

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO**

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IN THE MATTER OF THE APPLICATION)
OF PUBLIC SERVICE COMPANY OF)
COLORADO FOR APPROVAL OF ITS) PROCEEDING NO. 21A-_____-E
2021 ELECTRIC RESOURCE PLAN AND)
CLEAN ENERGY PLAN)

DIRECT TESTIMONY OF TARA FOWLER

ON

BEHALF OF

PUBLIC SERVICE COMPANY OF COLORADO

March 31, 2021

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GLOSSARY OF ACRONYMS AND DEFINED TERMS

| <u>Acronym/Defined Term</u> | <u>Meaning</u> |
|------------------------------------|--|
| 2021 ERP & CEP | 2021 Electric Resource Plan and Clean Energy Plan |
| ERP | Electric Resource Plan |
| ISO/RTO | Independent System Operator/Regional Transmission Organization |
| ITC | Investment Tax Credit |
| MW | Megawatt |
| PTC | Production Tax Credit |
| Public Service or Company | Public Service Company of Colorado |
| PV | Photovoltaic |
| RFP | Request for Proposal |
| XES | Xcel Energy Services, Inc. |
| Xcel Energy | Xcel Energy, Inc. |

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I. INTRODUCTION, QUALIFICATIONS, AND PURPOSE OF TESTIMONY

1 **Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.**

2 A. My name is Tara Fowler, 1800 Larimer Street, Denver, Colorado 80202.

3 **Q. BY WHOM ARE YOU EMPLOYED AND IN WHAT POSITION?**

4 A. I am employed by Xcel Energy Services, Inc. ("XES") as Renewable Energy Power
5 Purchases Manager, Purchased Power. XES is a wholly owned subsidiary of Xcel
6 Energy Inc. ("Xcel Energy") and provides an array of support services to Public
7 Service Company of Colorado ("Public Service" or "Company") and the other utility
8 operating company subsidiaries of Xcel Energy on a coordinated basis.

9 **Q. ON WHOSE BEHALF ARE YOU TESTIFYING?**

10 A. I am testifying on behalf of Public Service.

11 **Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AND QUALIFICATIONS.**

12 A. As the Renewable Energy Power Purchases Manager for Xcel Energy Services, I
13 am responsible for the negotiation of renewable energy purchases for all of the
14 Xcel Energy utility operating companies, including Public Service. My team is

1 responsible for the administration of over 200 long-term power purchase
2 agreements (“PPAs”), totaling in excess of 9,000 megawatts (“MW”) of installed
3 capacity from wind, hydro, photovoltaic (“PV”) solar, and solar plus storage
4 projects. A description of my qualifications, duties, and responsibilities is set forth
5 in my Statement of Qualifications at the conclusion of my Direct Testimony.

6 **Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?**

7 A. The purpose of my Direct Testimony is to introduce one new model PPA for
8 standalone energy storage. I also discuss material changes to the model
9 dispatchable PPA, the model renewable energy PPA, and the model solar with
10 storage PPA.

11 **Q. ARE YOU SPONSORING ANY ATTACHMENTS AS PART OF YOUR DIRECT**
12 **TESTIMONY?**

13 A. No. I reference several model PPAs in my Direct Testimony below, but they are
14 all included within Volume 3 of the Company’s direct case filing (provided as
15 Attachment AKJ-3 to the Direct Testimony of Company witness Ms. Alice K.
16 Jackson).¹

¹ Attachment AKJ-3 includes Volume 3.1 (Dispatchable Resources); Volume 3.2 (Renewable Resources); and, Volume 3.3 (Company Ownership).

