Nucor Steel Auburn, Inc.'s Comments

on

NYISO Staff Carbon Pricing Proposal Recommendations

On October 31, 2018, NYISO staff released its "Carbon Pricing Proposal Recommendations" ("Recommendations") for stakeholder review and comments in anticipation of the release of a final NYISO staff proposal in December. The Recommendations closely track the Straw Proposal circulated in April 2018 which, in turn, largely builds upon the approach outlined in the August 2017 Brattle Group report which discussed adding a supplemental (above RGGI) carbon charge on New York electric suppliers that would be reflected in wholesale energy prices. The Recommendations clarified and updated the Straw Proposal based on NYISO staff reactions to various matters raised during discussions with stakeholders.

Nucor Steel Auburn, Inc. ("Nucor") has actively participated in the Integrating Public Policy Task Force ("IPPTF") stakeholder discussions and does not in these comments take a final position on the merits of adding a carbon charge to wholesale energy prices. Rather, Nucor offers the following general observations and specific suggestions concerning key aspects of the Recommendations.

I. General Observations

Overview: Implementing a carbon price adder will be administratively complex, will pose substantial upside risks to New York consumer and business electric bills that must be effectively mitigated, will require supportive actions by New York's energy-related agencies that cannot be presumed, and is unlikely to be effective in promoting emissions reductions in the electric sector.

Following more than a year of stakeholder discussions, and upon review of the NYISO "track 5" impact studies performed by the Brattle Group ("Brattle"), as well as very useful comparative analyses performed by Daymark (on behalf of the NY Utility Intervention Unit ("UIU") and Resources for the Future ("RFF"), some basic conclusions are evident:

1. Adding a carbon charge will not induce material carbon emission reductions in the electric supply sector.

Brattle's August 2017 Discussion Paper stated that the essential purpose for introducing a carbon charge adder to wholesale energy prices was to support New York's decarbonization goals (*i.e.*, a 40% statewide reduction in carbon emissions by the year 2030). The IPPTF charter reaffirmed that the basic mission in pursuing carbon pricing was to support that decarbonization objective by encouraging reductions in electric sector carbon dioxide emissions.[1] Brattle's updated analysis circulated in September 2018, however, predicts a small reduction in NYCA carbon emissions in 2020 and virtually no observable reductions in 2025 or 2030.[2] RFF's assessment postulated a small amount of emissions reductions, while Daymark's assessment pointed to a potential increase in New York emissions. On the most recent November 9, 2018 IPPTF teleconference, spokesmen for each conceded that, modeling variations aside, all expected that carbon emissions would "be flat" (*i.e.*, a carbon charge would make no meaningful difference in NYCA electric sector carbon emissions).

The reasons for this anticipated outcome have been apparent from the outset based on the location and utilization of New York's fossil-fueled units and transmission constraints. Emission reductions in the electric supply sector will continue to be driven by state public policy mandates (CES, energy efficiency and PPR-based transmission investment) with or without the postulated carbon charge. As a supplement to those mandates, the carbon charge is superfluous for incenting new clean energy investments, unnecessary to secure continued operation of the Upstate nuclear units supported by zero-emissions credits ("ZECs") and insufficient to induce replacement or repowering of older, high emitting, In-City fossil-fired resources (the primary source of NYCA

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[1] Revised IPPTF Charter, July 2018.

[2] The Brattle Group, *Analysis of a New York Carbon Charge*, 26 (September 17, 2018) (providing NYCA CO2 Emissions in the Simple Change Case (*i.e.*, adding a carbon charge)), *available at* http://www.nyiso.com/public/webdocs/markets_operations/committees/bic_miwg_ipptf/meeting_materials/2018-09-17/2018_09_12%20Customer%20Cost%20Impacts%20of%20New%20York%20Carbon%20Charge_For%20Posting.pdf .

carbon emissions). Also, as Daymark has accurately observed, a carbon price is unlikely to overcome non-market factors that influence the location and siting of large-scale renewable investments (*i.e.*, a significant shift in the location of large scale renewable sources to Downstate zones based on the imposition of the carbon charge is problematic).

