BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF COLORADO

PROCEEDING NO. 21A-0625EG

IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR APPROVAL OF ITS 2022-2025 RENEWABLE ENERGY COMPLIANCE PLAN.

CROSS ANSWER TESTIMONY OF
KEVIN M. LUCAS

ON BEHALF OF
THE COLORADO SOLAR AND STORAGE ASSOCIATION
AND
THE SOLAR ENERGY INDUSTRIES ASSOCIATION

August 12, 2022

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I. INTRODUCTION AND QUALIFICATIONS

Q1. PLEASE STATE FOR THE RECORD YOUR NAME, POSITION, AND BUSINESS ADDRESS.

A1. My name is Kevin Lucas. I am the Senior Director of Utility Regulation and Policy at the Solar Energy Industries Association ("SEIA"). My business address is 1425 K St. NW #1000, Washington, DC 20005.

Q2. ARE YOU THE SAME KEVIN LUCAS THAT SUBMITTED ANSWER TESTIMONY IN THIS PROCEEDING?

A2. Yes.

Q3. ON WHOSE BEHALF ARE YOU SUBMITTING TESTIMONY?

A3. My testimony is provided on behalf of Intervenors, the Colorado Solar and Storage Association ("COSSA") and SEIA.

Q4. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A4. The purpose of my testimony is to review and comment on the various answer testimony that was submitted regarding Public Service Company of Colorado's ("Public Service" or "the Company") 2022-2025 Renewable Energy Compliance Plan ("RE Plan" or "Plan").

Q5. HOW IS YOUR TESTIMONY ORGANIZED?

A5. I begin by responding to issues that other parties raised that I discussed in my answer testimony. I then turn to issues brought up by other intervenors that I did not directly address in my answer testimony.

Q6. DOES YOUR FAILURE TO RESPOND TO A PARTICULAR INTERVENOR'S ANSWER TESTIMONY INDICATE SUPPORT FOR THAT PARTY'S POSITIONS?

A6. No. I do not respond to all points raised by all intervenors, and the absence of a response does not imply adoption or support of those positions.

II. CROSS ANSWER TESTIMONY ON ISSUES DISCUSSED IN LUCAS ANSWER TESTIMONY

A. Intervenors' Positions on Battery Connect Program

Q7. PLEASE PROVIDE A BRIEF SUMMARY OF COSSA/SEIA'S RECOMMENDATIONS FOR THE PROPOSED BATTERY CONNECT PROGRAM.

A7. In my answer testimony, I recommended a substantial redesign of the proposed Battery Connect program with the following parameters:[1]

- Replace up-front incentive and PBI with a performance-based payment for five years of $100/kW and $10/kW based on a customer's average battery output during summer and non-summer months, respectively.
- The Company can call up to 60 events per year, and while customers would have ability to opt out of events, doing so will reduce their average output and thus their performance-based payment.
- The Company would not schedule events within 48 hours of an expected extreme weather event.
- Double the program capacity to 32 MW / 72 MWh of storage.

Q8. DID INTERVENORS DISCUSS THE BATTERY CONNECT PROGRAM?

A8. Yes, several intervenors discussed the Battery Connect program, with comments generally in support of the program. However, CEO Witness Keith M. Hay raised concerns about the proposed program, suggesting that the $100 annual payment may be substantially eroded by the inability of customers to use their batteries during called events.[2] Mr. Hay ultimately recommended the Commission "require Public Service to provide additional information to customers about the annual cost incurred due to the Company using batteries during dispatch events" and to establish reporting requirements on the program.[3]

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[1] Hearing Exhibit 900, Answer Testimony of Kevin M. Lucas on behalf of COSSA/SEIA, Rev. 2 at 46-65. ("Lucas Answer")
[2] Hearing Exhibit 300, Answer Testimony of Keith M. Hay at 31. ("Hay Answer")
[3] *Id*.

Q9. HOW DID MR. HAY DETERMINE THE COST IMPACT OF THE COMPANY'S USE OF BATTERIES DURING EVENTS?

A9. Mr. Hay assumes that customer's batteries would not be discharged for two days during each event (one during the day before, one during the event), and thus forgoing the potential reduction in billed usage that could be obtained from discharging the battery.[4]

Q10. DO YOU AGREE WITH MR. HAY'S ANALYSIS?

A10. I do not. Mr. Hay's assumption that batteries will not be dischargeable for two days per event appears to be based on an admittedly confusing Public Service response to a discovery request. Mr. Hay asked to confirm that customers would not be able to use or discharge their battery during the 24-hour charging period nor during the event period, and the Company confirmed that customers would not be able to do so, absent a predicted weather or grid event.[5] Mr. Hay reasonably concluded that this meant the battery was outside the customer's control during this time.

