

**EXELON GENERATION COMPANY, LLC'S COMMENTS ON THE ILLINOIS POWER AGENCY'S
DRAFT CARBON MITIGATION CREDIT PROCUREMENT PLAN**

Pursuant to 20 ILCS 3855/1-75(d-10) of the Illinois Power Agency Act, Exelon Generation Company, LLC ("Exelon") submits these comments to the Illinois Power Agency ("IPA") regarding the September 17, 2021 draft Carbon Mitigation Credit Procurement Plan ("CMC Plan" or "Plan"). Exelon, individually or through its subsidiaries, has participated in the competitive procurement processes under which contracts for the electricity needs of Ameren and ComEd have been awarded since the end of the transition period in 2006. Based upon its experiences with procurement processes in Illinois and elsewhere, including those for environmental attributes under the Zero Emission Standard, and its experience as the owner of numerous merchant nuclear facilities, Exelon has several recommendations to ensure consistency with the statute and to otherwise improve the draft CMC Plan as set forth below.

I. INTRODUCTION

Exelon commends the IPA for its timely release of the draft CMC Plan and appreciates the significant thought that has gone into the draft as well as the opportunity to provide comments. The IPA has offered a program structure and implementation process that generally adheres to the requirements expressed in Public Act 102-0662 and fulfills the General Assembly's intent "to establish carbon mitigation credits to ensure decreased reliance on more carbon-intensive energy resources, for transitioning to a fully decarbonized electricity sector, and to help ensure health and welfare of the State's residents."¹ There are, however, several key adjustments that must be made prior to submitting the CMC Plan to the Illinois Commerce Commission ("ICC") in order to comply with Public Act 102-0662.

In the following sections, Exelon offers recommendations on how to implement several critical statutory provisions regarding elements of the CMC price calculation, the capacity factor commitment,

¹ 20 ILCS 3855/1-75(d-10)(1)(I).

and the timing of price calculations and payments. Specifically, the following changes to the Plan are necessary to conform to the requirements of Public Act 102-0662:

- The weighted-average hourly day-ahead price index should be calculated using hourly generation, not monthly generation;
- The 88 percent capacity factor threshold should be based on average output over the term of the CMC contracts across all carbon-free resources of each owner;
- In considering whether the capacity price portion of the CMC price calculation is zero, the Plan should assess whether PJM generically applies the MOPR to carbon-free resources receiving state support; the Plan should not depend on whether a particular unit clears or fails to clear in the PJM base residual capacity auction; and
- The Plan should set forth a specific example of the CMC price adjustment for a potential federal subsidy and provide for supplier input on such a price adjustment should a federal subsidy be enacted.

Exelon also provides comments in support of several IPA positions and updates the IPA regarding anticipated changes to the PJM base residual capacity auction for the 2022/23 delivery year.

II. RECOMMENDED CHANGES TO DRAFT CARBON MITIGATION CREDIT PROCUREMENT PLAN

a. It is Critical That the IPA Determine the Weighted-Average Hourly Day-Ahead Price Index by Utilizing Hourly Generation, Not Monthly Generation

Public Act 102-0662 allows a bidder to select an energy price index equal to “the weighted-average hourly day-ahead price for the applicable delivery year at the busbar of all carbon-free resources procured pursuant to this subsection (d-10), weighted by the actual production from the carbon-free resources.”² The IPA should, consistent with the statute, weight the hourly day-ahead busbar prices by hourly generation of the participating carbon-free resources. This approach is consistent with the industry standard determination of a weighted-average hourly price – for example, a load-weighted average price is determined by weighting hourly prices by hourly loads.

² 20 ILCS 3855/1-75 (d-10)(3)(C)(iii).

