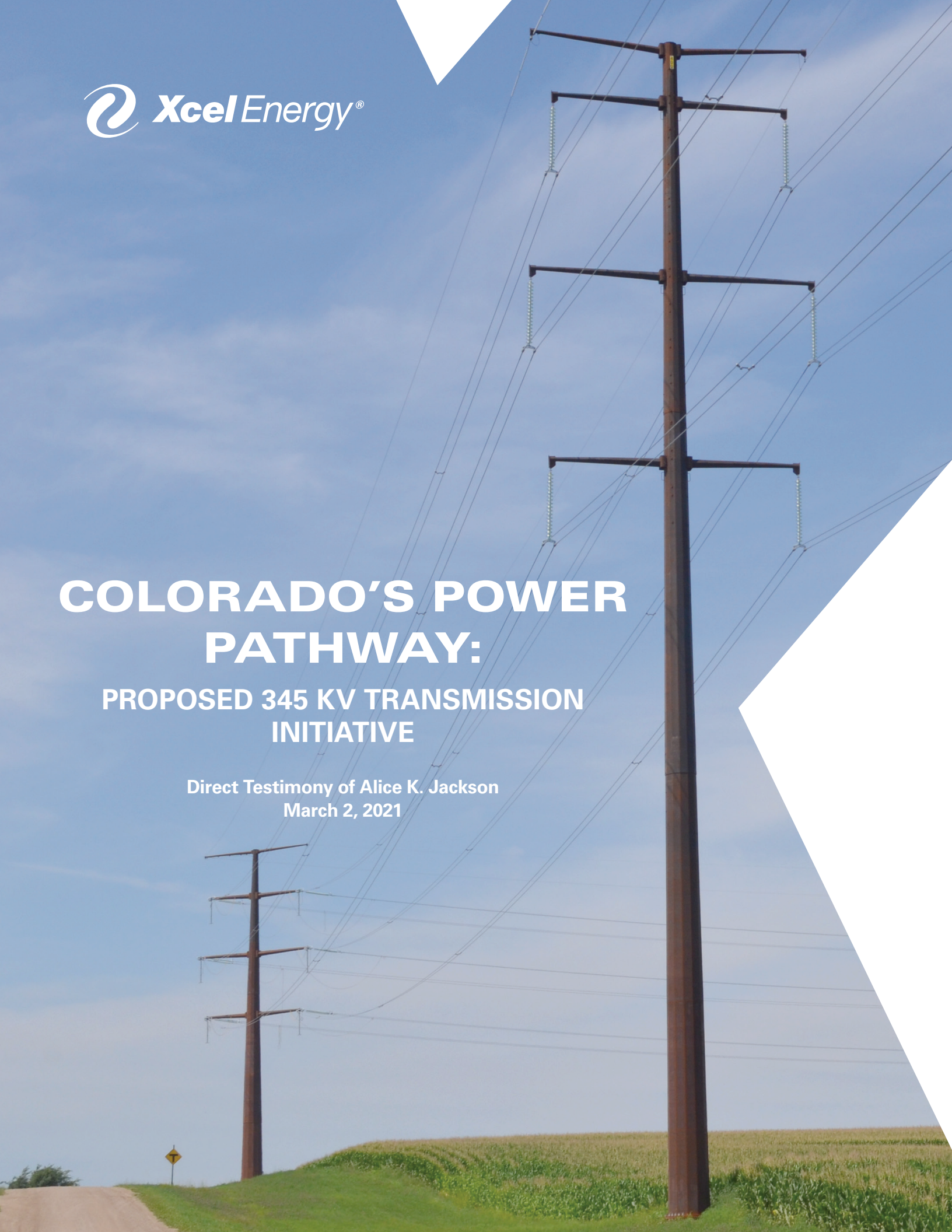


COLORADO'S POWER PATHWAY:

PROPOSED 345 KV TRANSMISSION INITIATIVE

Direct Testimony of Alice K. Jackson
March 2, 2021

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

*** * * * ***

IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR COLORADO'S POWER PATHWAY 345 KV TRANSMISSION PROJECT AND ASSOCIATED FINDINGS REGARDING NOISE AND MAGNETIC FIELD REASONABLENESS	**)**	**PROCEEDING NO. 21-XXXXE**

DIRECT TESTIMONY AND ATTACHMENT OF ALICE K. JACKSON

ON

BEHALF OF

PUBLIC SERVICE COMPANY OF COLORADO

March 2, 2021

IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR COLORADO'S POWER PATHWAY 345 KV TRANSMISSION PROJECT AND ASSOCIATED FINDINGS REGARDING NOISE AND MAGNETIC FIELD REASONABLENESS	**)**	**PROCEEDING NO. 21-XXXXE**

SUMMARY OF THE DIRECT TESTIMONY AND ATTACHMENT OF ALICE K. JACKSON

Ms. Jackson is President of Public Service Company of Colorado ("Public Service") and responsible for its overall operations. Her testimony provides an overview of Colorado's Power Pathway Project, a 560-mile, 345 kilovolt ("kV") double circuit transmission network between seven substations.

The State of Colorado and Public Service are on one of the most aggressive trajectories for power sector emission reductions in the United States. The State of Colorado was an early mover on clean energy adoption, starting with the passage of Amendment 37 in 2004, followed by the Clean Air-Clean Jobs Act in 2010. These early legislative actions fostered a market for clean energy in Colorado that has advanced the state toward an ever-cleaner power supply. And while the State's energy policy has progressed over time, it has consistently relied upon the regulated utility model to advance environmental and clean energy objectives.

Public Service has been there every step of the way, continuously advancing proposals to reduce emissions *and* fulfill its obligation to serve. In 2017, the Company worked with a large and diverse set of stakeholders to develop the Colorado Energy Plan, resulting in the retirement of 660 megawatts ("MW") of coal generation and approval of a replacement portfolio anchored by over 2,000 MW of clean energy and embedded storage. The Colorado Public Utilities Commission ("Commission") approved the Colorado Energy Plan in September 2018, which will take Public Service's system to an estimated 55 percent delivered renewable energy by 2025.

As it turns out, the Commission's decision on the Colorado Energy Plan was just the beginning. On December 2, 2018, Xcel Energy announced a first-of-its-kind commitment, pledging to reduce emissions by 80 percent from 2005 levels by 2030 and deliver 100 percent carbon-free electricity to customers by 2050. Our leadership on this issue spurred similar commitments across the utility sector nationally, with over twenty utilities having since adopted carbon-free electricity pledges. Shortly after Xcel Energy's announcement, the Colorado General Assembly embarked on its 2019 legislative

session, which made history from a clean energy and climate policy perspective with two landmark bills:

- House Bill 19-1261 set economywide emission reduction goals of 26 percent from 2005 levels by 2025, 50 percent from 2005 levels required by 2030, and 90 percent by 2050.

- Senate Bill 19-236 directed large regulated utilities to reduce emissions by 80 percent from 2005 levels by 2030 and 100 percent by 2050 using Colorado's tried and true ERP process.

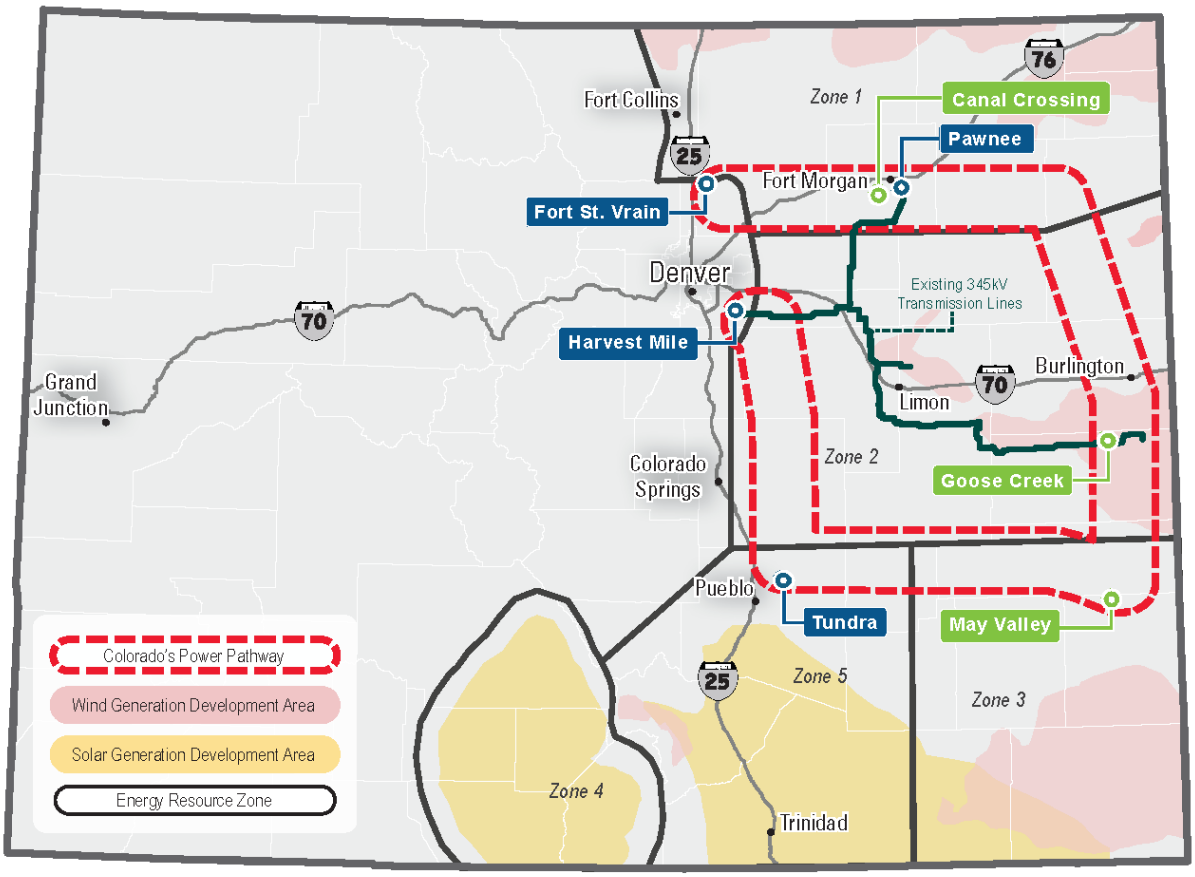
Together, these bills created Colorado's first-ever comprehensive and aggressive climate law.