However, this does not mean that the battery will not be discharged during the event, nor that the customer must forego discharging on the day before event. Public Service confirmed that the batteries will be charged from solar except in extreme situations, and in fact "approximately 99.9% of the time, the battery would be expected to be charged from the paired solar."[6] Thus, if the Company called an event for 4 PM on the 25th, then it would expect excess solar generation during the mid-day hours of the 25th to charge the battery. This in turn means that the customer would be able to discharge their battery prior to 4 PM on the 24th with the expectation that it would be "topped off"

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[4] Mr. Hay's workpapers calculate the average summer and non-summer hourly usage of residential and small commercial customers. He then multiplies this by the corresponding hourly TOU rate to determine an average hourly cost of energy. Mr. Hay then sums up the cost for all hours between 1 PM and 7 PM and multiplies this by 80 (40 events * 2 days) to determine the cost impact for winter and summer events as reported in Figure KMH-4 of his answer testimony.

[5] Hearing Exhibit 300, Attachment KHM-9, Public Service Response to Discovery Request CEO 3-6.

[6] Hearing Exhibit 900, Attachment KML-1, Public Service Response to COSSSA/SEIA 4-6.

on the 25th. Further, the Company will itself discharge up to 60% of the battery on the 25th; otherwise, there is no point in calling an event. After the event is over, the customer will be able to discharge the remaining 40%+ of the battery and offset her usage.

Mr. Hay does correctly identify that there may be some lost opportunity costs in participating in the Battery Connect program. For example, if the customer can only discharge their battery prior to 4 PM on the 24th, they may be offsetting less-expensive off-peak or intermediate TOU energy, rather than offsetting on-peak energy. Likewise, discharging the remaining 40% after the event on the 25th may offset off-peak energy rather than on-peak energy. However, the magnitude of these lost opportunity costs is much lower than Mr. Hay's original analysis suggests. That said, I agree with Mr. Hay that the Company should produce a more rigorous estimate of the potential opportunity costs of the program in relation to the $100 incentive.

Q11. DOES THIS ISSUE EXIST IF THE COSSA/SEIA RECOMMENDATIONS FOR THE BATTERY CONNECT PROGRAM ARE ADOPTED?

A11. No, it does not. By shifting away from a flat performance fee with limited opt-outs to a purely pay-for-performance model, the COSSA/SEIA proposal eliminates this issue. Participants are free to use their battery however they wish. If they fully discharge their system, they maximize the performance payment; if they hold back some spare capacity, they will receive a smaller performance payment. The choice of action remains with the customer.

Q12. WHAT OTHER RECOMMENDATION DOES MR. HAY MAKE REGARDING THE BATTERY CONNECT PROPOSAL?

A12. Mr. Hay recommends several reporting metrics in its RES Plan annual report.[7] These include metrics such as how many events were called, how long they lasted, the number

[7] Hay Answer at 32.

of customers that participated in each event, and system conditions during each event, among others.[8]

Q13. DO YOU SUPPORT THESE RECOMMENDATIONS?

A13. Yes, I do. I also recommend the Company collect information related to the avoided energy and capacity benefits from the events. The energy benefit could be calculated by multiplying the hourly battery output grossed up for line losses multiplied by the marginal cost of energy during the event, while the capacity benefit may require more post-hoc analysis based on performance during peak days.

Q14. PLEASE SUMMARIZE YOUR RESPONSE TO CEO'S BATTERY CONNECT TESTIMONY.

A14. CEO Witness Hay raises a valid point that there may be some opportunity costs associated with participating in the Company's proposed Battery Connect program. However, I believe based on the operational structure of the program, he substantially overestimates this figure. Further, these issues are not present under the COSSA/SEIA recommendations for this program. I support his recommendation for required reporting on each event with an additional calculation of savings from avoided energy and capacity.

*B. Intervenors' Positions on Solar*Rewards C&I and Large Programs*

Q15. PLEASE PROVIDE A BRIEF SUMMARY OF COSSA/SEIA'S RECOMMENDATIONS FOR THE PROPOSED SOLAR*REWARDS C&I AND LARGE.

A15. I made several recommendations for the Solar*Rewards C&I and Large programs. These include:

- The minimum system size for Segment A should be eliminated.
- The PBIs for Segments A, B, and C should be updated to \$0.07/kWh, \$0.065/kWh, and \$0.06/kWh, respectively.

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[8] *Id.*

- Program capacity should not be reduced due to anticipated demand from the Off-Site program.
- The Solar*Rewards Large program bid cap should be removed.[9]

Q16. DID INTERVENORS DISCUSS THE SOLAR*REWARDS C&I AND LARGE PROGRAMS?

A16. Yes, several intervenors discussed the non-residential Solar*Rewards programs, including witnesses from the City of Boulder[10] ("Boulder") and the Office of the Utility Consumer Advocate ("UCA").[11] Boulder witness Lehrman recommended that the Solar*Rewards Large capacity be reallocated to income-qualified ("IQ") community solar gardens ("CSG").[12] UCA witness Neil recommends reducing PBI payments to Solar*Rewards C&I customers and lowering the Solar*Rewards Large RFP cap.[13]

Q17. WHAT IS THE BASIS FOR BOULDER'S RECOMMENDATION THAT CAPACITY BE REALLOCATED FROM THE SOLAR*REWARDS LARGE RFP TO IQ CSG?