The IPA's proposal, however, mismatches **hourly** day-ahead busbar prices with **monthly** generation data. The proposed approach would "use the average busbar price for the applicable month in calculating the weighted-average hourly day-ahead price."³ The result of the IPA's proposed calculation is a weighted-average **monthly** day-ahead price, and not the weighted-average **hourly** day-ahead price, as the statute requires. The pricing calculation suggested in the draft CMC Plan therefore conflicts with a key aspect of the statutory requirements: use of "the weighted-average **hourly** day-ahead price."⁴

The difference between the approach proposed by the IPA and the approach set forth in the statute can be significant. The monthly weighted price can deviate significantly from the hourly weighted price, producing material consequences for the CMC payment formula. Attached are examples of the calculation of the energy price index for two units under 3 scenarios. If both units have the same exact output every hour of the month, the monthly-weighted price and hourly-weighted average price of the two units would be the same (Example 1). It is common, however, for output to vary during a month, such as when a unit has a maintenance outage. Assuming a 15-day outage for unit1, the monthly-weighted average price of the two units could be \$2/MWh lower or \$2/MWh higher than the hourly-weighted average price of the two units, depending on the timing of the outage (Examples 2 and 3). Actual operations could vary for a number of reasons, but these simplified examples demonstrate that mismatching hourly price data with monthly generation data can lead to anomalies, including anomalies that can result in a higher \$/MWh price to be paid by customers. The energy index therefore should use **hourly energy generation** multiplied by **hourly day-ahead busbar prices**, instead of the **monthly energy generation** approach proposed by the IPA.

³ CMC Plan at 19.

⁴ 20 ILCS 3855/1-75 (d-10)(3)(C)(iii) (emphasis added).

The Plan also suggests that suppliers provide the IPA with generation and price information five days after the conclusion of each month. However, PJM doesn't finalize its monthly settlement data until five days after the end of each month, and only preliminary data is available before then. As a result, Exelon recommends that suppliers are provided 10 days after the close of each month in order to provide the IPA with the necessary input data for the energy price index calculation.

Additionally, the draft Plan describes the price for CMCs as being adjusted by "energy prices [...] at the relevant busbar for the carbon-free energy resource [...]"⁵ This description in Section 3.4 could be read to suggest that the busbar pricing calculation is unit-specific and will vary unit to unit. As the IPA correctly recognizes in Section 4.2, however, that is not correct. Rather, the statutory language describes an energy price index determined by the weighted average price "at the busbar **of all resources** procured" to supply CMCs—*i.e.*, a single average busbar price to be used for all resources that select the busbar pricing method, based on an average of hourly prices at the different units' busbars weighted by the generation of all participating units.⁶ The draft Plan language should be clarified to conform to the statute.

In sum, Exelon recommends that the proposed energy price index calculation set forth on page 19 of the CMC Plan be revised as follows. Each successful bidder should be required to provide **hourly energy generation** and **hourly day-ahead busbar prices** for each month, **10 days** after the conclusion of the month. In each hour, the energy generation for that hour would be multiplied by the applicable day-ahead busbar price for that hour. The sum of all those products for all the hours of the month for all resources procured would then be divided by the total generation for the month from all resources procured to determine the weighted-average hourly day-ahead price for use in calculation of the CMC price to be used in calculating CMC price for all bidders selecting this energy price index.

⁵ CMC Plan at 16.

⁶ 20 ILCS 3855/1-75 (d-10)(3)(C)(iii) (emphasis added).

b. The IPA Should Apply the 88 Percent Capacity Factor Threshold Based on Average Output Over the Term of the Contracts Across all Carbon-Free Resources of Each Owner

Under Public Act 102-0662, each carbon-free resource that intends to participate in the CMC procurement must commit to “continue operating the carbon-free resource at a capacity factor of at least 88% annually on average for the duration of the contract or contracts executed under the procurement.”⁷ The draft Plan proposes to implement this statutory requirement by multiplying a unit’s summer MW capacity by 88% and 8,760 hours to determine the minimum annual commitment that will be applicable to the unit for each of the years of the 5-year contract period. The IPA proposes to determine whether the carbon-free resource achieves that minimum annual delivery commitment within 30 days of the end of each delivery year. Failure to achieve the minimum annual delivery commitment, other than for a force majeure event, would be considered an event of default under the contract.⁸

The duration of a CMC contract is five years and, therefore, the statutory requirement to achieve an 88% annual capacity factor should be averaged over those five years instead of measured annually as proposed. The statutory language requires a commitment to operate “at a capacity factor of at least 88% annually *on average for the duration* of the contract or contracts.”⁹ The plain language of the statute thus requires measurement to reflect averaging over the 5-year term of the CMC contracts. This makes sense given that planned nuclear refueling outages occur every 18 to 24 months. By design, capacity factors for qualifying carbon-free energy resources are lower in years when refueling occurs and higher during non-refueling years. For that reason, the statute sets an average minimum capacity factor to ensure customers are receiving excellent performance over the life of the contract, taking into account the need to reduce output for several weeks every 18 to 24 months to refuel the reactors.

