BEFORE THE
COLORADO PUBLIC UTILITIES COMMISSION

IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR APPROVAL OF ITS 2021 ELECTRIC RESOURCE PLAN AND CLEAN ENERGY PLAN	Proceeding No. 21A-0141E

HEARING EXHIBIT 1412

Testimony of Tyler Comings
in Opposition to the Proposed Non-Unanimous Settlement

On Behalf of
Conservation Coalition

December 7, 2021

TABLE OF CONTENTS

I. INTRODUCTION AND QUALIFICATIONS

Q. Please state your name, business address, and position.

A. My name is Tyler Comings. I am a Senior Researcher at Applied Economics Clinic, located at 1012 Massachusetts Avenue, Arlington, Massachusetts.

Q. Are you the same Tyler Comings who submitted answer and cross-answer testimony in this case?

A. Yes.

Q. What is the purpose of your settlement testimony?

A. My testimony responds to the proposed non-unanimous, partial settlement filed on November 24 and to the settlement testimony submitted on December 1 and 3. The settlement proposal offered by Public Service Company of Colorado ("PSCo" or the "Company") and other parties lacks justification regarding its coal actions. The settlement selected the December 31, 2034 retirement date for Comanche 3 before anyone had modeled the impacts of this particular retirement date. This 2034 retirement date is inconsistent with ample quantitative analysis presented in this case—by Conservation Coalition, the Colorado Energy Office ("CEO"), and PSCo itself—that shows that Comanche 3 should be retired in 2027 or 2029. The Company presented modeling after the proposed settlement was filed which included a 2034 retirement date for the unit; but PSCo did not compare the settlement portfolio to a portfolio with either 2027 or 2029 retirement of Comanche 3.

In addition, some of the settlement's proposed limitations on the operations of Comanche 3 are not legally binding and, therefore, any purported benefits are more uncertain than a plan that retires and replaces the unit prior to 2034. Finally, while removal of must-run designations of coal units has been shown to produce savings, it is not a substitute for retiring Comanche 3 when it is economic to do so; one can implement economic cycling and retire the unit earlier than the end of 2034. Modeling in this case conducted by Conservation Coalition has shown that 2027 retirement of Comanche 3—with or without economic cycling—is part of the portfolio that results in the greatest emission reductions at the lowest cost.

Q. What are your primary conclusions concerning the proposed settlement?

A. My conclusions are as follows:

- The evidence in this proceeding strongly supports retiring Comanche 3 in 2027 (or 2029, at the latest), not the 2034 retirement date in the proposed settlement. The 2034 retirement date had not been modeled prior to the settlement; but prior modeling conducted by several parties showed that the earliest retirement date tested by each party (2027 or 2029) was the lowest-cost.
- The post-settlement modeling that the Company submitted on December 1 does not compare the proposed settlement to any of the alternative portfolios or coal actions that the intervenors modeled. Thus, the post-settlement modeling cannot possibly show that the settlement is superior to actions recommended by intervenors on any quantitative metrics (cost, emissions, etc).
- The Company's post-settlement modeling does not compare the proposed 2034 retirement date for Comanche 3 to 2027 or 2029 retirement dates.

Thus, it cannot possibly show that the 2034 date is preferable to earlier retirement of Comanche 3.

- The emission reductions that the Company estimates from the settlement's proposed operational restrictions on Comanche 3 are uncertain, because the settlement does not obligate the Company to achieve the level of emission reductions that the Company's post-settlement modeling assumes.
- Operational restrictions on coal units are not a substitute for an economically rational retirement date. The Company should be doing both: dispatching its coal units economically and selecting retirement dates based on the modeling results, which overwhelmingly point to an earlier retirement date for Comanche 3 than what is in the settlement.