A17. Mr. Lehrman's argues that large C&I customers have been successful in participating in CSG programs and other voluntary programs such as Renewable*Connect, while IQ customers have not been as successful.[14] To help correct "the historic imbalance" between large C&I customers and IQ customers, he recommends that the capacity (and implies the corresponding RESA funding) be shifted to the IQ CSG program.[15]

Q18. AS A FIRST MATTER, DOES COSSA/SEIA SUPPORT THE EXPANSION OF IQ PROGRAMS AND DEDICATED FUNDING?

A18. Yes, we do, although we recognize this will require additional funding to support the shift while continuing to offer existing programs.[16]

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[9] Lucas Answer at 124.
[10] Hearing Exhibit 500, Answer Testimony of Matthew A. Lehrman, City of Boulder. ("Lehrman Answer")
[11] Hearing Exhibit 200, Answer Testimony and Attachments of Chris Neil. ("Neil Answer")
[12] Lehrman Answer at 54.
[13] Neil Answer at 7.
[14] Lehrman Answer at 54.
[15] *Id*. at 56.
[16] Lucas Answer at 15.

Q19. DO YOU AGREE WITH BOULDER'S RECOMMENDATION ON THIS ISSUE?

A19. I do not, for several reasons. First, large C&I customers pay into the RESA and should continue to have onsite programs available to them that are funded by the RESA. While Mr. Lehrman points out that many large C&I customers participate in Renewable*Connect 1.0, this program is self-funded by participants, not supported through RESA contributions, and is currently full. And while large C&I customers can participate in CSG, the increasing focus on donated IQ subscriptions and IQ adders in the recent RFP and standard offer CSG programs would limit capacity available for large commercial customers.

Second, Mr. Lehrman's recommendation to shift the capacity from the Solar*Rewards Large RFP to the IQ CSG is not revenue neutral. Mr. Lehrman quotes a 20-year cost of the Solar*Rewards Large RFP at $296,232,899, stating "This value does not include the cost for large commercial and industrial customers participating in the net metering only or Solar*Rewards Community programs."[17] This is technically correct, although this figure does include over $233 million in cost associated with "net metering credits," or as I explain in my answer testimony "lost revenue," with the remaining $63 million coming from the actual PBI payments.[18]

I thoroughly addressed Public Service's claim that net metering credits were a "cost" in my answer testimony, and I will not repeat those arguments here.[19] As such, the more appropriate 20-year cost figure for the Solar*Rewards Large RFP is the stream of PBI payments of $63 million.

For the IQ CSG program, Public Service proposes a $0.05/kWh PBI on top of the $0.075/kWh CSG bill credit.[20] Both of these expenses represent actual expenditures that

[17] Lehrman Answer at 55-56.
[18] 21A-0625EG_HE 102_Workpaper KRK-6_2022-25 RE Plan Executive Summary Table.
[19] *See* Lucas Answer, Section III.
[20] 21A-0625EG_HE 102_Workpaper KRK-6_2022-25 RE Plan Executive Summary Table.

are directly collected from the RESA and ECA as opposed to phantom net metering credits which are not. If 60 MW of capacity was added to this program at those incentive levels, the 20-year cost would increase from $175 million to $438 million, substantially in excess of the $63 million avoided from the removal of Solar*Rewards Large PBI payments. If the $63 million in PBIs were applied to the IQ CSG program, it would only support an additional 14.4 MW of capacity, not 60 MW.

Again, COSSA/SEIA is not opposed to increasing the capacity for IQ programs, but we do not believe it should be done by zeroing out the Solar*Rewards Large program. It must be recognized that the proposed IQ programs are more expensive on a per MW basis than non-IQ programs, and funding levels would need to be increased correspondingly to add capacity to these programs.

Q20. WHAT WAS UCA'S RECOMMENDATION REGARDING THE SOLAR*REWARDS C&I PBI PAYMENT LEVEL?

A20. UCA Witness Neil recommends that Solar*Rewards C&I BPI payments be reduced. As he stated,

> The UCA recommends lower incentives for large commercial and industrial (C&I) solar installations, because those programs should cost less than small residential systems. Table KRK-D-44 provides the estimated retail impact of the different Solar*Rewards programs. Ms. Klemm's table is the basis for adjusting the PSCo incentives to keep the C&I program costs approximately the same as the cost of net metered solar.[21]

He proposes a reduction in the PBI payments for each segment of the Solar*Rewards C&I program, along with a temporary $0.01/kWh increase in 2022 and 2023 due to supply chain issues. Mr. Neil's recommendations are duplicated in Figure 1 below:

[21] Neil Answer at 6.

Table CN-2 Summary of Proposed Solar*Rewards Incentives
Source: Ihle Direct, p. 71:2-18, Table 8 of Attachment JWI-1, and Klemm Direct, KWK-D-4.
$/kWh

	PSCo Avg Cost	PSCo Incentive	UCA Incentive*
Net Metering	0.11	0	0
C&I Small	0.13	0.04	0.02
C&I Medium	0.13	0.0375	0.02
C&I Large	0.14	0.35	0.01
C&I Large RFP	0.14	0.03 Cap	0.01 Cap

* Plus an additional $0.01/kWh for 2022 and 2023 due to solar supply issues.

*Figure 1 – UCA Solar*Rewards C&I PBI Recommendations*

Q21. DID MR. NEIL PERFORM ANY ANALYSIS TO SUPPORT THESE FIGURES?