⁷ 20 ILCS 3855/1-75(d-10)(3)(B)(iii).

⁸ CMC Plan at 39.

⁹ 20 ILCS 3855/1-75(d-10)(3)(B)(iii) (emphasis added).

Furthermore, the statutory requirement indicates that averaging must be over “the duration of the **contract or contracts** executed under the procurement.”¹⁰ The language therefore also requires that the 88% capacity factor calculation reflect averaging across contracts executed by a single seller, rather than restricted to each individual unit as proposed. Again, this makes sense given the way that individual nuclear units operate. Although Illinois’ fleet of nuclear plants have demonstrated consistently strong performance for many years, circumstances outside of an operator’s control can cause a plant to go offline for extended periods of time. If such an event were to occur during the term of the contracts, the plant owner would naturally seek to meet its obligations by calling on another contracted unit in its portfolio. This is reflected in the statutory language: if the capacity factor commitment were intended to apply to each individual contract standing alone, then the words “or contracts” would have been omitted from the statutory provision.

While the actual average capacity factor of contracted resources for the 5-year term can only be calculated at the end of the fifth year, an interim calculation can be completed at the end of each year to ensure that contracted resources are on track to meet their commitments. Exelon recommends the following annual calculation methodology be adopted in the IPA Plan:

- 1) Multiply the summer MW capacity of each unit by 88%, 8,760 hours and five years to determine the minimum commitment for that unit for the duration of a contract.
- 2) At the end of the first delivery year, add the total actual CMC production by that unit to the unit’s projected CMC production for the remaining delivery years and compare to the result in (1) above. Projected CMC production for future years would be set equal to the projections included in the CMC bid.¹¹
- 3) If actual plus projected CMC production is less than the result in (1), an owner with multiple CMC contracts may use actual and/or projected CMC production from one or more of its other resources that are in excess of the 88% capacity factor requirement to satisfy the shortfall. Any unsatisfied shortfall would constitute an event of default for the relevant unit(s).

¹⁰ *Id.* (emphasis added).

¹¹ See CMC Plan at 23.

- 4) At the end of the second delivery year, the calculations described in (2) and (3) will be repeated and reflect two years of actual production of CMCs plus projections for the three remaining delivery years. This process continues each year until the end of year 5.

Adoption of this calculation would reflect the commitment to operate at an 88% capacity factor annually on average for all contracted units for the duration of the CMC contracts consistent with the plain language of the statutory provision.

c. The Adjustment to the Capacity Price Component of the CMC Price Calculation in the Event of a Minimum Offer Price Rule Can Not Depend on Whether the Supplier Clears in the PJM BRA

In addition to an adjustment for an energy price index, Public Act 102-0662 also requires an adjustment to the CMC price reflecting PJM capacity prices. Specifically, the price per CMC will be reduced by:

the Base Residual Auction Capacity Price for the ComEd zone as determined by PJM Interconnection, LLC, divided by 24 hours per day, for the applicable delivery year for the first 3 delivery years, and then any subsequent delivery years unless the PJM Interconnection, LLC applies the Minimum Offer Price Rule to participating carbon-free energy resources because they supply carbon mitigation credits pursuant to this Section at which time, upon notice by the carbon-free energy resource to the Commission and subject to Commission confirmation, the value under this subitem shall be zero[.]¹²

In implementing this provision, the draft Plan proposes that the supplier provide notice of the fact of *non-clearance due to application of the MOPR*.¹³

This proposed requirement is inconsistent with the plain language of the statute. Nothing in the statute makes the payment amount depend upon whether a unit has cleared the capacity market or has not cleared the capacity market, nor should the statute be so interpreted. Instead, the statute directs the Commission, upon a notice by the carbon-free energy resource, to make a generic determination about whether PJM has applied a Minimum Offer Price Rule (“MOPR”) to carbon-free energy resources

¹² 20 ILCS 3855/ 1-75(d-10)(3)(C)(iii)(II).