This brings us to today, with Public Service on the eve of filing its largest and most transformational ERP yet—a plan that will propose to not only meet but exceed the emission reduction targets of Senate Bill 19-236. In its plan to be filed at the end of March, the Company projects a need for over 4,000 MW of utility-scale renewable resources and storage, 1,300 MW of distributed energy resources, and additional flexible dispatchable resources due to both projected resource need and the accelerated retirement of Company-owned coal generation. In order to unlock this plan, however, the Company needs to expand its highly reliable transmission backbone to create a power pathway around the clean energy-rich eastern plains of Colorado. This is why we are bringing the Pathway Project forward to the Commission.

Historical practice has been that the identification of generation preceded transmission development. As a result, today the eastern plains transmission system rests on two very large generation tie lines purposefully constructed to bring clean energy to load. This model has worked in the past; however, as Public Service accelerates the clean energy transition, the State needs an expanded, highly reliable, clean energy super-highway to enable the generation fleet of the future. Since eastern Colorado is home to four of the five renewable energy zones identified in the State, we are proposing building the Pathway Project to connect the resource-rich areas to the high load areas with modern, reliable, and resilient infrastructure. The Pathway Project, in combination with our upcoming Electric Resource Plan ("ERP"), will serve as a model for the rest of the country on how to utilize clean-energy rich resources for the benefit of the consumers—reliably, affordably and collaboratively. The Pathway Project closes that transmission gap as shown below,[1] creating an expanded "backbone" of transmission networked together to transport large amounts of clean energy from remote locations to our customers and dramatically slash emissions in the process. Efficient transmission development policies in the Colorado Public Utilities Law enable transmission expansion like the Pathway

[1] This map includes the Pathway Project and shows existing 345 kV transmission in this area. The Pathway Project on the map reflects the study area for the routing of the project. Land rights will be acquired within this study area for a 150-foot wide right-of-way.

Project to be developed, reviewed, approved and constructed in a timeframe that maximizes tax and emission reduction benefits for customers.



The need for the Project rests on a "Field of Dreams" theory of transmission development—"if you build it, they will come"—informed by projects bid into past ERPs, studies of where the best renewable resources exist, and our knowledge of the renewable energy generation market. This theory was codified by the General Assembly in 2007 but is a policy directive that was really before its time. However, the time to act on that theory is now. The Pathway Project not only advances emission reductions through the ERP process—it is integral to the State of Colorado's statutory need to meet the economywide emission reduction goals of House Bill 19-1261, a strategy detailed in the Colorado Greenhouse Gas Pollution Reduction Roadmap.

The Roadmap is a template for the State of Colorado's deliberative development of sector-specific approaches toward the achievement of economywide emission goals, but it requires a down-payment from Colorado utilities through deep emission reductions from the power sector. These reductions from the power sector are a lynchpin to putting the State of Colorado on the path to achieving the economywide emission reduction goals of House Bill 19-1261, and the Pathway Project unlocks the clean energy resources needed to get there. To that end, Public Service is working with other utilities to potentially

advance a partnership approach to the Project that would help other utilities achieve their own emission reduction objectives as well.

For clean energy resources and emission reductions in Colorado, the Pathway Project through the eastern plains is the Field of Dreams. This type of transmission expansion will facilitate the deployment of cost-effective clean energy resources needed to achieve cost-effective emission reductions, all while maintaining the reliability and affordability that our customers expect and deserve. The State of Colorado needs the Pathway Project, in addition to other transmission investment to bring clean energy resources to customers. The Commission should approve the Pathway Project—it will further Colorado as a hub for renewable energy and cement the State as a continued leader in the clean energy transition.

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

*** * * * ***

IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR COLORADO'S POWER PATHWAY 345 KV TRANSMISSION PROJECT AND ASSOCIATED FINDINGS REGARDING NOISE AND MAGNETIC FIELD REASONABLENESS	**)**	**PROCEEDING NO. 21-XXXXE**

DIRECT TESTIMONY AND ATTACHMENT OF ALICE K. JACKSON

TABLE OF CONTENTS

SECTION **PAGE**

LIST OF ATTACHMENTS

Attachment AKJ-1	Colorado Greenhouse Gas Pollution Reduction Roadmap (“Roadmap”)

GLOSSARY OF ACRONYMS AND DEFINED TERMS

Acronym/Defined Term	Meaning
2021 ERP & CEP	Company's upcoming 2021 Electric Resource Plan and Clean Energy Plan filings
AQCC	Air Quality Control Commission
BHE	Black Hills Energy
CACJA	Clean Air – Clean Jobs Act
CCPG	Colorado Coordinated Planning Group
CEC	Colorado Energy Consumers
CED	Corporate Economic Development
CEO	Colorado Energy Office
CEPP	Colorado Energy Plan Portfolio
CIEA	Colorado Independent Energy Association
Commission	Colorado Public Utilities Commission
CPCN	Certificate of Public Convenience and Necessity
CSU	Colorado Springs Utilities
ERCOT	Electric Reliability Council of Texas
ERZ or ERZs	Energy Resource Zone(s)
IPCC	Intergovernmental Panel on Climate Change
IPP	Independent Power Producer
IRP	Integrated Resource Plan
ISDs	In Service Dates
ITCs	Investment Tax Credit
Interwest	Interwest Energy Alliance
kV	Kilovolt

Acronym/Defined Term	**Meaning**
MST	Million Short Tons
OEVC	Occidental Energy Ventures Corp.
Oxy	Occidental Petroleum Corporation
PRPA	Platte River Power Authority
PTCs	Production Tax Credit
Public Service or Company	Public Service Company of Colorado
REP	Retail Electric Provider
Roadmap	Colorado Greenhouse Gas Pollution Reduction Roadmap
RTO	Regional Transmission Organization
SPP	Southwest Power Pool
Tri-State	Tri-State Generation and Transmission Association
WRA	Western Resource Advocates
XES	Xcel Energy Services Inc.
Xcel Energy	Xcel Energy Inc.

BEFORE THE PUBLIC UTILITIES COMMISSION
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IN THE MATTER OF THE APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR COLORADO'S POWER PATHWAY 345 KV TRANSMISSION PROJECT AND ASSOCIATED FINDINGS REGARDING NOISE AND MAGNETIC FIELD REASONABLENESS	**)**	**PROCEEDING NO. 21-XXXXE**

DIRECT TESTIMONY AND ATTACHMENT OF ALICE K. JACKSON

I. INTRODUCTION, QUALIFICATIONS, PURPOSE OF TESTIMONY, AND RECOMMENDATIONS

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Alice K. Jackson. My business address is 1800 Larimer Street, Denver, Colorado 80202.

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

A. I am President of Public Service Company of Colorado ("Public Service" or the "Company").

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THE PROCEEDING?

A. I am testifying on behalf of Public Service.

Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AND QUALIFICATIONS.

A. As President of Public Service, I am responsible for the overall operations of the Company. A description of my qualifications, duties, and responsibilities is set forth in my Statement of Qualifications at the conclusion of my Direct Testimony.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my Direct Testimony is to support the Company's Verified Application for a Certificate of Public Convenience and Necessity ("CPCN") for Colorado's Power Pathway 345 kilovolt ("kV") Transmission Project (the "Pathway Project" or the "Project"). In my Direct Testimony, I will discuss the purpose and need for the Project in the context of the Company's upcoming 2021 Electric Resource Plan and Clean Energy Plan ("2021 ERP & CEP") filing. I will further address how the Pathway Project is aligned with state policy objectives. It is an anchor in our efforts to achieve the clean energy targets of Senate Bill 19-236 and advance Colorado toward the economywide greenhouse gas emission reduction goals of House Bill 19-1261.

My Direct Testimony outlines the vision for the Pathway Project and why it is needed for the Company to meet these goals. In addition, I preview the potential for partnership with both jurisdictional and non-jurisdictional utilities (Black Hills Energy ("BHE"), Tri-State Generation and Transmission Association, Inc. ("Tri-State"), Colorado Springs Utilities ("CSU"), and Platte River Power Authority ("PRPA")) in the Project. This Project, if approved by the Commission, will advance the State of Colorado's energy policy goals and the clean energy future for Public Service customers and all of Colorado.

Q. ARE ANY OTHER WITNESSES FILING POLICY TESTIMONY IN SUPPORT OF THE CPCN FOR THE PATHWAY PROJECT?

A. Yes. Company witness Ms. Brooke A. Trammell also provides policy testimony in support of the Project, and she takes on the traditional policy or lead witness role of introducing the Company's other witnesses, providing more detail about the process with potential partners, and testifies about other details of the Project. However, given the importance of the Pathway Project in facilitating emission reductions through the transformation of electric generation, I felt it was essential as the President of Public Service to present our vision for the Project and its import for the State of Colorado.

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

A. Yes, I am sponsoring Attachment AKJ-1, which is a true and correct copy of the Colorado Greenhouse Gas Pollution Reduction Roadmap ("Roadmap").

Q. WHAT RECOMMENDATIONS ARE YOU MAKING IN YOUR DIRECT TESTIMONY?

A. I recommend that the Colorado Public Utilities Commission ("Commission") grant a CPCN to the Company for the Pathway Project.

Q. PRIOR TO DIVING INTO THE DETAILS OF YOUR TESTIMONY, WHY ARE YOU BRINGING THIS CPCN FORWARD FOR COMMISSION APPROVAL NOW?