A21. He did not. The only justification for the reduction of incentives is the claim that "those programs should cost less than small residential systems."[22] It is unclear whether he is talking about the aggregate cost of the Solar*Rewards C&I programs, or whether he means that larger C&I projects should cost less than residential systems due to economies of scale, and thus should get lower PBIs.

Q22. IS THE COMPARISON TO THE NET METERED SOLAR APPROPRIATE?

A22. I do not believe so. I do not believe that Public Service proposed the Solar*Rewards C&I PBIs or the Solar*Rewards Large RFP cap based in any way on its calculation of net metering value. The Solar*Rewards C&I levels were based on the existing program, grossed up or down for economies of scale of larger or smaller systems.[23] The Solar*Rewards Large RFP cap was set based on similar logic given the Company's proposal to increase the minimum size to 1 MW.[24] None of these figures was justified with respect to the net metering credit level.

[22] *Id*.
[23] Klemm Direct at 54.
[24] *Id*. at 58.

Further, Public Service's net metering credit calculation is an average value based on total tariff revenues, not the volumetric component of rates. This distinction is particularly important for commercial tariffs such as SG that include very high non-coincident peak demand charges. Between the lack of cost-causation built into the rate, and the very small volumetric component, the "Average Cost" values shown in the table above are not realized by customers that reduce their volumetric energy usage through self-consumed onsite solar generation.[25]

Q23. DID YOU PERFORM ANY ANALYSIS RELATED TO THE LEVEL OF PBIS THAT WOULD BE NEEDED TO SUPPORT THE SOLAR*REWARDS C&I PROGRAM ON THE SG AND SPV-TOU TARIFFS?

A23. Yes, I did. I performed a detailed modeling analysis that looked at multiple customers on both the SG and SPV-TOU tariffs under multiple cost and PBI levels.[26] I found that the incentive levels would need to increase to provide reasonable payback periods for non-residential customers, due in part because of the poor rate designs the Company implements.

By contrast, UCA's recommendation to reduce the PBI incentives does not appear to have any analytical underpinning, other than statement that large C&I solar installations "should cost less than small residential systems." While I do appreciate UCA's proposal to offer a short-term increase of $0.01/kWh in 2022 and 2023 to account for current supply chain challenges, even this temporary bonus would still result in a reduction of PBIs.

[25] Lucas Answer at 70
[26] *Id*. at 73-79

Q24. DID YOU PERFORM ANY ANALYSIS RELATED TO THE RFP BID LIMIT FOR THE SOLAR*REWARDS LARGE PROGRAM?

A24. Yes, I did. I found that only 1 of 18 projects in the past two years bid under the Company's proposed $0.03/kWh limit.[27] The only project under this threshold was a single $0.02/kWh bid for a large, transmission-connected customer, double UCA's proposed $0.01/kWh permanent proposed cap.[28] There is nothing in recent RFPs to suggest that most Solar*Rewards Large customers would be able to install systems with the proposed temporary $0.02/kWh cap, much less the proposed permanent $0.01/kWh cap.

Q25. WHAT DO YOU RECOMMEND WITH REGARD TO THE SOLAR*REWARDS C&I AND LARGE PROGRAMS?

A25. Unlike intervenors Boulder and UCA, I performed a detailed analysis to support my positions for higher Solar*Rewards C&I PBIs and for an uncapped RFP in the Solar*Rewards Large program. As such, I recommend the Commission adopt the recommendations made in my answer testimony.

C. Intervenors' Positions on Off-Site Program

Q26. PLEASE PROVIDE A BRIEF SUMMARY OF COSSA/SEIA'S RECOMMENDATIONS FOR THE PROPOSED OFF-SITE PROGRAM.

A26. My primary recommendation was for the Commission to reject Public Service's proposed methodology and substitute Black Hills Energy's approach for the Off-Site "reasonable charge" to cover the cost of delivering the energy to the customer's premise.[29] The latter's approach is based on publicly available FERC Form 1 data and represents a reasonable cost-of-service value.

[27] *Id*. at 83.
[28] Hearing Exhibit 900, Attachment KML-26, Public Service Response to COSSA/SEIA 15-4.
[29] Lucas Answer at 92.

Q27. DID INTERVENORS DISCUSS THE OFF-SITE PROGRAM?

A27. Yes, several intervenors discussed the Off-Site program, including Boulder Witness Lehrman. He recommended rejecting Public Service's approach for similar reasons as I did, including that the proposed methodology uses forecasted values. Instead, he recommended the same approach used in the CSG process, noting "[t]his is substantially similar to the calculation approved for Black Hills Energy[.]"[30]

Q28. DO YOU AGREE WITH BOULDER ON THIS POINT?

A28. Not entirely. While I agree that forecasted methodology that Public Service uses is problematic, I believe that the Black Hills Energy approach is more appropriate for the Off-Site program than the CSG credit. This is, at least in part, because the off-site bill credit is required by statute to be calculated by using a fixed "reasonable charge" deduction, whereas the CSG bill credit calculation currently includes a "reasonable charge" deduction that changes annually. Additionally, the FERC data on which the "reasonable charge" is calculated can be readily updated annually for each vintage of off-site projects, independent of when Public Service files a rate case.