¹³ Draft Plan at 20.

on account of their receiving state support. Whether a particular generator does or does not in fact clear the capacity market is irrelevant to the calculation of the CMC price.

However, Exelon recognizes that the plain language of the statute could potentially result in a situation in which a MOPR is applied to carbon-free energy resources receiving state support, and so the capacity price offset is set at zero, but a particular participating carbon-free energy resource nevertheless has the opportunity to clear the capacity market and receive capacity revenue. To avoid that possibility, which would be unfair to customers, Exelon voluntarily commits that it will not file any notice with the Commission under Section 1-75(d-10)(3)(C)(iii)(II), even if the MOPR is applied to a unit selected to participate in the program, so long as the auction clearing price exceeds the MOPR floor price or in the event that ComEd has elected the Fixed Resource Requirement Alternative. That voluntary commitment eliminates the possibility that a participating Exelon clean-energy resource could benefit from having the capacity price offset reduced to zero, while still having the opportunity to receive capacity revenue. The IPA should encourage, but not mandate, other bidders to make a similar voluntary commitment.

In light of the foregoing, Exelon recommends that the Plan, consistent with the statute, provide that notification under Section 1-75(d-10)(3)(C)(iii)(II) relate solely to whether PJM has applied a MOPR to carbon-free energy resources receiving state support on account of that state support.

The statute also does not address the timeframe for the filing of any such notice. Since the notice will affect the charges to customers, so long as it is given prior to the commencement of the delivery year, it should be considered timely. Accordingly, the Plan should provide that such notification may be given beginning 30 days following the BRA for the applicable delivery year, until 90 days prior to the commencement of the delivery year.

d. The IPA Should Specify How a Federal Subsidy Such as the Currently Proposed Federal Production Tax Credit Would Be Included in the CMC Calculation, if Enacted into Law

Public Act 102-0662 also specifies that the price paid under the CMC contract be reduced by the value of any monetized federal tax credit, direct payment, or similar subsidy provided to a carbon-free resource not already reflected in energy prices.¹⁴

To implement this requirement, the CMC Plan proposes that “[i]f the Agency determines that the calculation of the price adjustment is straightforward and mechanical, then that filing shall take the form of a compliance filing outlining the necessary changes to the CMC pricing calculation to include a line item representing the price adjustment in \$/MWH.”¹⁵ To provide clarity on how such a mechanical adjustment would be made, Exelon recommends that the IPA provide an example in the CMC Plan illustrating the impact of a potential federal subsidy in the illustrative calculation provided in Table 1 on page 23.

In June 2021, the *Zero Emission Nuclear Power Production Credit Act of 2021* was introduced in the U.S. Senate by Senator Tom Carper (DE) among others and may be looked to for an example to include in the CMC price calculation example.¹⁶ The production tax credit under that bill is set at the lower of \$15/MWh or the amount resulting from the following formula: $(\$15/\text{MWh} \times \text{Annual Production}) - (80\% \times (\text{Annual Revenue} - \$25/\text{MWh} \times \text{Annual Production}))$.¹⁷ This federal tax credit would be determined on a calendar year basis, but the actual annual revenues and actual market price used to calculate the actual federal credit would not be known until after the end of calendar year. For purposes of the CMC price calculation, these payments could either be credited once received or estimated and then reconciled based on actual federal payments. For example, if the actual average

¹⁴ 20 ILCS 3855/1-75 (d-10)(3)(C)(iii) (emphasis added).

¹⁵ CMC Plan at 21.

¹⁶ See https://www.epw.senate.gov/public/_cache/files/8/e/8edc260c-63cd-435c-915b-c586e97ba083/A0B2D714ED20E0B5ABD54C86D983ADB6.zero-emissions-nuclear-ptc.pdf.

¹⁷ Assuming Annual Revenue is set at the Market Price, this formula would simplify to: $(\$15/\text{MWh}) - (80\% \times (\text{Market Price} - \$25/\text{MWh}))$.

market price during a calendar year for a carbon-free resource is \$30/MWh, then the proposed federal tax credit would be \$11/MWh. Table 1 from the Plan is reproduced below with an adjustment to Line F to reflect the Carper bill described above. Exelon suggests that the IPA reflect this calculation in the Plan to ensure a common understanding of how a federal subsidy would be reflected in the CMC price calculation.