1 **Q. WHAT MATERIAL CHANGES WERE MADE TO THE MODEL DISPATCHABLE**
2 **POWER PURCHASE AGREEMENT (“PPA”)?**

3 A. These changes include the following:

- 4 • A requirement that the Company be able to remotely start simple cycle
5 facilities at all hours;
- 6 • A requirement that any new, repowered, or rebid generating units within a
7 plant be able to start simultaneously;
- 8 • A requirement that starts can either be on natural gas or fuel oil, at the
9 Company’s election;
- 10 • A provision providing that facilities can continue to operate without
11 interruption when switching from natural gas to fuel oil;
- 12 • A requirement reflecting the fact that sellers must provide a bid that includes
13 a plan to have fuel and any ancillary products on site necessary to permit
14 the facility to be run continuously for 72 hours at maximum load;³ and
- 15 • A requirement that a simple-cycle generator is capable of starting within ten
16 minutes (fast start capability).

17 Company witness Mr. John T. Welch discusses these requirements further
18 in his Direct Testimony.

19 **Q. PLEASE EXPLAIN WHY THESE CHANGES WERE MADE TO THE MODEL**
20 **PPAS.**

³ The Model PPA is written presuming fuel oil is the on-site fuel source; however, bidders are invited through the RFP to offer alternative on-site fuel sources as part of their bid. If a bidder proposes an on-site fuel other than fuel oil or no on-site fuel oil the bidder must modify the model PPA to accommodate the alternative.

1 A. In general, the changes are needed to ensure that new generation sources
2 acquired through PPAs support and enhance Public Service's efforts to
3 aggressively transform its generation system by supporting the increasing levels
4 of renewable energy. As discussed in more detail in Mr. Welch's Direct Testimony,
5 there is a growing concern around generation system reliability during the winter
6 months. Being able to operate at low ambient temperatures, start on and switch
7 to on-site fuels, and to have sufficient on-site fuel (and ancillary products) to
8 operate for 72 hours at full load support this need. The requirement for availability
9 at all hours, remote start capability, fast start capability, and contemporaneous
10 start capability for multiple units at the same plant provides the flexibility the
11 Company needs for reliable operations.

12 **Q. WHAT MATERIAL CHANGES TO THE MODEL RENEWABLE ENERGY PPA**
13 **AND THE MODEL SOLAR WITH STORAGE PPA WOULD YOU LIKE TO BRING**
14 **TO THE ATTENTION OF THE COMMISSION?**

15 A. The Company made material changes in two general areas in these respective
16 model PPAs. First, the Company re-inserted a Committed Energy requirement
17 into the wind PPAs. As a result, the wind, solar, and solar with storage PPAs
18 require the seller to meet certain Committed Energy commitments with respect to
19 the wind and solar energy produced by their facilities.

20 **Q. WHAT SPECIFICALLY DO THESE MODEL PPAS NOW PROVIDE IN TERMS**
21 **OF COMMITTED ENERGY REQUIREMENTS?**

22 A. Article 12 of these model PPAs, which contains the default and termination
23 provisions, now provides that beginning with the third Commercial Operation Year,

1 Seller's failure to deliver to the Company at least 85 percent of the Committed
2 Energy in either three consecutive Commercial Operation Years, or four out of six
3 non-consecutive Commercial Operation Years, results in an Event of Default,
4 which can lead to termination if not cured. This provision now allows the Seller to
5 cure this Event of Default if in the following Commercial Operation Year, the Seller
6 delivers at least 90 percent of the Committed Energy for such Commercial
7 Operation Year.

8 **Q. WERE THERE ANY OTHER CHANGES RELATED TO THE COMMITTED**
9 **ENERGY REQUIREMENT?**

10 A. Yes. Article 8 of the of the PPAs sets forth the terms concerning payment for
11 energy. Article 8 now provides that beginning with the third Commercial Operation
12 Year, a Seller's failure to deliver to the Company at least 90 percent of the
13 Committed Energy in either two consecutive Commercial Operation Years, or three
14 out of six non-consecutive Commercial Operation Years, will result in a 10 percent
15 reduction in the Energy Payment Rate for the following Commercial Operation
16 Year. The reduction to the Energy Payment Rate increases by 5 percent, to 15
17 percent, if a Seller fails to deliver 85 percent of the Committed Energy and an
18 additional 10 percent, to an overall reduction of 20 percent, if a Seller fails to deliver
19 at least 80 percent of the Committed Energy. The magnitude of the payment
20 reductions also increases during the last five years of the PPA.