A. Historically, the practice has been to bring transmission CPCNs of this type following a resource acquisition process, like one of our Phase II competitive solicitations, so that the Company would know the precise locations associated

with the new generation assets. Today, as we prepare to take the next step in the energy transition, we are flipping this process a bit on its head due to the unique nature of our forthcoming 2021 ERP & CEP process. We are bringing forward this CPCN now for three reasons: (1) because of construction timing differences between renewable generation resources and transmission infrastructure; (2) to advance cost-effectiveness and optimization; and (3) to maintain system reliability and position the Company to achieve emission reductions. To me, this story starts almost 20 years ago. In 2004, the citizens of the State of Colorado voted to create the first constitutionally-based renewable energy standard, and we have been advancing renewable and clean energy policy since that time.

Q. PLEASE EXPLAIN IN MORE DETAIL.

A. With the advancement of wind and solar technologies, coupled with the decline in pricing and improved forecasting tools, we are at a step-change in how we generate energy for our customers. Because of these changes, the 2021 ERP & CEP is expected to advance a sizable shift in our generation fleet with closures and conversions of existing fossil based generation, a doubling of renewable energy resources on our system today, and additions of flexible resources necessary to ensure reliability of the system. Thanks to past studies of where the renewable resources are located, a number of completed ERPs and robust competitive solicitations, and operations of installed wind and solar resources over the past decade-plus, we have substantial knowledge of where future cost-effective renewable resources will be offered into the competitive acquisition process in the 2021 ERP & CEP. We also know that the timeframe to construct

the necessary transmission infrastructure to bring those renewable resources to the load centers is longer than the construction timeline for the renewable resources themselves.

Q. WHERE DOES THE PATHWAY PROJECT FIT INTO THIS?

A. By providing a backbone system in advance of the Phase II resource acquisition process, we remove some of the uncertainty for clean energy developers in where they will have to interconnect their projects, which will reduce the potential price associated with the offer they make in our competitive bidding process. Additionally, as the utility provider we are responsible for ensuring the reliability of the overall system 24 hours a day, seven days a week. The effects of already approved generation resource changes shift our system such that during the summer months we no longer have installed quantities of dispatchable resources that meet our summer peak load, which makes the deliverability of these renewable resources through transmission infrastructure paramount.

The solution necessary for the 2021 ERP & CEP lies in proactive, specific, and early action on transmission in order to provide a robust backbone to cost effectively and reliably deliver the energy our customers need. We could file this CPCN Application with the Commission after the conclusion of our 2021 ERP & CEP sometime in calendar year 2023; however, this would delay the deliverability of the transmission solution and thus the renewable energy to customers by years—and we would also miss out on opportunities to capture the benefits of tax-advantaged resources. If we were to delay this filing, it would amount to a delay in taking action to reduce emissions, which I believe lies in direct contradiction to

the State's emission reduction objectives. After evaluating all of the various considerations, coupled with the need to achieve emission reductions and deliver the State of Colorado a down-payment on its emission reduction goals, this much is clear: The time for the Pathway Project is now.

II. THE PATHWAY PROJECT AND THE POWER SECTOR'S EMISSION REDUCTION DOWN-PAYMENT

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. The purpose of this section of my Direct Testimony is to briefly address the interplay between Senate Bill 19-236 and House Bill 19-1261, both passed by the General Assembly and signed into law by Governor Polis as part of the historic 2019 legislative session. I will then address the regulatory strategies outlined in the final Roadmap, provided as Attachment AKJ-1 to my Direct Testimony. The Roadmap represents the State of Colorado's template for its deliberative development of sector-specific approaches toward the achievement of economy-wide emission reductions of 50 percent by 2030 and 90 percent by 2050, consistent with the objectives of House Bill 19-1261. The State of Colorado has taken its own approach to developing a regulatory architecture to advance emission reductions across the economy, by pursuing sector-specific emission regulations that take into account the unique nature of the diverse segments of the economy regulated under any program. The Pathway Project fits directly into this strategy by facilitating dramatic emission reductions from the power sector.

Q. PLEASE PROVIDE SOME BRIEF BACKGROUND ON SENATE BILL 19-236 AND HOUSE BILL 19-1261.

A. These two bills are both directed at emission reductions, with Senate Bill 19-236 focused on the power sector and House Bill 19-1261 focused on emission reductions statewide. On March 21, 2019, House Bill 19-1261 was introduced in the General Assembly. It was passed on May 1, 2019, and signed into law by

Governor Jared Polis on May 30, 2019. Senate Bill 19-236 moved forward on a similar timetable. On April 9, 2019, it was introduced in the General Assembly. Senate Bill 19-236 was passed on May 3, 2019, and signed into law by Governor Jared Polis on May 30, 2019.

Q. WHAT GREENHOUSE GAS EMISSION REDUCTION GOALS DOES HOUSE BILL 19-1261 PUT IN PLACE?

A. House Bill 19-1261 establishes economywide emission reduction goals in 2025, 2030, and 2050, respectively, all based on a 2005 emission baseline. The goals are progressively more stringent, with a 26 percent greenhouse gas emission reduction from 2005 levels required in 2025, a 50 percent greenhouse gas emission reduction from 2005 levels required in 2030, and a 90 percent greenhouse gas emission reduction required by 2050.[2]

Q. WHAT EMISSION REDUCTION GOALS ARE ESTABLISHED BY SENATE BILL 19-236?

A. Senate Bill 19-236 is specific to the power sector with emission reduction objectives that align with the emission reduction goals announced by the Company on December 4, 2018. The bill is designed to work in concert with the ERP process and establishes "clean energy targets," also based on a 2005 baseline, of an 80 percent emission reduction by 2030 and 100 percent clean energy by 2050. The legislation requires Public Service to file a CEP as part of its next ERP—hence our 2021 ERP & CEP—to meet or exceed the 80 percent clean energy target. If the

[2] § 25-7-102(2)(g), C.R.S.

Commission approves a CEP that achieves an emission reduction of 75 percent from 2005 levels, then Public Service is provided with a "safe harbor" from any additional regulation developed by the Air Quality Control Commission ("AQCC") that require emission reductions from the power sector through 2030.

Q. IS PUBLIC SERVICE THE ONLY UTILITY REQUIRED TO FILE A CEP?

A. Yes. However, certain other utilities may file a CEP on a voluntary basis and also obtain the benefit of the safe harbor.

Q. HOW DO THESE TWO BILLS WORK TOGETHER IN YOUR OPINION?

A. I am not a lawyer, but to me the answer is simple. To achieve the economywide emission reduction goals of House Bill 19-1261, the General Assembly recognized it would require the continued leadership of the power sector. Accordingly, if utilities are willing and able to advance plans that achieve an 80 percent emission reduction by 2030 from 2005 levels, they are provided with the benefit of a safe harbor from additional AQCC or other emission reduction regulation. This safe harbor provides valuable regulatory certainty for the utilities filing CEPs and an incentive to bring forward meaningful and timely emission reduction efforts. I also think it is important to consider the bigger climate picture here. To that point, the goals established in Senate Bill 19-236 are in-line with climate science. In setting our own ambitious Xcel Energy goal in 2018 of 80 percent emission reductions by 2030, we collaborated with an Intergovernmental Panel on Climate Change lead author at the University of Denver to understand how our trajectory aligned with the climate science. Based on analysis of climate scenarios that met both the 2-degree and 1.5-degree temperature rise outcomes, the trajectory of 80 percent

reductions by 2030 and 100 percent by 2050 is consistent with achieving these temperature goals in a developed economy.

Q. WHERE DOES THE ROADMAP FIT IN?

A. The General Assembly has established a monumental task for the State of Colorado to reduce emissions. The Roadmap is a vision to get there, but—as I will explain—it relies heavily on the power sector. The Roadmap was finalized by the State of Colorado on January 14, 2021 following a stakeholder process. The Roadmap is an expansive document that contains numerous "Near Term Actions to Reduce GHG Pollution" across key sectors of the Colorado economy: electricity; transportation; residential, commercial, and industrial fuel use; oil and gas; and natural and working lands. Most importantly for purposes of considering it within the context of the Pathway Project, emission reductions from the power sector are a lynchpin to put the State of Colorado on the path it needs to be on to achieve the economywide emission reduction goals of House Bill 19-1261.

Q. PLEASE EXPLAIN.

A. The Roadmap notes that "the largest single opportunity for near term reductions is in the electricity sector, where the Roadmap is targeting an 80% reduction, or 32 million tons, below 2005 emissions levels by 2030."[3] It further provides that "[t]he combination of a 2030 GHG pollution reduction target and the potential for any utility to file a Clean Energy Plan provides an important framework to implement enforceable emissions reductions."[4] The emission reduction trajectory outlined in

[3] Attachment AKJ-1, at 88.

[4] Attachment AKJ-1, at 91.

the Roadmap relies on eligible utilities, not just Public Service, filing resource plans that meet the 80 percent clean energy target of Senate Bill 19-236. The Roadmap states that "[t]he six utilities that operate more than 99 percent of the state's fossil-fired generation, Xcel Energy, Tri-State Generation and Transmission, Colorado Springs Utilities, Platte River Power Authority, Black Hills Energy, and Holy Cross Energy, have already committed to resource plans that meet or exceed an 80% GHG reduction by 2030."[5] Finally, it states that "[t]he state is not proposing to require reductions greater than 80% by 2030 across the board, although it is hopeful that the 80% reductions might be reached earlier or exceeded by 2030."[6]

Q. WHAT ARE YOUR TAKEAWAYS FROM THIS DISCUSSION IN THE ROADMAP?

A. My main takeaway is that the State of Colorado is relying on what we have termed a "down-payment" of emission reductions from the power sector to advance the State of Colorado towards its broader emission reduction goals. And this is where the Pathway Project comes in, because this Project represents a tool to help deliver the utility actions that the State of Colorado is depending on.

Q. WHY IS THE PATHWAY PROJECT A TOOL TO SPUR THE ACTIONS RELIED ON BY THE ROADMAP?

A. The power sector and energy regulatory space is evolving at a rapid pace, and utilities have been challenged to meet aggressive emission reduction goals. Further, and critically, the power sector will also be a foundational element to

[5] Attachment AKJ-1, at 79.

[6] Attachment AKJ-1, at 79.

reducing emissions in other sectors, such as transportation. With timely approval of the Pathway Project, Public Service and all participating utilities will have a project to advance efforts to meet the State of Colorado's energy policy goals.

