

1    **Q:    In Brattle's experience, are interruptible rates reflecting savings in transmission**  
2    **expansion costs common in North America and Europe? Can Brattle provide**  
3    **examples?**

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5    A.    For the purposes of this question, we define two types of rates that do not provide firm  
6    service: interruptible and non-firm. Interruptible service is firm service that may be  
7    interrupted in exchange for payment. Non-firm service provides customers service when  
8    there is “extra” capacity on the system, meaning that there is capacity in addition to the  
9    amount needed to provide service to firm customers.

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11        Interruptive service are common in North America and can be priced as firm services  
12        and, when interrupted, customers are remunerated with a payment based on the avoided  
13        marginal capacity costs. These marginal capacity costs may include transmission  
14        expansion costs. The rate design for an individual jurisdiction may include a lower rate  
15        (relative to full firm service) and a concomitantly lower payment for interruption.  
16        Interruptible rates are described in utility tariffs for utilities including PG&E.

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18        Non-firm service is priced lower than firm service because it is only offered when  
19        capacity is available to service demand above the amount required for firm service. Thus,  
20        costs related to transmission capacity, including embedded and planned expansion, are  
21        excluded from these rates. These rates are very common for transmission service. For  
22        example, the U.S. Federal Energy Regulatory Commission’s pro forma Open Access  
23        Transmission Tariff includes non-firm rates and the Newfoundland and Labrador Hydro  
24        2019 tariff includes an Island non-firm rate.