tesla, that utilities are NOT allowed to charge for its system upgrade in other states like NY or CA but are allowed in MA.  
  
With this comments, I suggest that the system upgrade cost should be allocated fairly based on following criteria:

1. System upgrade cost should look into the age of equipment being upgraded. i.e. if the transformer is to be upgraded due to new solar/battery system and if in-place transformer was placed in service way in past – (1979 in my case), then that should be considered in calculating cost. One way to achieve this could be as follows:
   1. Calculate incremental cost of the equipment to support new solar/battery system
   2. Calculate incremental labor cost, if any, to install new upgrade equipment vs replacing equipment with same capacity as in-place equipment.
   3. Calculate cost/value of remaining life of equipment in place (using straight line amortization over expected life or 50 years whichever is lesser or something similar)
   4. Upgrade cost to the DG customer = (a + b + c)
   5. If new DG customer joins the same equipment without needing further upgrade, utility should be allowed to charge that new DG customer percentage of above upgrade cost in proportion to the capacity used/allocated to that DG customer and then refund that portion to original DG customer who paid cost in point d. Benefit of this step, besides fair allocation of cost between DG customers is that original DG customer is incentives to encourage their neighbor to add solar + battery system!

1. For residential customers it would make sense for the state to cover cost of utility equipment upgrade which are just one-step up from in-place equipment OR may be define standard equipment upgrade to a certain size based on a goal towards modernization of the utility grid.
2. For residential customers, put cap on equipment cost so that total system cost do not increase more than 3-5%.

Specific issues in my case as follows:  
  
Propose project: Solar panels: 16.2KW / 15.2 KW AC on the roof + 4 x Tesla Power wall batteries, each with 5 KW capacity  
Location: Residential, Single Family Home, Essex County, MA  
Installer: Tesla  
  
Issue at hand:  
Tesla applied for conditional approval on my behalf per the process with National Grid. National Grid concluded that they will have to upgrade the transformer feeding my house from 25 kVA capacity to 50 kVA capacity for the proposed system and it will cost me $5,554.75, increasing total cost by 8.9%.

Nation Grid has confirmed that in-place transformer was placed in service in 1979 and is looking at option to reduce transformer upgrade cost in my case. Final cost amount is not yet provided.