Q29. IS THERE ANYTHING ELSE RELATED TO THE OFF-SITE PROGRAM THAT YOU WISH TO ADDRESS?

A29. Yes. Public Service's testimony on the size limits of the Off-Site program is confusing. It states: "the size of any multi-meter off-site installation (such as an individual customer with multiple off-site solar installation locations of the same customer account) may not exceed 300 kW per meter."[31]

It is unclear from this testimony whether Public Service believes that Off-Stie customers must install multiple PV installations in 300 kW increments rather than a

[30] Lehrman Answer at 58.
[31] Klemm Direct at 62.

single system sized up to 300 kW per customer meter (i.e., a customer with 2 meters can install a 600 kW system, a customer with 5 meters can install at 1.5 MW system, etc.).

The relevant statute reads:

"A. The size of any off-site, single-meter installation does not exceed five hundred kilowatts;

B. The size of any off-site, multi-meter installation does not exceed three hundred kilowatts per meter;"[32]

While I am not an attorney and am not offering a legal opinion, in my view, the "multiple offsite solar installation locations" in the parenthetical in Public Service's testimony would each be subject to a 500-kW cap under Subsection A of the statute if they were each virtually serving the load of one meter. It would not make sense and would be contrary to the plain reading of the statute for the General Assembly to have added Subsection B only to impose a lower limit on the size of an offsite solar installation that services multiple meters. Also, if that were in fact the General Assembly's intention, they would not have added the words "per meter" to the end of Subsection B.

The most straightforward explanation for the General Assembly's addition of Subsection B is to enable a larger off-site solar installation to serve the larger, aggregate needs of customers with multiple meters, up to a limit of 300 kW per meter served. This use case will reduce barriers to distributed generation and will help multi-meter customers like campuses, businesses, school systems, and other public entities benefit from the efficiencies and economies of scale of larger off-site solar installations. Rather than having multiple solar facilities, these customers with multiple meters will be able to have a single solar facility sized to cover their aggregate load. This is consistent with the

[32] § 40-2-124(1)(j)(VI)(B), C.R.S.

statutory language in Subsection B, as well as Black Hill Energy's Offsite Tariff,[33] and the Commission should clarify that this is the correct interpretation of § 40-2-124(1)(j)(VI)(B), C.R.S.

Q30. WHAT DO YOU RECOMMEND WITH REGARD TO THE OFF-SITE PROGRAM?

A30. I recommend the Commission require Public Service to adopt Black Hills Energy's approach to calculating the reasonable charge and clarify that Off-Site customers may install systems sized up to 300 kW times the number of meters to be aggregated subject to the reasonably expected average annual total consumption limits, which is also consistent with Black Hill Energy's tariff.

D. Intervenors' Positions on Public Service's Request to Increase RESA Admin Charges to 15%

Q31. PLEASE PROVIDE A BRIEF SUMMARY OF COSSA/SEIA'S RECOMMENDATIONS REGARDING PUBLIC SERVICE'S REQUEST TO INCREASE ADMINISTRATION COSTS TO 15% OF THE RESA REVENUES.

A31. COSSA/SEIA recommended closely scrutinizing this request for two reasons. First, the admin expense level has not historically exceeded 10%, so the request may be premature. Second, and more problematic, Public Service has not provided sufficient information that "increasingly complex interconnection issues" should be charged to the RESA.[34] I recommended to maintain the 10% limit while asking the Company to provide more details about what types of costs are charged to RESA as opposed to being considered part of normal business practices related to interconnection handling.[35] I would note that Public Service has an obligation to interconnect qualifying DERs on its distribution system regardless of whether or not they are part of a RESA funded program.

[33] Hearing Exhibit 902, Attachment KML-1, Proceeding No. 21AL-0650E, Compliance Advice Letter No. 829 (June 9. 2022)
[34] Lucas Answer at 122.
[35] *Id*. at 123.

Q32. DID INTERVENORS DISCUSS THE RESA ADMINISTRATIVE COST LIMIT?

A32. Yes, several intervenors discussed the proper level of the RESA administrative cost limit, including Staff witness William J. Dalton.[36] Mr. Dalton recommended granting the waiver to increase recovery of up to 15% of RESA revenue annually for administrative costs "until approval of the next RES Plan application."[37]

Q33. DID MR. DALTON OFFER ANY TESTIMONY IN SUPPORT OF THIS RECOMMENDATION?

A33. No, he did not. Identical language related to this recommendation appears in his introduction and conclusion, but no other mention or discussion of this waiver was included in his testimony to provide additional context or support.[38]

Q34. GIVEN THIS, WHAT DO YOU RECOMMEND WITH REGARD TO THIS ISSUE?

A34. I continue to recommend the Commission hold off approving the increase to 15% until it receives additional information from the Company related to administrative costs charged to the RESA. It would be inappropriate to increase admin cost recovery related to interconnection processing that should be considered routine business expenses and which is also required for non-RESA funded resources.