Thus, there is no empirically-based expectation that the suggested carbon charge will advance New York's decarbonization goals in a meaningful way,[3] and New York likely will continue to rely on targeted mandates to achieve specific desired public policy outcomes. *This suggests, at a minimum, that NYISO and State policymakers should be assessing a broader range of alternatives for harmonizing New York's clean energy directives and the operation of a robust and sustainable wholesale power market.* In this regard, it is significant that the Task Force did not consider whether there are more effective ways to promote emissions reductions by NYCA supply sources because the carbon charge was the only option evaluated. The limitations of this exercise should be recognized in the Task Force's final proposal.

2. The overlap between existing state mandated clean energy programs and the suggested carbon charge requires complementary actions by New York's energy related entities to mitigate consumer impacts that cannot be presumed.

The three analytical comparisons provided to stakeholders agree that the carbon pricing proposal is expected to add roughly $2.5-3.0 billion annually to energy prices (and generator revenues) while collecting carbon payments from generators of $1-1.5 billion, and, as noted, accomplishing comparatively little in terms of carbon reductions (or actually increasing NYCA emissions). This information alone presents three challenges for policy-makers:

a. The gross increase in wholesale energy prices will produce unacceptable consumer rate impacts (and must be mitigated);

b. Calculating, collecting, and redistributing the carbon price effect ("LBMPc") that will be embedded in energy price bids will be administratively complex; and

[3] Most of the overall statewide emissions reductions are expected from the transportation sector and raising electric rates through a carbon charge is inimical to promoting vehicle electrification.

c. The carbon charge would produce significant "free rider" windfall revenues that will burden ratepayers without providing any incremental emissions benefits.

The large gross increase in energy prices would not serve expressed public policy objectives given the dearth of emissions benefits (and, as noted, it would adversely impact other desired electrification efforts), would create substantial customer bill impacts (particularly for energy intensive manufacturing) and would materially distort the interactions between New York and energy suppliers in neighboring power networks. In exploring a carbon charge as a supplement to the State's clean energy mandates, the IPPTF correctly sought to explore approaches to mitigate those impacts. This begins with the requirement that NYISO create a means to calculate LBMPc in order to redistribute carbon residuals to load serving entities, to establish border debits and credits and to adjust net compensation for existing renewable energy credit ("REC") contracts (the REC "clawback").[4]

Calculating LBMPc and adjusting for RGGI prices requires a complex set of implementation measures by NYISO. Importantly, redistributing carbon residuals to LSEs provides insufficient mitigation (there is a large gap between increased energy prices and the expected recovery of carbon charges that will only increase over time), and supportive cost mitigating actions by New York's energy related entities (the PSC, NYSERDA and NYPA) are also needed. These are beyond NYISO's ability to control but are crucial to a coherent policy that will effectively harmonize state-directed and market-driven efforts. In any event, questions regarding potential actions by other State entities have appeared in various contexts in IPPTF stakeholder discussions, and the issue needs to be addressed on a consistent basis in the Task Force's final proposal.

Specifically, the primary program feature for mitigating customer bill impacts lies in reallocating carbon residuals to load serving entities. NYISO would be responsible for calculating LBMPc and redistributing carbon residuals to LSEs, but the PSC must decide how LSEs will refund those residuals to loads, and the Commission has not taken up this issue yet. In Nucor's view, LSEs

[4] Carbon Pricing Proposal Recommendations, p. 10.

should credit the residuals to end-users on the same basis in which they were collected in the first place (*i.e.*, on an energy basis), but knowing what the Commission will require of LSEs is an essential predicate.