II. THE SETTLEMENT LACKS JUSTIFICATION FOR SOME OF ITS COAL ACTIONS

Q. What does the settlement propose regarding Comanche 3?

A. The settlement proposes that "Comanche 3 will retire by December 31, 2034." Settlement at ¶ 31. Prior to retirement, Comanche 3 would be operated with operational constraints, including: 1) imposing the social cost of carbon in dispatch after the Company receives FERC approval to do so, and lasting until PSCo joins an organized energy market, such as an Energy Imbalance Market ("EIM")[1]; 2) no operational constraints on Comanche 3 in 2024; and 3), beginning in 2025, maximum capacity factor goals would apply to Comanche 3.[2]

[1] PSCo's post-settlement modeling assumed that the social cost of carbon would be used in dispatch from June 1, 2022 through 2023. However, the actual terms of the settlement agreement do not require the use of the SCC in dispatch for this length of time.
[2] Settlement Agreement at 15-18.

Q. Prior to the settlement, had any party submitted modeling analyzing a December 31, 2034 retirement date for Comanche 3?

A. No. Prior to the settlement, PSCo, Conservation Coalition, the Utility Consumer Advocate ("UCA"), and CEO each conducted modeling of various possible coal actions. But none of the parties modeled a December 31, 2034 retirement date for Comanche 3.

Q. Prior to the settlement, did the modeling indicate that Comanche 3 should be retired in 2027 or 2029?

A. Yes. As I discussed at length in both my answer and cross-answer testimonies, there is ample evidence in this case that Comanche 3 should be retired in 2027 or 2029, including:

- **PSCo's own modeling showed savings of present value revenue requirements ("PVRR") with CO_2 costs with 2029 retirement of Comanche 3—the earliest retirement year PSCo tested—compared to 2039**.[3] In 10 of 11 combinations of gas price, load, or carbon price, the results showed PVRR+CO_2 cost savings from retiring Comanche 3 in 2029 compared to 2039.
- **PSCo's own modeling showed even higher savings of PVRR with CO_2 costs with 2027 conversion of Comanche 3 to burn gas compared to 2039 retirement**.[4] This was also a robust finding across all 15 modeling runs that PSCo conducted.
- **Conservation Coalition's modeling in answer testimony showed that 2027 retirement of Comanche 3 would save over $1 billion in PVRR with CO_2 costs included relative to 2039 retirement of Comanche 3.**[5] Dr.

[3] Hearing Exhibit 1402 at 18, Table 5.
[4] *Id*. at 19, Table 6.
[5] Hearing Exhibit 1401, Rev. 1 at 20, Table 2.

Roumpani's modeling showed only a marginal increase in PVRR without CO_2 compared to the Company's preferred plan or marginal PVRR savings with securitization.

- **CEO's modeling concluded that 2029 retirement of Comanche 3—the earliest retirement year CEO tested—would be lower cost on a PVRR basis (with or without CO_2 costs) compared to 2039 retirement.[6]**

UCA did not model retirement of Comanche 3 prior to 2039; therefore, no conclusion can be drawn from UCA's modeling about retiring Comanche 3 before 2039.

But every party that has tested retirement of Comanche 3 prior to 2030 has found that the earliest date they tested, be it 2027 or 2029, was the most beneficial in terms of PVRR with carbon costs (i.e., PVRR + CO_2 costs). In addition, both CEO's and Conservation Coalition's modeling showed PVRR savings without carbon costs for earlier retirement of the unit.

Q. Are you opposed to economic cycling of the Company's coal units?

A. No. Removing must-run designations to allow for economic cycling is generally a beneficial practice and, in this case, has been shown to produce cost and emissions savings. However, it is not a substitute for the benefits of early retirement that have been modeled in this case. In fact, as I argued in my prior testimony, economic cycling can and should be paired with early coal retirement. The Conservation Coalition's modeling in cross answer testimony showed that 2027 retirement of

[6] Hearing Exhibit 1200 at 59 (Figure KMH-9); Hearing Exhibit 1201, PUBLIC Attachment DB-1 at 37 (Table 15).

Comanche 3 with economic cycling produced PVRR savings (with or without carbon costs) compared to either 2029 or 2039 retirement.