Table 1: Illustrative Calculation of CMC Price (Including Federal Subsidy)

		2022-2023 Delivery Year	
		June	May
Baseline Cost for the 2022-23 delivery year (\$/MWh)	A	30.30	30.30
Accepted CMC Bid (\$/MWh)	B	30.25	30.25
Weighted Monthly Ave PJM Busbar Price (\$/MWh)	C	30.35	24.77
ComEd Zone Capacity Price (\$/MW-day)	D	68.96	68.96
ComEd Zone Capacity Price (\$/MWh)	E = D/24	2.87	2.87
Federal Subsidy (\$/MWh) ¹⁸	F	11.00	11.00
CMC Price (\$/MWh)	G = B-C-E-F	-13.98	-8.40

In addition to the IPA providing an example related to the proposed federal production tax credit, Exelon suggests that suppliers have the opportunity to provide input on a potential CMC price adjustment that is mechanical in nature. The CMC Plan suggests that the IPA would unilaterally change the CMC price based on its interpretation of the monetized value of a federal tax credit or other federal subsidy through a compliance filing with the ICC.¹⁹ Suppliers should have the opportunity to propose the necessary CMC price adjustment, which would be reviewed by the IPA and then subject to ICC approval.

¹⁸ $[15 - 80\% \cdot (30 - 25)] = \$11.00/\text{MWh}$.

¹⁹ CMC Plan at 21.

III. SUPPORT FOR DRAFT PLAN PROPOSALS

a. CMC Price Calculation and Payment Each Month Are Appropriate

In Section 4.2 of the Plan the IPA requests feedback on whether monthly CMC price calculations are appropriate for payment purposes:

Depending on the selection, the IPA will calculate the price-per-megawatt-hour on a monthly basis within 20 days of the end of the applicable month of the applicable delivery year. While statutory language could be understood to suggest that this calculation should only be performed on an annual basis, subsection d-10 allows for the utilization of the “weighted-average hourly day-ahead price for the applicable delivery year at the busbar of all resources procured pursuant to this subsection (d-10), weighted by actual production from the resources”; as actual production data will be available for the prior month at the conclusion of that month, the IPA believes monthly CMC price calculations may be appropriate for payment purposes (similar to how monthly adjustments are made to the Purchased Electricity Adjustment), but is interested in feedback on this point through comments on this draft Plan.²⁰

Exelon agrees with the IPA’s interpretation of the statutory language. A monthly approach is reasonable and there would appear to be little to no rationale for waiting until the end of the year for payments to be made. For reporting purposes, the IPA could average the monthly values for each delivery year and also publish an annual CMC value.

While the draft Plan states that CMC contracts will be settled on a monthly basis, it does not explicitly address the volumes to be used in the settlement. Contracts should be settled at volumes equal to the total hourly production over the month provided to the IPA by suppliers as part of the CMC price calculation process. Each CMC represents the carbon emission reduction attributes of one megawatt-hour of energy produced from a carbon-free energy resource. The volume of CMCs produced by a supplier in a month will therefore equal the total hourly energy generation over the month. As provided in the Plan, the CMCs would be tracked in the Generation Attribute Tracking System (GATS) as Emission Free Energy Certificates (EFECs) and conveyed to the utility for retirement.

²⁰ *Id.* at 22.

To the extent necessary, the CMC contract could contain a provision providing for a true up between any difference in volumes used to settle CMC payments and EFECs ultimately delivered to the utility for retirement. Settling CMC contracts based on EFEC tracking and retirement would also be possible, but the production of an environmental attribute and its issuance and availability for retirement in the GATS system is completed on the last day of the month following the month of the actual generation. The CMC price corresponding to the generation month must be matched with the correct GATS certificate retirement volume, which is available after a one-month lag.

b. Utilizing a 2.5% Band to Define the Approximate Target of CMCs to be Procured is Reasonable

