Below are key excerpts from the December 21, 2018 and February 15, 2019 legal filings of Dean M. Murphy, witness for the Massachusetts Attorney General (AG), to the Massachusetts Department of Public Utilities (DPU) on Central Maine Power's (CMP) proposed New England Clean Energy Connect (NECEC) Power Line.

## 1. Excerpts from December 21, 2018 filing

### On overall conclusions:

The proposed contracts, as written, do not ensure that the Qualified Clean Energy acquired via the contracts will comprise fully incremental energy deliveries into New England, as the RFP specified. The RFP required that the Qualified Clean Energy under the contract should be incremental to (*i.e.*, in addition to) the hydroelectric energy that HQ [Hydro-Quebec] has delivered to New England historically, or that would otherwise be expected to be delivered. The proposed contracts implement much weaker requirements for incrementality and would allow most (and potentially all) of the contract energy delivered to substitute for historical deliveries. P.3 of 27

### On concerns about whether the bidding and selection processes that awarded the contract to NECEC were unbiased and fair:

In addition, I have concerns about the selection process. Neither of the two top-scoring bids, [redacted], nor a potential portfolio comprised of just those two bids, were carried forward from the second stage of the evaluation into the third and final stage. These alternatives that were dropped from consideration may have performed better than the NECEC Hydro project that was selected. This selection issue may be related to the previous question of whether the proposed contracts provide fully incremental clean energy, because the [redacted] projects would have fully satisfied the incrementality requirements of the RFP. I am also concerned about the inclusion of bidders' affiliates in the Evaluation Team. This is generally considered inappropriate because it can bias the evaluation and selection process. Such concerns arose in multiple instances in the 83D evaluation process and were noted by the Independent Evaluator. P.4 of 27.

### On why the increased transmission capacity from CMP's NECEC would likely not lead to new clean energy entering into New England:

Energy deliveries from Québec are often constrained by the limits of the transmission interface between Québec and New England. Thus, transmission must be expanded to enable the delivery of incremental clean energy into New England. However, merely adding transmission does not ensure that clean energy deliveries will be incremental relative to historical deliveries, unless the contracts explicitly require this. As the proposed contracts are written, that will not necessarily be the case; clean energy deliveries could be far less than fully incremental and still satisfy the requirements of the proposed contracts. P. 14 of 27.

### On why NECEC might not reduce greenhouse gas emissions significantly even under improved contracts for NECEC, let alone under the existing contracts, due to Hydro-Quebec (HQ) merely switching electricity from existing customers to Massachusetts:

Even if the proposed contracts required energy deliveries to be fully incremental, this would not necessarily guarantee that GHG emissions would decrease by an amount corresponding to the Qualified Clean Energy of the contract. Incrementality is defined in the RFP only with respect to deliveries into New England, while GHG emissions must be measured at a global level. It would be possible, at least in principle, to satisfy the requirements of full incrementality (*i.e.*, the Qualified Clean Energy is incremental to the full historical average deliveries into New England), and still not offset a corresponding amount of global GHG emissions. This could happen through resource shuffling—reassignment of a fixed amount of clean energy so as to increase the clean energy delivered to a particular destination without increasing the total amount of clean energy overall. For instance, with the new NECEC transmission link, if HQ increased deliveries into New England by the contracts' 9.55 TWh relative to historical New England deliveries, this would achieve full incrementality as defined in the RFP. But if HQ accomplished this by reducing its exports to other neighboring regions rather than by increasing clean energy generation overall, then global GHG emissions would not necessarily be reduced. Diverting clean energy from other regions to New England would enable a reduction in fossil generation and emissions within New England, but the reduced deliveries to other regions may need to be replaced by additional fossil generation in those regions. This would effectively substitute fossil generation in other regions for fossil generation in New England, shifting emissions from one region to another, without causing a material decrease (the actual impact would depend on the relative emissions intensities of each region). PP. 14-15 of 27

**On how Massachusetts could ensure that its clean energy purchases would actually reduce greenhouse gas emissions:**

For the 83D contracts, or any project, to reliably reduce GHG emissions, they would need to provide clean energy that is "additional." Additionality is a commonly-used concept in the climate change discussions; it refers to emissions reductions that occur because of a proposed action, reductions that would not have occurred otherwise under "business as usual." Importantly, it must involve overall global emissions reductions, not reductions in one region or sector that might be offset by a corresponding increase that is triggered elsewhere, or reductions that would have occurred regardless of the proposed action. For example, a PPA [power purchase agreement] that supports the development of a new wind farm will generally be additional. The new wind farm produces clean energy that would not otherwise be produced, displacing fossil energy and reducing emissions, so the clean energy and the emissions reductions are additional to what would have occurred without the PPA. Clean energy, however, is not always additional in this sense. If an existing wind farm with an expiring PPA signed a renewed PPA with a different buyer, the renewed PPA does not result in additional clean energy. The existing wind farm would have continued to produce clean energy even without the renewed PPA; the output may have been sold to a different buyer or in the spot market. The renewed PPA does not increase the total clean energy produced and consumed or reduce emissions; it just reallocates clean energy that would be produced in any case. It can sometimes be challenging to define and determine additionality in practice, primarily because doing so can require a very precise specification of the alternative "business as usual" circumstance—*i.e.*, additional to what? But for the purposes of the 83D procurement, the important point is that a global perspective is necessary. The RFP requirement that the contract energy be incremental to New England (even if the proposed contracts required full incrementality) does not ensure that it would be additional or necessarily result in corresponding GHG reductions. Pp. 15-16 of 27