[36] Hearing Exhibit 400, Staff Witness William J. Dalton Answer Testimony at 10. ("Dalton Answer")
[37] *Id*.
[38] *Id*. at 10, 71.

III. CROSS ANSWER TESTIMONY ON ISSUES NOT DISCUSSED IN LUCAS ANSWER TESTIMONY

A. Boulder's Recommendation on On-Site Multi-Unit Property Solar Program

Q35. WHAT IS THE ON-STIE MULTI-UNIT PROPERTY SOLAR PROGRAM?

A35. This is a new program created by Senate Bill 21-261 that directs the Commission to create rules allowing "a single Retail DG resource to provide net metering credits to multiple, individually metered accounts on a multi-unit property without requiring the DG resource to be physically interconnected with each individual meter."[39] Examples may include apartment complexes, townhouses with a common space, or duplex houses. The rulemaking is anticipated to be completed by the end of 2022.[40]

Q36. WHAT IS BOULDER'S RECOMMENDATION REGARDING THIS PROGRAM?

A36. Boulder recommends that a working group be created to determine the appropriate incentive levels and payment methods for the program and that the Commission direct Public Service to file the program within 30 days of the order concluding the rulemaking.[41] It also recommends that additional incentives for income qualified customers and affordable housing communities be contemplated.[42]

Q37. DO YOU SUPPORT THIS RECOMMENDATION?

A37. Yes. It is critical to garner input and support from partners with more experience in the multi-family housing space. This is a new program and establishing a working group with the requisite expertise while the regulations are being developed will increase its likelihood of success.

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[39] Klemm Direct at 65.
[40] *Id*.
[41] Lehrman Answer at 59-60.
[42] *Id*. at 60.

*B. Staff's Recommendation on Renewable*Connect 1.0 Earnings Mechanism*

Q38. DOES THE COMPANY RECEIVE EARNINGS RELATED TO ITS IMPLEMENTATION OF THE RENEWABLE*CONNECT PROGRAM?

A38. Yes, it does. The Company states it "may earn up to its Weighted Average Cost of Capital ('WACC') on any program profit, which is calculated by subtracting program costs from program revenue."[43] However, Staff Witness Erin O'Neill found that

> In practice, the Company's retained earnings for R*C-1.0 are calculated by multiplying the total program costs by the Company's current WACC. If that amount is greater than the program net revenues, the earnings are capped at the net revenues. If that amount is less than the program net revenues, the remainder is credited to the RESA.[44]

Staff Witness O'Neill then identifies three concerns with this approach: 1) the Company's testimony and tariff do not accurately reflect the earnings mechanism as implemented; 2) the Company's earnings increase as program costs increase; and 3) an incongruity between using the WACC to calculate earnings when the Renewable*Connect asset is not in ratebase.[45] Staff recommends shifting the earnings mechanism to a share of net program revenue and capping the Company's portion at 40%.[46]

Q39. DO YOU AGREE WITH THESE RECOMMENDATIONS?

A39. Yes. Staff's observation regarding the conflict between the description and implementation of the earnings mechanism is troubling and should be resolved. Witness O'Neill's conclusion that Renewable*Connect 1.0 is "more-or-less on 'auto-pilot'" is consistent with a fully-subscribed program and justifies a lower earning level.[47] Note that

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[43] Hearing Exhibit 106, Direct Testimony and Attachments of R. Neil Cowan at 31. ("Cowan Direct")
[44] Hearing Exhibit 401, Staff Witness Erin O'Neill Answer Testimony at 10. ("O'Neill Answer")
[45] *Id*. at 11-12.
[46] *Id*. at 14.
[47] *Id*.

this does not impact COSSA/SEIA's recommendation that the Renewable*Connect 2.0 program be rejected.

C. Staff's Recommendations on Non-Confidential Treatment of Data

Q40. DID PARTIES DISCUSS CHALLENGES ASSOCIATED WITH THE COMPANY'S TREATMENT OF CONFIDENTIAL CURTAILMENT DATA?

A40. Yes. Staff witness Joseph C. McCabe notes that "it has been difficult to get non-confidential data on curtailments" and that "prior data that the Company provided on a non-confidential basis is now being designated in this proceeding as confidential."[48] Western Resource Advocates ("WRA") did not specifically address this in testimony, but did file amended testimony to un-redact curtailment information that was subsequently deemed non-confidential.[49]

Curtailment has become a larger issue in recent years as more renewable generation is added to the Company's system. WRA witness Clare Valentine produced an analysis showing that 11.4% of renewable production in 2021 was curtailed, up from 2.4% in 2017.[50] While I do not believe these curtailments are a reason to slow deployment of renewable resources, they do have cost and operational implications that deserve analysis and merit attempts to minimize.

As relayed by Staff,

> Company attention to curtailments, and reducing them, will help to reduce the costs to ratepayers for undelivered renewable energy. Staff believes that transparent reporting of accurate curtailment data will help achieve this. In this proceeding, it has been difficult to get non-confidential data on curtailments. Prior data that the Company provided on a non-confidential basis is now being designated in this proceeding as confidential. This Answer Testimony was not confidential until four business days before it was due. Company decided to re-designate WRA2-1.A1 as confidential.