Public Act 102-0662 directs the IPA to procure contracts “for no more than approximately 54,500,000 cost-effective carbon mitigation credits.”²¹ The IPA proposes to use a band of plus or minus 2.5% around the 54,500,000 CMC procurement limit to define what is “approximately” within that limit.²² Exelon agrees that 2.5% is a reasonable margin and supports application of the band to the aggregate 54,500,000 CMC annual procurement amount. As noted above, Exelon recommends that, once executed, CMC contracts be settled at volumes equal to the total hourly production over the month provided to the IPA by suppliers as part of the CMC price calculation process.

c. Scoring of CMC Bids Should Follow the Framework Established for Zero Emission Credits

The IPA and other interested parties spent considerable time during the development of the Zero Emission Standard plan on the scoring rubric to determine the winning ZEC bids. Because of the intrinsic similarities between the ZEC and CMC, especially as it pertains to the public interest criteria, there is a clear justification for applying the existing framework to this new program. According to the CMC Plan:

[The ZEC] approach utilized information from reports issued by state agencies, boards, or commissions, as well as publicly available analyses and studies performed by or for PJM and

²¹ 20 ILCS 3855/1-75 (d-10)(3)(A).

²² CMC Plan at 15.

their independent market monitors. The Agency's primary focus for the CMC Plan was updating prior sources of information utilized for the ZEC Plan as well as utilizing where appropriate publicly available reports and analyses that have become available since the ZES Plan. This approach allows the Agency to leverage the best available information for the evaluation of carbon-free resource benefits consistent with the criteria in the statute.²³

Exelon supports the IPA's consideration of the best available information, while maintaining consistency with the existing ZEC program. This approach will yield results that satisfy the intent of the law and limit undue administrative burden in the execution of the separate, but related programs.

d. The Collateral Requirements of the ZEC Program are Appropriate for the CMC Program

The IPA proposes to set the collateral requirement for the CMC procurement at \$0.80 per credit multiplied by the minimum annual delivery commitment.²⁴ As the IPA notes, this collateral requirement is "roughly consistent" with the one established under the Zero Emission Standard for the ZEC procurement. Exelon supports maintaining congruity between the two credit programs where applicable and agrees that the collateral requirement levels, including the collateral threshold amounts, set for the ZEC procurement are also fair and justified for the CMC procurement.

e. The Draft Bid Submission Form Containing the Bidder Submittal Requirements is Fair

In Section 3.2 of the CMC Plan, the IPA requests feedback on the draft bid submission form and required bidder submittal information. Exelon has reviewed Appendix B of the Plan and determined that the request for volumes, revenue sources, and cost by categories identified appear reasonable and straightforward. To ensure consistency with the changes recommended above, however, the IPA should carry over changes to the 88% capacity factor commitment from the body of the Plan, as finalized, to the Bidder Commitment tab of Appendix B.

²³ *Id.* at 25.

²⁴ *Id.* at 43.

IV. OTHER CONSIDERATIONS

a. Proposed Changes to PJM's Capacity Auction Schedule May Have Implications for the Current CMC Procurement Schedule

The CMC Plan proposes an expedited schedule for the various steps needed to complete the CMC procurement event in time to meet the CMC contract execution deadline of December 3, 2021, set forth in 102-0662.²⁵ This would result in the CMC procurement concluding shortly before the conclusion of the PJM base residual capacity auction for the 2023/24 planning year, scheduled for December 1-7, 2021. However, PJM has recently requested that the Federal Energy Regulatory Commission (FERC) defer that auction by roughly 8 weeks, until January 25-31, 2022, in order to give PJM time to implement changes to auction-related rules recently directed by FERC.²⁶ FERC action on the PJM filing is expected to occur before the deadline for the ICC to approve (or modify and approve) the IPA's CMC procurement plan. If FERC approves PJM's request, there would potentially be almost two months of additional time to complete the CMC procurement before the PJM base residual capacity auction.

V. CONCLUSION

Exelon commends the IPA for the significant thought and attention reflected in the proposed CMC Plan and requests that the Agency consider the recommendations and feedback offered in these comments.

²⁵ See 20 ILCS 3855/1-75(d-10)(3)(F).

²⁶ See <https://www.pjm.com/directory/etariff/FercDockets/6325/20210910-er21-2877-000.pdf> at Attachment A.