Next, a potential source of customer rate mitigation relied upon by Brattle concerns the hope that the carbon charge overlap with CES mandates may lead to a market-based substitute for the mandates' costs rather than simply forming another layer of costs to be borne by New York consumers (*i.e.*, whether a carbon charge would lower the costs of RECs and ZECs). A basic assumption in the Brattle analysis is that a carbon adder to wholesale energy prices will produce nearly a "dollar-for-dollar" reduction in the REC prices required for renewable investments called for by the CES. This outcome, however, assumes action by the PSC and NYSERDA to require carbon-indexed pricing in future CES solicitations that neither entity has taken thus far. Apart from such regulatory action, Brattle did not assess whether any offsetting benefits to REC prices can reasonably be expected. Although NYISO staff, Brattle, or others may recommend that such an approach be adopted in CES-based procurements (and Nucor considers such an adjustment in REC procurement to be essential if a carbon charge is imposed), it is inappropriate to presume such measures in calculating offsetting benefits to the carbon charge. *The "lower REC price" offset assumed by Brattle should be dropped or substantially discounted for current purposes of evaluating the carbon price proposed impacts because it reflects a recommended state policy rather than the practice in effect.*

The third mitigation matter to consider concerns unproductive windfall revenues to existing and new resources. Under the carbon pricing proposal, all infra-marginal producers would expect to see increased revenues, but all existing clean energy sources would see increased revenues without any expectation of increased output or lowered emissions. This category includes existing and new renewable projects supported by RECs, upstate nuclear units supported by ZECs, and large existing hydro facilities operated by NYPA.

In July 2018, the PSC took the first step toward mitigation in this area in its Off Shore Wind ("OSW") Framework Order by recognizing the potential for material double payments to both existing REC contracts and OSW "ORECS " if carbon pricing were to be implemented.[5] The Commission's Order addressed that matter with respect to ORECs but left the concern regarding existing REC contracts with NYISO. NYISO staff responded with its proposal to "clawback" the "LBMPc" component for existing REC contract holders that is reflected in its Recommendations. Without actually contesting the double payment implicit in receiving both a long-term, out-of-market REC and a carbon adder in wholesale energy prices, renewable developers have pointed to the prevalence of "fixed-for-floating" hedges in project financing that they claim may endanger existing projects if a clawback is imposed, as well as the fact that the double payment to existing REC contract holders is dwarfed by the NYPA and nuclear unit windfalls that the Recommendations do not confront.

Nucor agrees that the double payment to existing REC-supported projects is a small part of the windfall revenue problem that will arise, and that should be addressed, if a carbon charge were to be adopted. Going forward, renewable project developers can be expected to adjust their financing mechanisms to accommodate carbon-indexed pricing, but, as noted, it is still up to the PSC and NYSERDA to initiate such a change in REC procurement.

Along comparable lines, Brattle and stakeholders have observed that a carbon charge would produce substantial additional revenues for NYPA-operated facilities, and that there are NYPA customers that have long-term bilateral arrangements that may be largely immune to carbon pricing's effects. In addition, NYPA has discrete responsibilities under the ReCharge New York and other economic development programs to mitigate energy costs impacts for regionally significant energy intensive businesses that may be undermined by a carbon charge. These are all important considerations, but the analyses presented for stakeholder discussion do not presume to account

[5] Case 18-E-0071, In the Matter of Offshore Wind Energy, *Order Establishing Offshore Wind Standard and Framework for Phase I Procurement*, issued July 12, 2018, pp. 59-60.

for where or how NYPA will apply its carbon residuals and windfall revenues for the simple reason that they are matters beyond NYISO's control. Like the PSC, this indicates that there is a substantial role for NYPA in harmonizing New York clean energy and wholesale market policies that is not before NYISO or its stakeholders.

In short, because the suggested carbon charge overlaps the state mandated programs without producing more renewable capacity or materially reducing NYCA emissions, complementary and supportive State actions are required to mitigate unwarranted customer impacts, but those actions cannot simply be presumed for analytical purposes.

Also, it bears noting that the IPPTF was initially established as a multi-agency effort involving NYISO, DPS and NYSERDA staffs and with NYPA as an active stakeholder participant. As the process has evolved, the Carbon Pricing Proposal Recommendations now appear to emanate simply from NYISO staff. That is unfortunate because each of those entities, as illustrated above, has an important role to play in harmonizing the often competing energy policy, decarbonization and economic issues that need to be addressed. Rather than diminishing the roles of other state entities, full participation of DPS, NYSERDA and NYPA with NYISO is really required to fashion a coherent overall policy, and stakeholders need to see the full scope of State actions that will be linked to a carbon charge.