Q. CAN MEMBERSHIP IN A REGIONAL TRANSMISSION ORGANIZATION ("RTO") ADVANCE THE EMISSION REDUCTIONS THAT THE ROADMAP IS RELYING ON FROM THE POWER SECTOR?

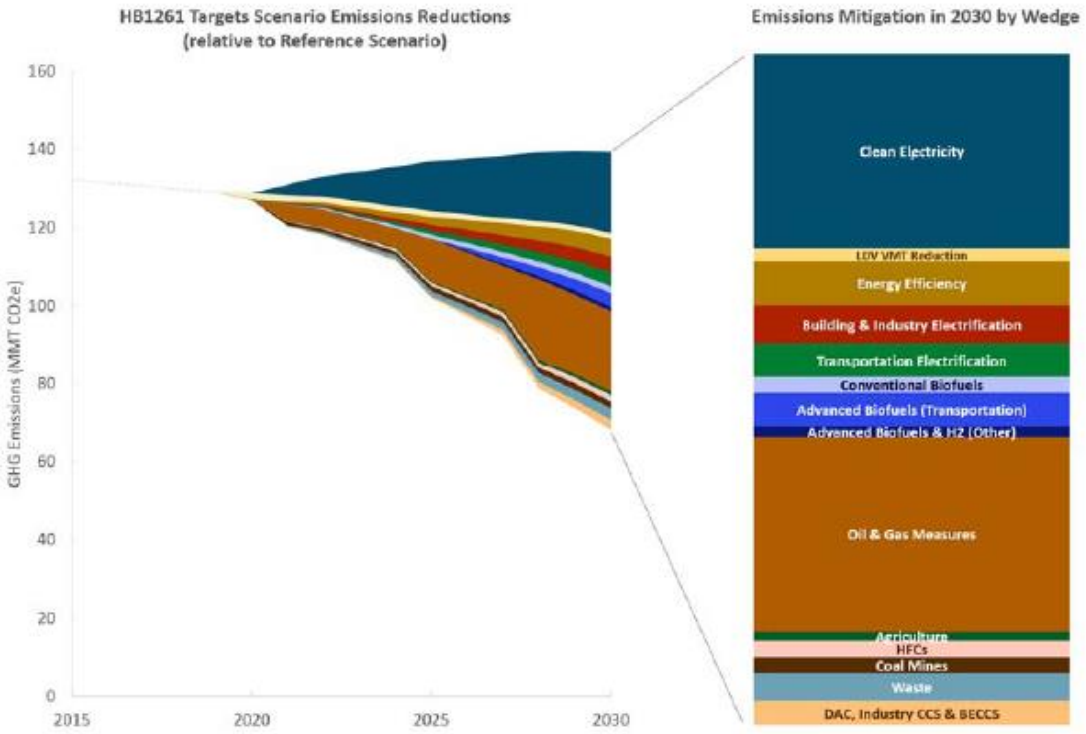
A. The regional market/RTO membership is an important discussion, and Senate Bill 19-236 puts in place a process to study potential regional solutions. However, joining an RTO is not one of the near-term actions identified in the Roadmap. Further, while discussions on regional markets and other key policy issues will continue, in order for utilities to be positioned to advance significant emission reductions the State of Colorado needs the Pathway Project. We simply do not have the time for the RTO membership discussion to play out, let alone the time to wait for utilities to take steps to join an RTO if that is ultimately what is in the best interests of Coloradoans—a determination yet to be made. This is followed by the *additional* time to plan and develop transmission under an RTO structure. To be sure, progress on regional power markets can continue to be made in parallel actions, but further analysis is necessary and that is a discussion for another day and proceeding. The Pathway Project requires action now to meet the State of Colorado's emission reduction goals, and we cannot wait an unknown number of years for a regional structure to begin planning and building transmission here. In fact, the Pathway is a no-regrets strategy. It will lead to a more robust state transmission grid, one that will provide the state of Colorado

with a more reliable and affordable electricity system regardless of whether the State ultimately chooses to join an RTO.

Q. HOW QUICKLY AND HOW SIGNIFICANTLY IS THE ROADMAP DEPENDING ON THE POWER SECTOR TO ADVANCE EMISSION REDUCTIONS?

A. Both quickly and aggressively. Figure 3 of the Roadmap,[7] excerpted below, illustrates this quite well.

Figure AKJ-D-1: Roadmap Emission Reductions by Sector



[7] Attachment AKJ-1, at 21.

Q. PLEASE EXPLAIN WHAT THIS FIGURE SHOWS IN THE ROADMAP.

A. It shows that a significant portion of the reductions necessary to meet the 2030 emission reduction goals of House Bill 19-1261 are dependent on CEPs filed pursuant to Senate Bill 19-236. The Roadmap recognizes as much, stating that "[a]chieving the 2030 goals will rely on deep reductions in pollution from electricity generation by continuing the transition to renewable energy …."[8] The Roadmap narrative and analyses build out the reliance on the power sector between now and 2030 to meet the State of Colorado's energy policy objectives. It also recognizes that "[o]ne important benefit flowing from the rapid transition towards clean electricity is that it magnifies the pollution reduction, public health, and other benefits of electrification in other sectors, such as cars and buildings."[9]

Q. HOW DO THESE BILLS FIT INTO THE HISTORICAL CONTEXT OF EMISSION REDUCTIONS FROM THE POWER SECTOR?

A. Our December 2018 announcement and the historical climate package that followed set the stage for the latest act in the clean energy transition. While Figure AKJ-D-1 and the Roadmap are forward-looking, historical context around the performance of the power sector in achieving emissions reductions is also helpful. From 2005 to 2020, working collaboratively with this Commission, Public Service reduced carbon dioxide emissions by 46 percent. No other sector, and no Colorado firm I am aware of, can demonstrate the track record of emissions reduction in total tons that Public Service can. I draw attention to this point for two

[8] Attachment AKJ-1, at 22.

[9] Attachment AKJ-1, at 174.

reasons. First, it is critical for the State of Colorado to recognize that our electric customers have long been supporting the biggest strides in emission reductions in the state. Second, it illustrates that the Roadmap's focus on the power sector is well-placed.

As we move forward, affordability and reliability will be of critical importance—just as they were in our December 2018 announcement and are in the language of Senate Bill 19-236 and House Bill 19-1261, respectively. The Pathway Project provides a transmission backbone that is key to assuring reliability and allows for a greater geographic spread of renewables, all while creating jobs in the State of Colorado. We understand that technologies and economics can support significant further progress on emission reductions in the power sector in an affordable way. We take on that mission with a full sense of what is expected of the power sector, and this is why we will propose a pathway under our 2021 ERP & CEP to exceed the aggressive clean energy target under Senate Bill 19-236. The Pathway Project is a catalyst for this purpose and for the emission reduction down-payment from the power sector that the Roadmap relies on.

III. COLORADO'S POWER PATHWAY OVERVIEW

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

In this section of my Direct Testimony, I provide a brief overview of the project. I also provide insight into the resource needs of the Company's forthcoming 2021 ERP & CEP and the clean energy objectives of BHE, Tri-State, PRPA, and CSU. All of these utilities are taking committed actions to reduce emissions and map a clean energy future for their customers across the State of Colorado. The Pathway Project is a necessary step to unlock the clean energy resources necessary to meet our clean energy goals and the desires of our customers, while providing the State of Colorado a substantial down-payment on efforts to meet the economywide emission reduction goals of House Bill 19-1261.

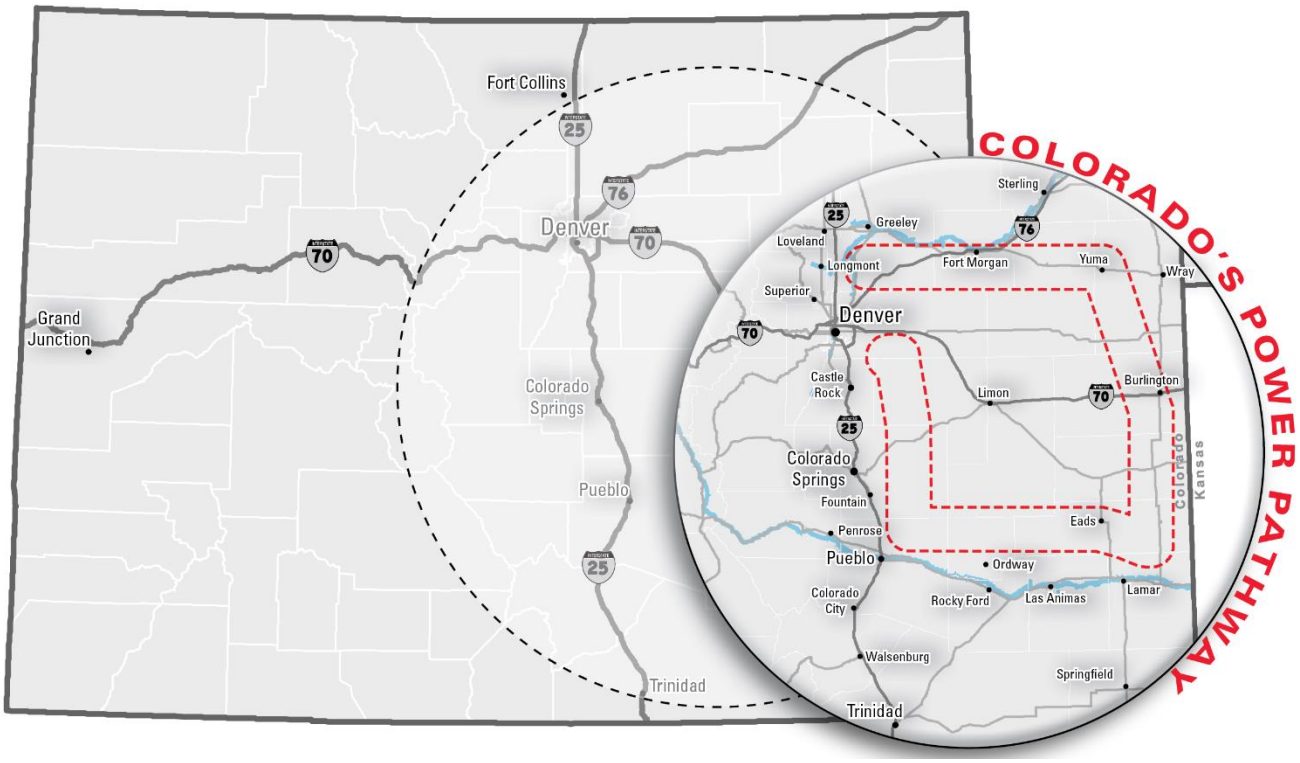
A. Overview of the Pathway Project

Q. PLEASE PROVIDE A BRIEF DESCRIPTION OF THE PATHWAY PROJECT.

A. The Pathway Project involves constructing an approximately 560-mile, 345 kV double circuit transmission network between seven substations. The Project will connect the Front Range to areas of northeastern, eastern, and southeastern Colorado that are rich with renewable energy resource potential, but do not currently have a backbone network transmission system that can integrate new clean energy resources. The northern terminus of the Pathway Project will be at the Company's existing Fort St. Vrain Substation (located at the Fort St. Vrain Generating Station) in Platteville in western Weld County. The Pathway Project then extends east to a new Canal Crossing Substation near the existing Pawnee Substation and Pawnee Generating Station; then extends east/southeast to a new