Q. Does the Company's post-settlement modeling justify the 2034 retirement of Comanche 3?

A. No, for several reasons. First, the Company's post-settlement modeling only compares retiring Comanche 3 in 2034 to either the Company's original preferred plan (SCC 7) which retires the unit in 2039, or the ERP portfolio which retires the unit in 2069.[7] There is no comparison of the settlement plan (i.e. 2034 retirement) to one with an earlier retirement date for Comanche 3, despite the overwhelming evidence from previous modeling in this case that earlier retirement was beneficial.

Second, the Company's post-settlement modeling continues to use outdated assumptions, such as the previous values for social cost of carbon (which HB 21-1238 requires to be updated) and older renewable and battery storage resource costs. Mr. Landrum notes that his settlement modeling continues to use these outdated inputs even though the Company agreed to change those values in its Phase II modeling.[8] By contrast, all of the Conservation Coalition's modeling in this case used the values for the social cost of carbon and the latest source for renewable and battery costs that the Company has agreed to use in Phase II.

Third, in response to parties' concerns, the Company has also agreed in the settlement to model a higher ELCC value for battery storage and higher operations and maintenance costs at Comanche 3 in Phase II. But the Company's post-

[7] Hearing Exhibit 135 at 16.
[8] *Id.* at 8-10.

settlement modeling did not use the higher ELCC values that the Company has agreed to use in Phase II.

Finally, concerns were raised by Conservation Coalition and Staff about the forced outage rate the Company used in its modeling for Comanche 3, which is lower than the historical forced outage rate experienced at Comanche 3. Yet that issue has not been addressed in the post-settlement modeling, which appears to continue to use a forced outage rate that is lower than Comanche 3's historical forced outage rate.

Q. Should PSCo have conducted its post-settlement modeling using the same inputs it has agreed to use in Phase II, and tested earlier retirement dates using those new inputs?

A. Yes. PSCo has agreed to changes in inputs after Phase I, but it has not re-run any of its modeling using the inputs it has agreed to change in Phase II. As a result, PSCo has failed to determine whether the new inputs it will use in Phase II would influence the coal actions it has proposed in Phase I, including the retirement date for Comanche 3. Updating assumptions in Phase II is beneficial only for the optimal selection of new resources, which is certainly better than relying on stale information for that process; but waiting to correct the inputs in PSCo's modeling would be too late to influence the coal actions that the Commission must decide in Phase I.

Q. Are you concerned about the uncertainty surrounding the emissions reductions that can be expected from the settlement's proposed operational constraints on Comanche 3?

A. Yes. In order for the settlement to achieve its purported emission reductions, Comanche 3 would have to be dispatched using the social cost of carbon from June

1, 2022 until January 1, 2024 *and* Comanche 3 would have to not exceed the capacity factor goals in the settlement from 2025 until 2035. But the proposed settlement agreement does not appear to guarantee either of these conditions is met. First, the settlement specifies that the use of the SCC in dispatch will be removed as soon as PSCo joins an EIM.[9] If PSCo joins an EIM prior to 2024, then the use of the SCC—and the resulting emission reductions—would end.

Second, the settlement allows the Company to operate Comanche 3 above the capacity factor goals for Comanche 3 if the Company justifies that action in a future fuel cost docket.[10] Thus, the emission reductions that PSCo estimated in its post-settlement modeling hinge upon a series of assumptions that PSCo has made that are not reflected in the actual terms of the settlement agreement. In reality, the emission reductions from the settlement itself are thus more uncertain than what is indicated in the post-settlement modeling.

Q. Does this conclude your settlement testimony?

A. Yes.

[9] Settlement at 16 (¶ 34).
[10] *Id*. at.17-18 (¶ 36).

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AFFIDAVIT OF TYLER COMINGS

I, Tyler Comings, state that the above Settlement Testimony in Proceeding No. 21A-0141E was prepared by me or under my supervision and control. The testimony is true and correct to the best of my knowledge and belief. I would give the same testimony orally and would present the same attachments if asked under oath before the Commission.

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Signature of Counsel