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[48] Hearing Exhibit 403, Staff Witness Joseph C. McCabe Public Answer Testimony at 11. ("McCabe Answer")
[49] Notice of Filing Revised Answer Testimony on Behalf of Western Resource Advocates, July 18, 2022.
[50] Hearing Exhibit 800, Answer Testimony of Clare Valentine for WRA, Rev. 1 at 25. ("Valentine Answer")

> Last quarter's curtailment data should not be confidential. Yesterday's aggregated total curtailments can be made available and should not be designated as confidential.[51]

Q41. HAVE YOU EXPERIENCED SIMILAR FRUSTRATION RELATED TO CONFIDENTIAL INFORMATION?

A41. Yes, I have. In Proceeding 19AL-0687E, the Company's proceeding on its time of use rates, the Company marked as confidential basic data such as historical class and system load profiles, customer load characteristics and hourly usage despite being completely anonymized, results of surveys that contained no personally identifiable information, and historic hourly generation from its power plants (despite this information being publicly available through EPA's Air Markets Program Data).[52]

I recommended in that case for Staff to conduct a survey to determine what types of information is routinely disclosed publicly in rate cases and planning proceedings and establish an initial data request set that should be filed along with the Company's initial application that could be modeled off of similar efforts in Arizona and Michigan.[53] Given the challenges associated with curtailment data in this case, I reiterate my Proceeding 19AL-0687E recommendation on this point, support Staff witness McCabe's recommendation related to the public disclosure of curtailment data, and support his request to designate his testimony in this case as non-confidential.[54]

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[51] McCabe Answer at 10-11.
[52] Hearing Exhibit 900, Answer Testimony of Kevin Lucas at 33-34, Proceeding: 19AL-0687E.
[53] *Id*.
[54] McCabe Answer at 16-17.

D. Staff's Recommendations on Charging Curtailment Costs to the ECA and RESA

Q42. DOES THE COMPANY CLAIM THAT NON-PARTICIPANTS DO NOT SUBSIDIZE RENEWABLE*CONNECT PROJECTS?

A42. Yes. The Company states that "R*C-1.0 is a standalone program and there is no impact on nonparticipants… In other words, none of the R*C-1.0 program costs are borne by nonparticipating customers. R*C-1.0 subscribers pay the full cost of the program[.]"[55]

Q43. DID STAFF DISCOVER SOMETHING THAT CONTRADICTS THIS STATEMENT?

A43. Yes. Staff witness McCabe discusses a data request response that confirmed that the Company curtailed Titan Solar (the resource used for Renewable*Connect 1.0) and charged the ECA for the curtailment costs because this was "necessary to avoid other more costly curtailments on the other system resources in the area."[56] In other words, rather than curtail Titan and charge Renewable*Connect 1.0 participants for the cost, it instead allocated the costs to the ECA for all customers to bear.

Q44. WHAT DID STAFF RECOMMEND REGARDING THIS ISSUE?

A44. Mr. McCabe recommended the Commission disallow all past curtailment charges from Titan Solar to the ECA, as these should have been recovered by the participants of that program.[57]

Q45. DO YOU AGREE WITH THIS RECOMMENDATION?

A45. Yes. If Public Service is going to claim that its Renewable*Connect programs are fully funded by its customers, then it should require them to also bear curtailment costs. Further, if the Commission approves the Renewable*Connect 2.0 program, which we oppose, it should ensure that all costs are fully funded by participants in that program as well.

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[55] Cowan Direct at 14.
[56] McCabe Answer at 15.
[57] *Id*. at 16.

Q46. DID STAFF PROVIDE ADDITIONAL TESTIMONY RELATED TO THE ACCOUNTING OF CURTAILMENT COSTS?

A46. Yes. Staff found some troubling irregularities related to the charging of RESA for curtailment costs. "Before July 2019, there were no curtailment costs charged to the RESA. From January 2017 through 2021, an additional $30 million has been charged to RESA for curtailments. This is equivalent to one year of RESA revenue."[58] Further, this decision appears to have been made "unilaterally and retroactively" by the Company.[59] Staff raised several concerns with this action and recommended that the Commission determine whether applying RESA charges retroactively or prospectively is justified and prudent.[60]

Q47. DO YOU AGREE WITH STAFF'S CONCERN?

A47. Yes. That the Company decided on its own to retroactively charge RESA for what it describes as "system costs" is highly problematic.[61] Charging the RESA reduces funding that would otherwise be available for new programs and new capacity. I would go a step further than Staff witness McCabe and recommend that the Commission not allow Public Service to charge curtailment costs to the RESA as these are costs related to the system-wide operation of the Company's grid and not incremental renewable costs.

E. Staff's Recommendations on Shortening the RES to Two Years

Q48. WHAT RECOMMENDATION DOES STAFF PROVIDE RELATED TO THE DURATION OF THE RE PLAN?

A48. Staff witness Dalton recommends the Commission "tak[e] a strategic pause" to better engage with disproportionately impacted communities, only approve the pending RE

[58] *Id*. at 18.
[59] *Id*. at 22.
[60] *Id*. at 27.
[61] *Id*. at 25.