II. <u>Specific Recommendations</u>

A. The Concept for Carbon Pricing

The Recommendations describe how a carbon charge would be administered, but do not address how the electric sector might best support New York's decarbonization goals. The expressed intent for adding a social cost of carbon ("SCC") adder to wholesale energy prices is to reflect in wholesale energy prices the same SCC that the Commission is applying in its implementation of clean energy programs. Conceptually, however, there is a severe disconnect between the expansive scope of the issue being addressed (*i.e.*, global carbon emissions) and the narrow, targeted component of carbon emissions associated with New York's electric supply sector.

Even within New York, electrification of transportation and residential heating offer the principal opportunities for advancing the State's decarbonization goal. In short, applying a carbon charge only to New York wholesale electricity prices creates perverse incentives (the "Trucks First" dilemma)[6] that must be effectively managed. Failure to adequately address those perverse incentives can easily result in adverse economic consequences, higher rather than reduced NYCA emissions, and retarded progress in achieving "beneficial electrification." As discussed above, NYISO does not possess all the tools required to manage and mitigate adverse outcomes that are readily foreseeable.

B. Setting the Gross Social Cost of Carbon

All stakeholders require a stable and transparent process for establishing and updating estimates of the Social Cost of Carbon that would be applied by NYISO in setting the gross carbon charge. Nucor continues to prefer that this process remain a NYISO-administered mechanism. To the extent that the SCC is established by the PSC, the Commission should establish a formal and transparent process for doing so that provides for full participation by interested parties.

C. Application of the Carbon Price to Internal Suppliers

Nucor does not have comments on this aspect of the Recommendations at this time.

D. Application of the Carbon Price to External Transactions

The analyses that have been performed uniformly point to the need for effective border charges and credits to prevent emission leakage and market distortions. The proposal to charge imports and credit exports based on NYISO internal marginal emissions rates is a reasonable conceptual starting point, but the proposal needs to be clearer concerning the accounting for debiting and crediting imports and exports.

E. Emissions Reporting and Billing

Nucor does not have comments on this aspect of the Recommendations at this time.

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[6] *I.e.*, akin to Britain shifting from driving on the left side of the road to the right—trucks first.

F. Interaction of the Carbon Charge with NY RECs

The Recommendations describe NYISO's proposal to excise the LBMPc component of wholesale energy prices paid to suppliers holding existing fixed price REC contracts. This addresses what is likely to be the smallest windfall revenue issue. It does not, however, address the interaction of the Carbon Charge with future RECs even though Brattle's assessment presumes that future REC procurements conducted by NYSERDA will incorporate a carbon indexed pricing mechanism to produce a dollar-for-dollar reduction in REC prices.[7]

As described above, Nucor recognizes that NYISO does not control how NYSERDA conducts REC solicitations, but it is unreasonable for the cost impact assessment to assume offset benefits that do not reflect the current procurement practice. Absent express statements from NYSERDA or the PSC concerning REC pricing changes for future solicitations, it is not reasonable to assume that carbon pricing incorporated in spot wholesale energy prices will have a material impact on the long-term financing and revenue requirements demanded by renewable investors, and the "lower REC price" offset should be removed from the impact assessment.

G. Allocation of the Carbon Charge Residuals to Loads

In New York, it has been exhaustively documented that most of the electric generation Upstate has no associated carbon emissions and that most of the energy produced by fossil-fueled generation is from Downstate sources whose dispatch is necessary to follow load. In other words, although marginal emissions rates are slightly higher Downstate than Upstate, the vast majority of NYCA carbon emissions (total tons) are located in Downstate zones. The operation of those units is also associated with ozone non-attainment and other air quality matters that carbon pricing does not directly consider but are public policy concerns Downstate.

Also, the estimated increase in LBMPs of roughly $15/MWh in Upstate zones (for both 2020 and 2025) attributable to the suggested carbon charge amounts to an increase in wholesale energy

[7] *See* Brattle presentations on September 12, 2017, and September 17, 2018.

prices of roughly 50%. The comparisons that have been shown based on average fully bundled Con Edison retail rates (delivery, commodity, taxes and surcharges) are misleading in general and not applicable at all for areas outside zones J and K.