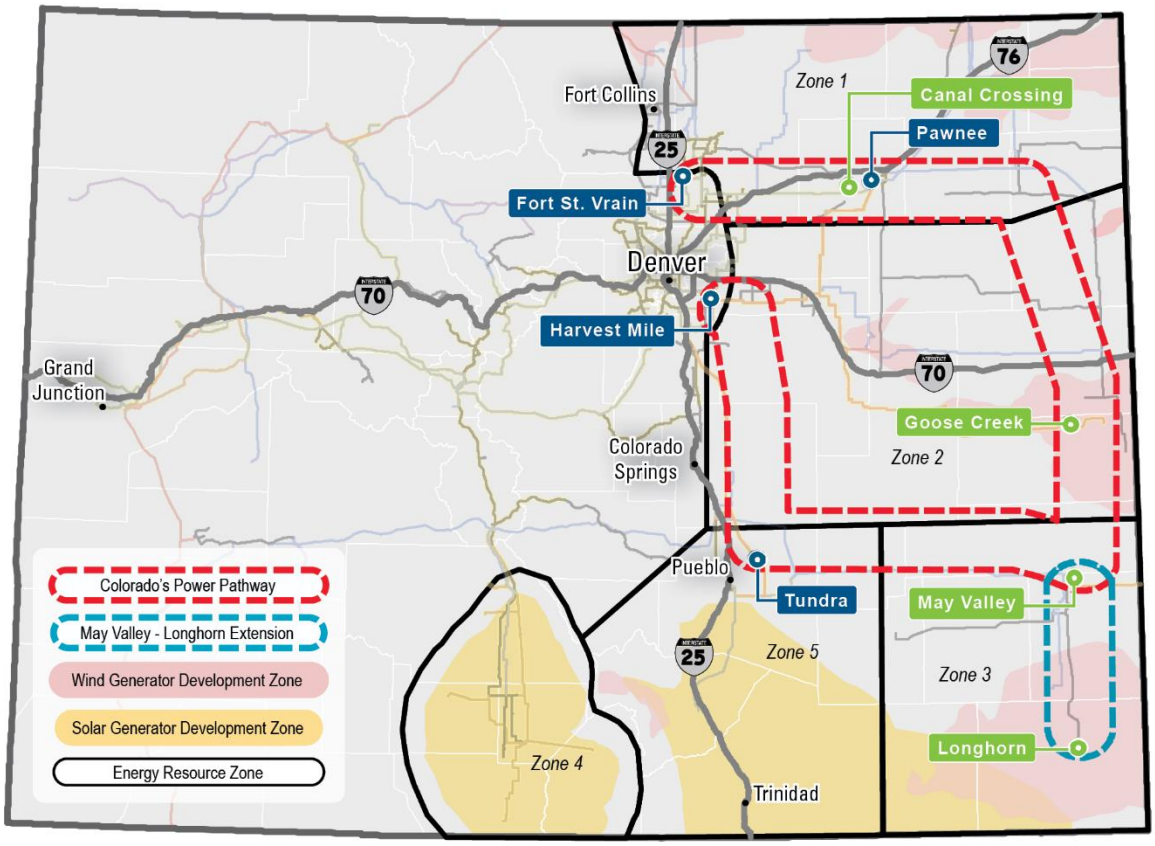
Goose Creek Substation south of the City of Burlington; then extends south to a new May Valley Substation northeast of the City of Lamar; then extends west to the planned Tundra Substation near the Comanche Generating Station. The Project then extends north to the southern terminus at the Company's existing Harvest Mile Substation, located adjacent to the City of Aurora in Arapahoe County. The Project also involves expansion of the Fort St. Vrain, Pawnee, and Harvest Mile Substations; expansion of the planned but not yet in-service Tundra Substation; and construction of the new Canal Crossing, Goose Creek, and May Valley Substations. Below is a general locational map for the Project.

Figure AKJ-D-2: Location of Colorado's Power Pathway



In addition, a map overlaid on the Energy Resource Zones ("ERZs") created by Senate Bill 07-100 is provided below for reference.

Figure AKJ-D-3: Colorado's Power Pathway & ERZs



Q. WHAT DOES "BACKBONE" MEAN IN THE TRANSMISSION CONTEXT?

A. A "backbone" system generally refers to extra high voltage transmission lines networked together that can move large amounts of energy from a distant location to load areas.[10] Backbone transmission systems support the reliability of the transmission system because of their networked nature. A grid supported by networked backbone transmission is better positioned to withstand outages without losing a generation resource or load.

[10] "Networked" transmission systems are those that offer more than one route to move power to load, thus increasing reliability.

Q. DOES THE PROJECT REQUIRE EXPANSION OR CONSTRUCTION OF NEW SUBSTATIONS?

A. Yes. The Project involves the expansion of three existing substations, the expansion of one not yet in-service but previously planned substation, and the construction of three new substations. The three new substations will be 345 kV switching stations. Company witness Ms. Carly R. Rowe provides more detail regarding the locations of the substations, and Company witness Mr. Byron R. Craig discusses the engineering design of the substations.

Q. ARE THERE ANY ADDITIONAL OPTIONS THE COMPANY IS BRINGING FORWARD FOR COMMISSION CONSIDERATION IN THIS PROCEEDING?

A. Yes—a 90-mile, 345 kV double circuit extension called the May Valley-Longhorn Extension. The May Valley-Longhorn Extension would run from the southeastern corner of the Pathway Project near Lamar, Colorado and extend south near Vilas, Colorado. The May Valley-Longhorn Extension would provide developers with transmission access into ERZ 3, enhancing the geographic diversity of renewable energy resources for the 2021 ERP & CEP and beyond. Our analysis of the Pathway Project showed potential benefits from this extension option, and therefore we wanted to bring this forward to the Commission and stakeholders for consideration. Over the course of this proceeding, we would like to get feedback from stakeholders regarding pursuit of this optional extension to the Pathway Project now. We anticipate that as the Commission considers the Pathway Project, stakeholder positions on the May Valley-Longhorn Extension option may inform the Commission's ultimate decision in this proceeding.

Q. WHAT IS THE COST OF THE PATHWAY PROJECT?

A. The Pathway Project is estimated to cost approximately $1.7 billion. If the May Valley-Longhorn Extension is added in, the incremental cost would be approximately $250 million. As discussed by Company witnesses Ms. Trammell and Ms. Amanda R. King in their respective Direct Testimonies, these cost estimates do not include additional costs associated with reactive power, network upgrades, grid reinforcements, and interconnection facilities that will be necessary to reliably implement the 2021 ERP & CEP.

Q. IS PUBLIC SERVICE REQUESTING A CPCN FOR ASSOCIATED REACTIVE POWER, NETWORK UPGRADES, GRID REINFORCEMENTS, OR INTERCONNECTION COSTS NECESSARY TO RELIABLY IMPLEMENT ITS CEP IN THIS PROCEEDING?

A. No. As discussed in more detail by Ms. Trammell, our request in this instant proceeding is to secure CPCN approval for the Pathway Project (*i.e.,* the transmission line and associated substation work). Additional information related to other transmission needs associated with the Company's 2021 ERP & CEP, such as reactive support, network upgrades, grid reinforcements, or specific interconnection facilities, will be requested through follow-on CPCNs following the Commission's Phase II ERP decision.

B. Utility Resource Needs

Q. PLEASE PROVIDE SOME BACKGROUND ON THE 2021 ERP & CEP.

A. The clean energy transition is not new to the Company or the State of Colorado. The State has always been at the forefront of this transition, stretching back to the

approval of Amendment 37 in 2004 and continuing forward with the passage Clean Air-Clean Jobs Act ("CACJA") by the General Assembly in 2010. The CACJA focused on reducing key emissions of sulfur dioxides, nitrogen oxides, and mercury emissions from selected coal plants by 90 percent; it also reduced carbon dioxide emissions and water consumption while building a more flexible fleet to incorporate greater amounts of renewable energy. We followed the CACJA with the Colorado Energy Plan, approved by the Commission in 2018. The Colorado Energy Plan resulted in the accelerated retirement of 660 MW of coal-fired generation (Comanche 1 and Comanche 2) and the acquisition of more than 1,100 MW of wind, 800 MW of solar, 275 MW of battery storage, and over 350 MW of existing natural gas generation capacity. Once the Colorado Energy Plan is fully implemented, Public Service will reduce system emissions by approximately 19 million short tons ("MST") by 2025, from a 2005 baseline, which is more than 50 percent of the total statewide emission reductions required by that year under House Bill 19-1261. The Colorado Energy Plan will also bring our system to 55 percent renewable energy.