Plan through December 31, 2023, and order the Company to bring a new proposal forward on April 1, 2023, for 2024 and 2025 programming.[62]

Q49. DO YOU AGREE WITH THIS RECOMMENDATION?

A49. No, I do not. The Company is already working under a "bridge plan" that continued its previously existing programs pending the resolution of several rulemakings and other factors.[63] This bridge plan has already been extended into 2022, and given the timing of the current 2022-2025 RE Plan proceeding, the Commission will likely not produce a final order until near the end of the year, at the earliest.[64]

While COSSA/SEIA appreciate Staff's concern about better engaging with IQ and DIC stakeholders, it also notes that the Company's RE Plan contains many programs that are not targeted towards IQ and DIC customers. Further, several IQ and DIC stakeholders have intervened in this case and have provided testimony supporting program additions and modifications, just as Staff recommends.

The resources required for intervenors to participate in these proceedings are extensive. Unlike the Company or Staff, other parties do not have ratepayer- or state-supported funding to engage in these dockets, but instead must raise funds for attorneys and consultants and prioritize and allocate scarce funding among the myriad proceedings in Colorado and elsewhere. These resources have been raised and allocated to this proceeding with the specific expectation that it would produce a plan to cover 2022 to 2025; moving the goalposts at this point and only approving what will effectively be one year of programming is simply unfair.[65]

Further, providing market certainty and stability for more than one year of programming is important to businesses. Companies must make decisions on staffing

[62] Dalton Answer at 8.
[63] Decision No. C22-0218 at 2, Proceeding No. 19A-0369E, April 8, 2022.
[64] Decision No. C21-0838, Proceeding No. 19A-0369E, issued December 30, 2021.
[65] Given the timing of the final order, programs proposed in this case will likely not be implemented until 2023.

and resource allocation; having a multi-year RE Plan against which to make business plans allows companies to better prepare for and help meet Colorado's policy objectives.

Q50. WHAT DO YOU RECOMMEND ON THIS ISSUE?

A50. I recommend the Commission reject Staff's proposal to shorten the current proposed plan through 2023. Instead, it can and should approve program modifications as recommended in this case by IQ and DIC intervenors. Further, it can direct additional stakeholder groups to continue to address IQ and DIC programs and request that Public Service file periodic RE Plan amendments if it comes up with more, different, or better program offerings for these communities.

F. WRA's Recommendation on a Community Resiliency Hub Pilot

Q51. PLEASE DESCRIBE WRA'S PROPOSED COMMUNITY RESILIENCY HUB PILOT CONCEPT.

A51. WRA witness Valentine describes a Community Resiliency Hub as a solar-plus-storage facility that is dedicated towards serving DIC, such as one located at a neighborhood center that is used year-round for community-building activities.[66] These systems would provide valuable services such as shelter, electricity, fresh water, food, and charging stations during emergencies.[67] This proposal is similar to COSSA/SEIA's recommendation in the 2019 RE Plan docket for "public purposes" solar-plus-storage projects, with an added focus on disproportionately impacted communities.[68]

Q52. DOES COSSA/SEIA SUPPORT THIS RECOMMENDATION?

A52. Yes, it does. This type of project highlights the multifaceted benefits that can be realized by solar-plus-storage projects. The community receives a facility that provides community support during emergencies while Public Service receives a facility that can support the operational conditions of the grid in non-emergency situations and can reduce

[66] Valentine Answer at 51.
[67] *Id*. at 52.
[68] Hearing Exhibit 200, Answer Testimony of Kevin Lucas at 64, Proceeding No. 19A-0369E.

costs for all customers. We recommend the Commission approve placeholder funding for this program and direct Public Service and stakeholders to develop a more robust proposal for the pilot program for subsequent approval.

Q53. DOES THIS CONCLUDE YOUR TESTIMONY?

A53. Yes, it does.

BEFORE THE PUBLIC COMMISSION
OF THE STATE OF COLORADO

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PROCEEDING NO. 21A-0625EG

IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR APPROVAL OF ITS 2022-2025 RENEWABLE ENERGY COMPLIANCE PLAN.

AFFIDAVIT OF KEVIN M. LUCAS
ON BEHALF OF THE COLORADO SOLAR AND STORAGE ASSOCIATION AND THE SOLAR ENERGY INDUSTRIES ASSOCIATION

I, Kevin M. Lucas, being duly sworn, state that the Cross Answer Testimony and attachment were prepared by me or under my supervision, control, and direction; that the Testimony and attachment are true and correct to the best of my information, knowledge, and belief; and that I would give the same testimony orally and would present the same attachment if asked under oath.

Signed in Washington, D.C., this 12th day of August 2022.

/s/ Kevin M. Lucas
Kevin M. Lucas
Senior Director of Utility Regulation and Policy
SEIA

CERTIFICATE OF SERVICE

I hereby certify that on this 12th day of August 2022, a copy of the foregoing **Cross Answer Testimony and Attachment of Kevin M. Lucas on behalf of the Colorado Solar and Storage Association and the Solar Energy Industries Association** was filed and served upon all participants in Proceeding No. 21A-0625EG through the Colorado Public Utilities Commission E-filing system.

/s/ Alicia Zaloga
Alicia Zaloga