1 **Q. WHY WERE THESE CHANGES MADE TO THE COMMITTED ENERGY**
2 **REQUIREMENT?**

3 A. These changes were made to ensure that the delivered energy commitments
4 bidders make in the bids they submit reflect the performance they can deliver
5 during the term of the PPA. As the penetration of renewable energy on the
6 Company's electric system increases, it becomes increasingly important to the
7 Company, its customers, and the Commission that—barring events outside of the
8 control of the seller — the energy promised is the energy that will be delivered.

9 **Q. WHAT WAS THE SECOND GENERAL CHANGE MADE TO THE MODEL**
10 **RENEWABLE ENERGY POWER PURCHASE AGREEMENT AND THE MODEL**
11 **SOLAR WITH STORAGE POWER PURCHASE AGREEMENT?**

12 A. The Company removed the provision that compensated the Seller for federal
13 Production Tax Credits ("PTCs") forgone as the result of a compensable
14 curtailment.

15 **Q. WHY DID THE COMPANY ELIMINATE THIS PROVISION?**

16 A. As the Company deploys more renewable resources, the potential for higher levels
17 of curtailments exist. Industry-wide, the curtailment provisions in PPAs vary and
18 are tailored to address the applicable off-taker, project, balancing authority and/or
19 Independent System Operator/Regional Transmission Organization ("ISO/RTO"),
20 among other variables. The Company has seen a trend in PPAs where economic
21 curtailments ordered (or generated) by the ISO/RTO are not compensable,
22 including PPAs executed in one of Xcel Energy's other Operating Companies.
23 Because the customer does not receive the direct benefit of the federal PTCs or

1 investment tax credits (“ITCs”) received by the Seller when renewable energy is
2 acquired through a PPA , the Company has concluded that removing this provision
3 would be the most transparent way to take advantage of this economic benefit.

4 **Q. WHAT DO YOU RECOMMEND TO THE COMMISSION?**

5 A. I recommend that the Commission approve the model PPAs contained in Volume
6 3 of this 2021 ERP & CRP (Attachment AKJ-3).

7 **Q. DOES THIS CONCLUDE YOUR TESTIMONY?**

8 A. Yes, it does.

Statement of Qualifications

Tara Fowler

I received a dual bachelor's degree in Management and Marketing from the University of Iowa in 2001 and a Master of Science in Global Energy Management from the University of Colorado in 2015.

I began my professional career with Aquila in 2001 as an Energy Trader. In 2003, I accepted a position as a Transmission Accountant with Xcel Energy and four months later transitioned to an Energy Trader position. In that position, I was responsible for maximizing revenues, reducing Operating Company system costs, and ensuring reliable system operations.

In 2015, I was promoted to my current position as Manager, Renewable Energy Power Purchases, where I manage a team of Purchased Power Analysts, Renewable Portfolio Consultants, and a Contract Analyst. My group is responsible for the negotiation of renewable energy purchases and the administration of over 200 long-term PPAs, totaling in excess of 9,000 megawatts ("MW") of installed capacity from wind, hydro, photovoltaic ("PV") solar, and solar plus storage projects. I am also responsible for the overall management of Xcel Energy's Renewable Energy Credits portfolio including managing all activities to meet corporate compliance objectives for Renewable Energy Portfolio Standards for each state jurisdiction.

In September 2018, I testified on behalf of the Company's Texas and New Mexico operating Company, Southwestern Public Service Company, for the authorization to establish the voluntary Solar*Connect Community Program and to enter into a Purchased

Power Agreement for the Purchase of 1.98 MW of nominal capacity and associated energy for Solar*Connect.

In December 2019, I testified on behalf of Public Service for the approval of its 2020-2021 Renewable Energy Compliance Plan.