On the heels of the Colorado Energy Plan, the General Assembly passed Senate Bill 19-236 in 2019, setting the stage for the 2021 ERP & CEP. Senate Bill 19-236 was part of a historic package of climate and emission reduction legislation signed into law by Governor Polis. For the first time, it put in place specific emission reduction constraints for the ERP process. Under Senate Bill 19-236, Public Service must meet a clean energy target consisting of an 80 percent carbon dioxide emission reduction from 2005 levels by 2030, through the filing of a CEP

as part of the ERP (in MST with the adjusted baseline approach supported by the Colorado Department of Health and Environment and the AQCC, this clean energy target is approximately 5.4 MST). This landmark legislation sets the stage for the forthcoming 2021 ERP & CEP—and creates the need for the Pathway Project.

Q. HOW DOES AN EMISSION REDUCTION BILL CREATE A NEED FOR THE PROJECT?

A. The 2021 ERP & CEP will be the largest resource plan ever brought forward by the Company. I frame the need for the Project in more detail in the next section, but some perspective on the resource additions contemplated as part of our 2021 ERP & CEP is necessary. In addition to taking action regarding the Company's existing coal fleet, we are currently projecting the addition of approximately 2,300 MW of wind, 1,600 MW of utility-scale solar, and 400 MW of storage, among other resource additions, as part of the 2021 ERP & CEP. This in turn creates the need for the Pathway Project to unlock location-constrained clean energy resources, meet this substantial resource need, and provide for reliable deliverability of this amount of incremental variable generation.

Q. HOW DO OTHER UTILITIES' EMISSION REDUCTION OBJECTIVES FIT INTO THIS PARADIGM?

A. Public Service is not the only utility pursuing aggressive emission reductions. Our potential partners in this Project are doing the same thing. Tri-State filed its ERP with the Commission in December of 2020 and is seeking to achieve an 80 percent emission reduction from 2005 levels by 2030 with their plan. Tri-State's generic modeling and preferred portfolio shows renewable resource additions of 1,850 MW

and 225 MW of storage, as well as gas additions. Tri-State projects about 400 MW of wind and solar in eastern Colorado in its preferred portfolio; however, the ultimate geographic locations of resources will be determined through a Phase II competitive solicitation. The PRPA Board of Directors approved a 20-year Integrated Resource Plan ("IRP") in October 2020 that seeks to achieve emission reductions of above 90 percent by 2030 from 2005 levels. As part of the approved Portfolio 2 in the IRP, PRPA projects acquisition of approximately 700 MW of renewable resources and storage by 2030. CSU also approved an IRP that will move towards an 80 percent emission reduction from 2005 levels by 2030, which depends on retiring coal generators and adding gas and renewable resources. By 2050, the plan projects acquisition of 417 MW of storage, 150 MW of solar, 500 MW of wind, and 20 MW (combined) of geothermal/biomass/biogas. Finally, BHE will file its ERP with the Commission next year but has announced it will voluntarily file a CEP to meet the 2030 clean energy target, which will presumably require the acquisition of additional clean energy resources.

Q. WHAT DO YOU TAKE AWAY FROM ALL OF THIS ACTIVITY?

A. Without new transmission investment and development of the Project, our CEP will struggle to come to fruition, as will the significant actions contemplated and projected by other Colorado utilities. Additionally, by other utilities coming together and potentially partnering on the Project, the cost effectiveness of not only the Project but also the CEP improves for the Company's customers as well as for the other utilities' customers. This segues into the need for the Pathway Project.

IV. FRAMING THE NEED FOR THE PATHWAY PROJECT

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. The purpose of this section of my Direct Testimony is to frame the need for the Pathway Project and offer a framework for the Commission to analyze the Project and determine whether it is in the public interest. The utility industry is rapidly evolving and leading all other major sectors in reducing emissions across the economy, and Colorado is at the cutting edge of those efforts. In order to meet this next challenge, however, we need to solve one of the more confounding issues faced in the energy transition—the "chicken-and-egg" issue of better aligning transmission planning and generation resource planning.

Q. PLEASE EXPLAIN.

A. Public Service intends to bring forward aggressive carbon reduction portfolios that both meet and exceed the 80 percent emissions reduction target required by Senate Bill 19-236, and transmission investment is needed to facilitate this transformation. The power sector has been at the forefront of emission reductions in Colorado with Public Service leading the way and the ERP as the primary vehicle to advancing these emissions reductions—but we recognize there is more to be done. The power sector must continue to lead the way on Colorado economywide emissions reductions and Public Service, through its fully regulated business model, is prepared to do so.

Unfortunately, for a number of reasons the evolution of Colorado's transmission system has lagged that of the State's generation system, in part due

to regulatory policy where the identification of generation was a necessary prerequisite to transmission development. Historically, the need for transmission investment was driven by the siting of generation resources. A utility would propose a generation resource and a transmission line would subsequently be approved to bring the energy from that generation resource to load. But as reliance on clean energy resources in remote locations to meet resource needs and emission reduction objectives has increased, it has created the need to know where transmission will be located *ahead* of competitive solicitations. Developers need to know that transmission will be available to unlock location-constrained projects and allow for cost-effective development. In the absence of backbone transmission proposed and approved ahead of competitive solicitations, generation developers must propose long tie lines to connect their resources to existing transmission—assuming transmission is available at all.

Q. HAVE PAST POLICIES ATTEMPTED TO REMEDY THE SO-CALLED "CHICKEN-AND-EGG" ISSUE?

A. Yes, but with limited success. The alignment of transmission investment and resource planning has been one of the most challenging regulatory issues at both state and federal levels for years. In 2007, the General Assembly passed Senate Bill 07-100 in an effort to allow for "Field of Dreams" transmission development ("if you build it, they will come"). Under this theory, transmission investment should front-run resource planning to unlock location-constrained resources and give developers certainty about transmission location *before* they submit their bids.

Q. DO YOU THINK SENATE BILL 07-100 HAS BEEN A SUCCESS FROM A POLICY PERSPECTIVE?

A. Senate Bill 07-100 has had mixed results as applied in practice. For a number of reasons, including siting difficulties and opposition from landowners and intervenors, the transition of the transmission system has not matched the pace of the transition of the generation fleet.

Q. WHY DO YOU THINK SENATE BILL 07-100 HAS NOT LIVED UP TO ITS PROMISE?

A. There is no one to blame for these implementation issues, as a confluence of factors contributed to its limited success. But the biggest issue from my perspective is that, in some ways, the forward-looking "Field of Dreams" theory of transmission development was a policy before its time. This is not to say that Senate Bill 07-100 is bad policy; to the contrary, it is indicative of the policy and vision we need to meet the State of Colorado's ambitious energy policy goals. Without explicit emission reduction targets, Senate Bill 07-100 just did not have companion climate policy to bring it to life. But regardless of the past, the time is now to act on the previous intent, further the decarbonization of the power sector with the objective of meeting and exceeding the 2030 clean energy target, and ultimately deliver 100 percent carbon-free electricity to customers by 2050—all while ensuring the reliability and affordability of the bulk power system. If we do not advance significant transmission investment now, it will constrain the ability of the power sector to meet aggressive emission reduction objectives and continue to lead the way on emission reductions.

Q. WHY IS THE PATHWAY PROJECT NEEDED PRIOR TO THE 2021 ERP & CEP?

A. We need the Pathway Project approved ahead of our Phase II competitive solicitation to give bidders certainty that transmission capacity will be available across ERZs designated by Senate Bill 07-100. Moreover, it provides reliability benefits as high levels of variable energy resources are brought on the system and the dependency on these variable resources to meet system reliability increases. The Pathway Project will be particularly helpful in facilitating access for projects across ERZs 1, 2, 3 and 5; moreover, and as explained in more detail by Company witness Mr. James F. Hill, the Pathway Project provides an opportunity to achieve further geographic diversity of wind and solar resources across the ERZs tapped by the Project. In August 2020, the Colorado Coordinated Planning Group ("CCPG") launched its 80x30 Task Force "to provide a forum for all stakeholders to collaboratively identify transmission infrastructure that will enable Colorado utilities to meet the state's decarbonization goals."[11] The Phase I Transmission Report developed by the 80x30 Task Force (provided as Attachment ARK-5 to Company witness Ms. King's Direct Testimony) succinctly summarized the interrelationship between the "chicken-and-egg" dilemma and the State of Colorado's aggressive emission reduction goals:

> Traditionally, the transmission system in Colorado has been designed and constructed based on known generation additions to each provider's system. However, waiting to design and construct transmission in the wake of generation acquisition has resulted in numerous limitations to selecting and interconnecting new

[11] Attachment ARK-5, at 5. The CCPG is a joint, high-voltage transmission system planning forum and performs the transmission planning functions as Subregional Planning Group under WestConnect, which is a FERC Order No. 1000 planning region.

> generation, especially beneficial energy resources located in renewable energy rich areas such as Northeastern, Eastern, and Southern Colorado, thus resulting in a "chicken and egg" timing dilemma. The time needed to develop and construct renewable resources, such as wind and solar, is much less than traditional fossil fuel plants, which in the past allowed time for transmission to be constructed to interconnect and deliver the generation. Waiting until generation projects are identified to plan transmission is no longer suitable, especially under Colorado's policy goal of reducing carbon dioxide emissions from Colorado's electric sector. SB19-236 recognizes that transmission is a critical element to achieving the state's clean energy targets as it will provide access to renewable energy rich areas in Colorado as well as other beneficial energy resources.[12]

The Pathway Project is brought forward to meet this charge. If we do not advance significant transmission investment now, it will constrain the ability of the power sector to meet aggressive emission reduction objectives and continue to lead the way on emission reductions. Put plainly, we need projects like the Pathway Project—projects in the spirit of Senate Bill 07-100, the original legislation that sought to bring transmission planning and resource planning into better alignment.

Q. IS THE COMPANY DESIGNATING THE PATHWAY PROJECT AS A BID-ELIGIBLE PLANNED TRANSMISSION PROJECT AND MOVING IT THROUGH THE PROCESS CONTEMPLATED BY THE JOINT TRANSMISSION PROPOSAL?