NYISO staff initially recommended adopting a "levelizing" allocation method for carbon residuals but subsequently revised its proposal in favor of a "proportional" allocation approach (*i.e.*, allocate the carbon residual among NYISO zones based on an equal percentage). The proportional method is an improvement but would still produce comparatively greater bill impacts on Upstate loads. The proportional method and the "levelizing" approach also both tend to mute incentives for peak load reductions and energy storage in the metropolitan area (the need for local generation to follow peak demands is the driving force in fossil fuel burn in New York) as well as the more broadly expressed interest in aligning LBMPs with the marginal cost of serving load. If carbon pricing is adopted, Nucor urges adoption of the proportional levelization approach suggested by Multiple Intervenors or a load-ratio approach since either is more consistent with expressed harmonizing goals.

H. Changes to Other NYISO Markets and Planning Processes

Nucor does not have comments on this aspect of the Recommendations at this time.

I. Other Effects on Customer Costs

Brattle's September 17, 2018 presentation "Analysis of a New York Carbon Charge" attributed a material reduction in demand ("load elasticity") in 2020, a substantial shift in the location of renewable resources towards Downstate in 2025 ("renewable shift") and possible retention of some existing nuclear generating capacity in 2030 as key possible dynamic responses to implementation of a carbon charge.[8] We are compelled to note that Brattle has explained the mathematical exercise it employed for each but not the underlying rationale. Moreover, the

[8] *See* "Dynamic Market Adjustments," slide 14.

additional analyses that were performed incorporated Brattle's dynamic assumptions but did not look to test them.

For 2020, Brattle assumes a nominal across-the-board elasticity effect from higher, carbon driven prices even as it shows a modest $3.8/MWh net customer cost. It remains inconsistent to assert that the carbon price effect will be too small for most customers to notice while also assuming the price effect will be substantial enough to induce customer load reductions. In fact, as noted above, the comparative impacts that will vary considerably across the State, and price-induced load reductions are most likely to occur among customers that are most price sensitive (*i.e.*, large manufacturing facilities). The assessment of this issue, which Brattle flagged as a potential concern in the August 10, 2017 carbon pricing discussion paper, has been completely inadequate to this point.

For 2025, the principal dynamic response element is an assumed shift of 1,000 MWs from Upstate to Downstate zones. Daymark, however, correctly observed that carbon pricing is unlikely to overcome the substantial non-market factors (*i.e.*, land availability, cost, permitting restrictions, etc.) that influence or control large renewable facility siting. The mathematical exercise that Brattle employed in shifting renewable locations to equalize carbon induced differentials in LBMPs lacks any foundational predicate.

Finally, for 2030, Brattle assumed that carbon pricing could serve a significant role in possibly retaining some of the existing nuclear generating capacity Upstate after the ZECs are set to expire during 2029. Retention of existing nuclear capacity post-ZECs is an important issue, but that does not begin to explain why hundreds of millions of additional revenues should be directed to those units seven years or more before the ZEC subsidies are set to expire. Moreover, assuming that any of the units remain operationally viable at that point, there may be any number of more economic alternatives to consider (*e.g.*, long term bilateral arrangements).

Conclusion

Adding a carbon charge to wholesale energy prices will not materially advance New York's overall decarbonization objectives but will cause upward pressure on consumer electric rates. The essential problem, as Daymark very accurately noted, is that the risks of expected outcomes are asymmetric (*i.e.*, trending toward greater rate impacts and higher emissions). Another way to say it is that the offset assumptions in the Brattle analysis represent an optimistic, best case scenario, and that, being realistic, higher electricity costs for consumers must be considered a probable outcome. Those rate impacts will be proportionately higher Upstate (particularly if the proposed "proportional" residual allocation method is adopted) and will most directly impact energy intensive manufacturing facilities that provide critically important support for Upstate communities. A comprehensive approach by all pertinent state entities is necessary if an attempt is to be made to employ a carbon charge as a vehicle for "harmonizing" state-directed and wholesale market policies.

Respectfully submitted,

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