**On whether NECEC would reduce *global* greenhouse gas emissions, which is the only way to ensure a climate benefit:**

No, not necessarily. HQ has committed to using existing HQPR [Hydro-Quebec Power Resources] facilities to supply the contracted energy.26 If these facilities were spilling significant amounts of water due to transmission constraints that would be relieved by the NECEC transmission, or if Hydro-Québec undertook investments to expand its system—to increase output from existing facilities or add new generation or storage capability—then a portion of the generation may be considered additional. But the contracts do not require this, nor has HQ indicated that it is the case. P. 16 of 27

**2. Excerpts from February 15, 2019 filing**

**On whether NECEC will deliver fully incremental hydropower:**

The statements by HQ and the EDCs do not make this entirely clear. Both the EDCs and the bidders have been vague, failing to offer clarity about what level of incremental hydro they are referring to, or what actual amounts of energy could be produced and delivered. They offer apparent reassurance that HQ would be able to provide sufficient generation to New England, without being specific about what that means. While stating that added transmission capability will increase the amount of power that is deliverable to New England, they offer no analysis or even an unambiguous statement regarding whether the total amount of energy delivered would or could equal the full 9.55 TWh of the Contract Energy, in addition to the 14.8 TWh of the relevant historical average. So ultimately, it is not entirely clear whether the EDCs and/or the bidders are claiming that HQ will be able to deliver fully incremental hydro, as solicited and as offered. In this respect, it 13 would be helpful if HQ would make a clear statement about how much energy it can 14 provide. Clearly, though, the proposed PPAs do not require HQ to deliver fully incremental Hydro with respect to historical average deliveries. P. 14 of 27

**On whether a definitive statement from HQ that it *could* deliver incremental hydropower would alleviate the AG's concerns:**

No, not by itself. Whether HQ is able to deliver incremental energy is important, of course, but is not the only relevant question. Equally important is whether the proposed PPAs require HQ to deliver fully incremental energy. Although the EDCs claim that HQ has made a commitment to deliver incremental energy, the proposed PPAs as currently written do not require incrementality. P. 17 of 27

**On the impacts of the current contracts not requiring incremental hydropower above the historical baseline:**

If the PPAs do not require HQ to deliver the full historical average as Baseline Hydro, then it becomes HQ's option whether to provide the product that was solicited in the RFP and offered in the bid. HQ could, at its discretion, substitute Contract Energy for

historical energy deliveries to New England, rather than providing Contract Energy that is incremental on top of the historical average. That is, it could shuffle existing resources from historical Baseline Hydro deliveries to the new contract sales into New England. Because it would not be required to sell the full historical average generation into New England as Baseline Hydro, it would then be able to sell a portion of this energy into other markets, perhaps earning a clean-energy premium on that alternative sale. Under the current PPAs, HQ would nonetheless be paid the full PPA price on the entire 9.55 TWh of Contract Energy. P. 17 of 27

**On whether NECEC is even necessary to provide power to Massachusetts under the current proposed contracts:**

The NECEC transmission link might not be necessary to deliver the amount of power required by the PPAs, since they do not require fully incremental hydro deliveries. The Eversource and Unitil PPAs require total deliveries to New England of only 12.55 TWh (9.55 TWh of Contract Energy, plus 3.0 TWh Minimum Baseline). The National Grid PPA requires total deliveries of 19.0 TWh (9.55 plus 9.45). Even the higher 19.0 TWh requirement of the National Grid PPA could be delivered by the existing transmission system with little or no expansion. Hydro-Québec has stated that its 2017 export capability to New England was 18.2 TWh,41 and it actually delivered 17.9 TWh in 2017.42

This calls into question why Massachusetts customers should pay for the NECEC transmission project if it is not actually needed for the deliveries that are required under the proposed PPAs. This conundrum cannot be what was intended by the RFP, or by HRE in its bid. Further, Section 83D specifically states that its goal is to facilitate the financing of clean energy generation resources. The bid itself and bidder statements since make clear the need for additional transmission, which would need to be financed (HRE confirmed that financing is necessary only for the transmission component of the bid), to deliver the Contract Energy. But if the NECEC transmission is in fact not necessary because of the PPAs' weak requirements, there might be nothing to finance, undermining the 83D goal. The only logical interpretation is that the Contract Energy should be incremental to full historical deliveries, and the PPAs should require 14.8 TWh of Baseline Hydro. Pp. 18 and 19 of 27.

**On whether Massachusetts ratepayers might pay a higher price for no new electricity at all:**

The Minimum Baseline damages calculation of the proposed PPAs would impose no penalty until HQ's Baseline Hydro deliveries fall below 9.45 TWh, which is 5.35 TWh below the 14.8 TWh 2014-2016 historical average deliveries. That is, ratepayers would pay for the full NECEC transmission project, even if only 44% of the Contract Energy is

incremental hydro.45 Below 9.45 TWh, damages are paid on the National Grid PPA; Eversource/Unitil damages are not incurred until Baseline Hydro falls below 3.0 TWh. In fact, if HQ provided zero Baseline Hydro, delivering far less total energy than the historical average (even including the Contract Energy), Massachusetts ratepayers would still pay 41% of the total TSA payments. P. 19 of 27.