A. No. The Joint Transmission Proposal is pending before the Commission in Proceeding No. 19R-0096E and represents a constructive step in aligning

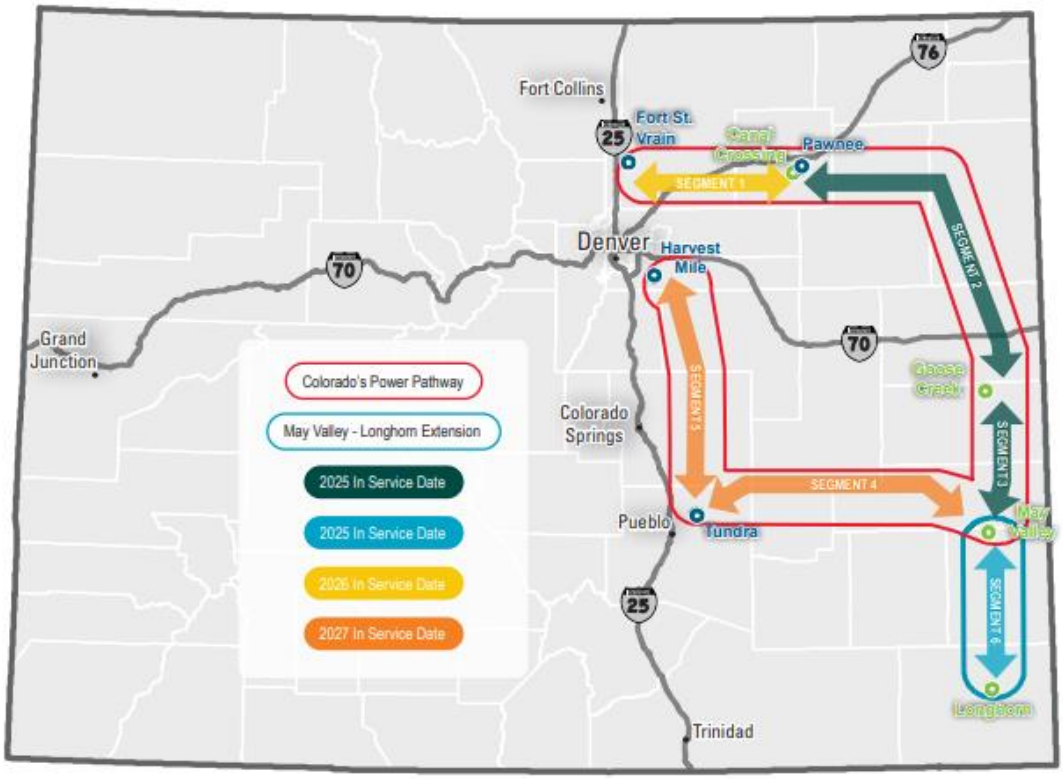
[12] Attachment ARK-5, at 5.

transmission planning and resource planning.[13] The purpose of this filing and the goal of the Pathway Project, however, is to act now to have certain segments in service in 2025 so that the Company can procure tax-advantaged renewables for customers. The Joint Transmission Proposal contemplates the designation of planned transmission as bid-eligible in the Phase I process, with the Phase II process ultimately determining if we should move forward with CPCNs for the designated planned transmission projects. I do not expect an ERP Phase II decision until early 2023, which will not allow time to develop the Pathway Project and have certain segments in service by 2025 if we do not commence the regulatory process now.[14] Accordingly, it is a timing issue. I continue to believe that the Joint Transmission Proposal will help bring cost-effective projects online; nevertheless, we need the Pathway Project as an anchor in eastern Colorado on a more expedited timeframe. The estimated in-service dates by Project segment are reflected in the figure below.

[13] In Proceeding No. 19R-0096E, the Commission requested stakeholder feedback on how to solve the "chicken-and-egg" dilemma. In response, the Company worked extensively with a coalition of independent power producers ("IPPs") (the Colorado Independent Energy Association ("CIEA") and Interwest Energy Alliance ("Interwest")), customer interests (Colorado Energy Consumers ("CEC")), government interests (the Colorado Energy Office ("CEO")), conservation interests (Western Resource Advocates ("WRA")), and BHE to advance a proposal entitled the Joint Transmission Proposal. The Joint Transmission Proposal enjoys diverse stakeholder support and proposes to allow, for the first time, designation of planned transmission lines that bidders may bid into as part of the ERP competitive solicitation. The Joint Transmission Proposal is pending before the Commission and, in my view, it represents a constructive step toward aligning transmission investment and resource planning.

[14] Company witness Mr. Brian J. Richter discusses the Company's planned sequencing of the Pathway Project to maximize the opportunity to capture Federal tax credits. The sequencing would allow bidders to bid into segments as they are placed in-service, which will position the Company to capture the benefits of the Production Tax Credit ("PTC") and Investment Tax Credit ("ITC") extension.

Figure AKJ-D-4: Estimated In-Service Dates by Project Segment



Q. DOES RECENT LEGISLATION PASSED BY CONGRESS INCREASE THE TIME-SENSITIVITY FOR DEVELOPMENT OF THE PATHWAY PROJECT?

A. Yes. The Consolidated Appropriations Act, 2021 passed by Congress and signed into law at the end of 2020 included legislative aspects that affect resource acquisition timing in the ERP. The legislation extended the in-service date when wind and solar facilities need to be placed in service from end-of-year 2024 to end-of-year 2025. More specifically, wind and solar facilities placed in-service by December 31, 2025 can qualify for 60 percent PTCs and 26 percent ITCs, respectively, so long as the project has begun construction by January 1, 2022 for the PTC and January 1, 2023 for the ITC. Prior to the passage of the legislation,

wind facilities placed in-service after December 31, 2025 would not receive any PTCs. Solar facilities placed in-service after December 31, 2025 would receive a 10 percent ITC.

Q. AGAINST THIS BACKDROP, WHY DO YOU THINK THERE IS A NEED FOR THE PATHWAY PROJECT?

A. The Company alone projects to acquire more resources as part of its 2021 ERP & CEP than it has ever acquired in previous ERP cycles. This is driven by native resource needs combined with coal actions necessary to achieve the next tranche of emission reductions, *i.e.,* the next 20 percent or more to meet the 2030 clean energy target of Senate Bill 19-236. Moreover, purely from the Company's perspective, utility planning horizons are long and we need to begin thinking now about our pathway to meet the 2050 carbon-free goal we announced in December 2018 and that is now reflected in the Public Utilities Law after the passage of Senate Bill 19-236. The Company has a need for approximately 4,000 MW of utility-scale renewable resources to meet its resource need *and* meet the 80 percent clean energy target—not including storage, 1,300 MW of distributed energy resources, and additional flexible dispatchable resources. These generating resources will require access to the transmission system, and the existing transmission network in eastern Colorado is not capable of integrating the magnitude of new resources needed to implement the Company's 2021 ERP & CEP without the Pathway Project. Our last ERP makes this point clear—the transmission system in this part of the State of Colorado is full.

Q. WHAT DO YOU MEAN WHEN YOU SAY THAT THE TRANSMISSION SYSTEM IS "FULL" IN THIS PART OF COLORADO?

A. This is explained in more detail in the Direct Testimonies of Company witnesses Mr. Hill and Ms. King. A brief analysis of the transmission investment needed to implement our last approved ERP is instructive on this point. The Commission issued a Phase II Decision in September 2018 approving the Preferred Colorado Energy Plan Portfolio ("CEPP"). The approved CEPP includes the early retirement of two coal-fired generating facilities with a combined generating capacity of approximately 660 MW and added over 2,000 MW of renewable resources (including embedded storage packaged with some of the renewables). The Company identified transmission investment necessary to implement the CEPP across three general categories three categories: Voltage Control Facilities, Network Upgrade Costs for Delivery, and Interconnection Facilities.[15] Most salient to my point here, however, is that these transmission facilities accommodate the new CEPP resources—they do not provide transmission capacity headroom for future additional generation resources. The CEPP also filled the Rush Creek Gen-Tie and much of the available transmission capacity through its clean energy resource additions.

The CCPG reached the same conclusion through the 80x30 Task Force stakeholder process. Specifically, as part of the stakeholder process "[a]

[15] The Commission has granted CPCNs for two of the three transmission investment categories (Voltage Control Devices and Network Upgrades), and the Company is preparing its CPCN application(s) for the Interconnection Facilities for filing later this year.

benchmark analysis was performed to determine if there were any potential reliability issues associated with the proposed 80x30 carbon reduction plan with a 'do nothing' transmission case."[16] New generation was placed within ERZ 1 and 5, with no new generation placed within ERZs 2 and 3—key areas unlocked by the Pathway Project—"because previous analysis has determined little to no injection capability at locations within ERZs 2 and 3."[17] The benchmark analysis ultimately was "unable to reliably accommodate new generation in ERZs 1, 2, 3, and 5, and is therefore likely unable to accommodate 2030 carbon reduction goals."[18] This analysis supports the conclusion that the transmission system is "full," as I described above.

Q. HOW DOES ANY POTENTIAL PARTNERSHIP AFFECT THE NEED FOR THE PATHWAY PROJECT?

A. If the additional clean energy resource needs of Tri-State, BHE, CSU, and PRPA are factored in, it just buttresses the need for this Project. To be sure, we do not know where all of these generation resources will be located, but we do know we will rely on remote locations in rural Colorado where there is significant untapped wind and solar resources to make these plans come to life. I also know that the "chicken-and-egg" dilemma does not afford us the luxury of being able to wait. As I explain later in my Direct Testimony, the Pathway Project is needed to facilitate the interconnection of renewable resources and ultimately allow for a collective

[16] Attachment ARK-5, at 12.

[17] Attachment ARK-5, at 13.

[18] Attachment ARK-5, at 13-14.

down-payment from Public Service—and potentially other partners as well—towards the economywide emission reduction goals of House Bill 19-1261.

Q. WHAT ABOUT THE MAY VALLEY-LONGHORN EXTENSION?

A. The May Valley-Longhorn Extension provides additional optionality and unlocking potential beyond the Pathway Project. It provides additional transmission interconnection opportunities for potential renewable generation developers in the wind-rich ERZ 3 area of the state, and we anticipate new wind as a significant component of our 2021 ERP & CEP. A line to this area would facilitate clean energy resource development, where we anticipate some of the most cost-effective wind projects will emerge. Critically, we believe this wind resource zone is geographically diverse, meaning it offers a meaningfully differentiated generation pattern to help improve reliability as compared to wind generation located in other areas of the state where we already have significant wind resources on our system. Moreover, it would decrease the need for developers to construct multiple gen-tie lines in this region to interconnect to the Pathway Project and, by extension, include the costs of these long gen-tie lines in bid prices. If developers have to include such gen-tie costs, this could raise their bid prices and reduce the Company's ability to include and bring forward geographically diverse wind resources in proposed portfolios in the Phase II process.

V. POTENTIAL PARTNERSHIP OVERVIEW

Q. WHAT IS THE PURPOSE OF THIS SECTION OF YOUR TESTIMONY?

A. The purpose of this section of my Direct Testimony is to provide a high-level overview of the potential partnership in the Pathway Project. If we reach agreement through ongoing negotiations, the partnership enhances our already robust need case for the Pathway Project through providing lower costs for the Public Service customers and a pathway for other utilities in the state to meet their own emission reduction goals. Company witness Ms. Trammell provides more details regarding the proposed process to integrate this partnership and embark on a consolidated proceeding before the Commission that would allow for the issuance of CPCNs to all jurisdictional utilities ultimately participating in the Pathway Project.

Q. ARE TRANSMISSION PARTNERSHIPS UNUSUAL?

A. I would say no. The Commission is familiar with these types of CPCN proceedings where multiple utilities may file jointly, or file independently, and then end in joint ownership or otherwise.

Q. IS THE COMPANY REQUESTING A CPCN FOR TRI-STATE AND BHE AS PART OF ITS DIRECT CASE?

A. No. The Company has filed joint CPCNs in the past for transmission projects, but the Company—with a significant resource need in its upcoming ERP to continue to transition its system, meet resource needs as early as 2025, and ultimately advance a plan to meet the 2030 clean energy target—needs this Project, with or without partners. At the same time, we recognize the State of Colorado's

objectives—emission reductions from not just Public Service and not just IOUs, but all utilities—in order to position the State to meet the aggressive economywide emission reduction goals of House Bill 19-1261. As the Pathway Project was studied in the CCPG process, Tri-State, BHE, CSU and PRPA discussed joint participation in the Project so that we can all potentially utilize the Pathway Project to meet the emission reduction goals codified by the General Assembly as well as emission reduction goals pledged by the various utilities.

Q. HOW DOES TIMING FACTOR INTO THIS PROPOSED APPROACH?

A. Our anticipated 2021 ERP & CEP filing deadline of March 31, 2021 is fast-approaching, and a decision on the Pathway Project is needed before the conclusion of Phase I of our ERP. A joint CPCN process with simultaneous CPCN filings by the three utilities would have been ideal; however, discussions among the parties are still ongoing. While it is anticipated that one or more of the other utilities will participate in the Project, Public Service is moving forward first with our CPCN application. Based on the continuing discussions with the other utilities, if a partnership comes to fruition it is anticipated that Tri-State and/or BHE may file their respective CPCN applications for their participation in the Project within 45 days of our CPCN filing. Ms. Trammell discusses this staggered CPCN process in her Direct Testimony.

Q. WHY IS IT IMPORTANT TO GET THE REGULATORY PROCESS STARTED?

A. We need the Pathway Project's regulatory process to begin for the Project to be in-service starting in 2025, in order to capture tax-advantaged resources, meet resource needs, and continue our energy transition in as cost-effective a way as

possible. Notably, the economywide emission reduction targets under House Bill 19-1261 begin in 2025 with a 26 percent reduction requirement. This target will be challenging to meet and bringing on clean energy earlier will be critical in the State of Colorado's efforts to meet both the 2025 and 2030 goals in the bill. We expect that the 2021 ERP & CEP, with its significant proposed changes across our existing generation fleet, unprecedented levels of renewable development, and the groundbreaking Pathway Project transmission initiative, will have costs to customers. We can effectuate this continued transition in the most cost-effective manner, by capturing remaining PTC/ITC benefits. Maximizing the efficient delivery of new resources is foundational to doing so.

Q. DOES THE COMPANY NEED THE PATHWAY PROJECT EVEN IF THE PARTNERSHIP DOES NOT ULTIMATELY COME TO FRUITION?

A. Yes—and our direct case here establishes that. The partnership certainly has benefits in that it would facilitate emission reductions from multiple utilities. At the same time, and as I previously testified, the transmission system is full and we are on the cusp of the most significant ERP process that we have ever filed and the largest resource plan in the history of the State of Colorado.

Q. IS THE COMPANY PROPOSING TO CONSOLIDATE THIS CPCN PROCEEDING WITH ITS 2021 ERP & CEP PROCEEDING?

A. No. It is important to put this proceeding on a track where the Commission can grant a CPCN for the Pathway Project before our ERP Phase I process concludes. This serves two purposes.

Q. WHAT IS THE FIRST PURPOSE?

A. It allows the extensive siting and permitting efforts to commence as soon as possible for a project consisting of approximately 560 miles of transmission line, the construction of three new substations, and the expansion of four existing substations.

Q. WHAT IS THE SECOND PURPOSE?

A. The Company is committing to aggressive but attainable in-service dates ("ISDs") for different segments of the Pathway Project to give bidders certainty, position the Company to capture PTC/ITC benefits for its customers, and allow bidders to bid into the Pathway Project in the Company's Phase II competitive solicitation. Therefore, a CPCN decision is needed before the Commission's Phase I ERP decision in our 2021 ERP & CEP proceeding to put us in the best position possible to meet the Project segment ISDs. In addition, to the extent that our partnership with jurisdictional and non-jurisdictional utilities materializes, it just furthers the case for not consolidating this CPCN proceeding with the 2021 ERP & CEP proceeding. Put another way, in this instance the Pathway Project would enable clean energy resource acquisitions for our ERP *and* the Tri-State and BHE ERPs, respectively, rendering it administratively appropriate to have this CPCN as a separate and distinct adjudicated proceeding. While BHE will not file its ERP for another year, the Public Service and Tri-State ERPs contemplate larger levels of clean energy resource acquisitions due to the larger size of these utilities. Further, Tri-State's ERP process is already underway, making the timing issue even more acute.

Q. ARE YOU AWARE OF ANY PRECEDENT FOR THE PROCEDURAL PROCESS CONTEMPLATED FOR THIS PROCEEDING?

A. Not exactly as we propose here. But I am also not aware of any situation in the century-plus history of this Commission where utilities were simultaneously undertaking aggressive emission reduction initiatives creating an unprecedented need for the timely development of clean energy resources—and seeking to do so in a compatible way. The State of Colorado needs these resource plans to structure a down-payment of extensive emission reductions from the power sector and propel progress toward its economywide emission reduction goals, and this process—while perhaps novel and unprecedented—is necessary to make that happen.

VI. CONCLUSION

Q. DO YOU HAVE ANY CONCLUDING REMARKS?

A. Yes. With the Pathway Project, we are ready to deploy steel in the ground for the next act in the energy transition. The time for emission reductions is now, and the Company requests approval of Colorado's Power Pathway as a step in the long and challenging process to facilitate a carbon-free future. Public Service has a need for this Project on its own, as our direct case shows. If we are able to advance a partnership approach to facilitate emission reductions from other utilities, it further establishes the already demonstrated need for the Project. While the need for this Project is based on a "Field of Dreams" theory, this theory is informed by projections in our 2021 ERP & CEP, bids from past ERPs, and studies of where the best renewable resources exist. We need the Pathway Project in-service in a timely way to advance cost-effective emission reductions and capture the benefits of PTCs and ITCs for customers. The Pathway Project gives the State of Colorado a down-payment on emission reductions while allowing for the safe and reliable delivery of the variable energy resources that our clean energy future depends upon. It is in the public interest and the Commission should approve it.

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A. I recommend the Commission grant a CPCN for the Pathway Project including, if it deems it appropriate, the May Valley-Longhorn Extension.

Q. DOES THIS CONCLUDE YOU DIRECT TESTIMONY?

A. Yes, it does.

Statement of Qualifications

Alice K. Jackson

I am President of Public Service Company of Colorado and responsible for the utility's overall operations. Before being promoted to President, I served as Vice President, Strategic Revenue Initiatives. As Vice President, Strategic Revenue Initiatives, I led a growing team of six individuals focused on primarily two areas: corporate economic development ("CED") and strategic revenue opportunities. Under our CED function, my team collaborated with the Operating Companies' Customer and Community Relations organizations to enhance Xcel Energy's presence at the national level in economic development activities as well as assisted our internal teams on business retention and expansion. Pursuant to our strategic revenue opportunity activities we actively examined new technologies and new non-merger and acquisition business transactions which could result in revenue opportunities.

As the former Regional Vice President of Rates and Regulatory Affairs, I was responsible for providing leadership, direction, and technical expertise related to regulatory processes and functions for Public Service. My duties included the design and implementation of Public Service's regulatory strategy and programs, and directing and supervising Public Service's regulatory activities, including oversight of rate cases. Those duties included: administration of regulatory tariffs, rules, and forms; regulatory case direction and administration; compliance reporting; complaint response; and working with regulatory staffs and agencies.

I accepted the RVP position with Public Service in November 2013 after holding the same position in another Xcel Energy Inc. ("Xcel Energy") subsidiary, Southwestern

Public Service Company ("SPS"). In May 2011, I accepted a position with Xcel Energy Services Inc. ("XES") as Director, Regulatory Administration, and the position was transferred to SPS effective January 1, 2012. I was subsequently promoted to Regional Vice-President, Rates and Regulatory Affairs, and in that capacity, I devoted my time to regulatory issues in SPS's Texas, New Mexico, and FERC jurisdictions.

From December 2001, through May 2010 I was employed by various subsidiaries of Occidental Petroleum Corporation ("Oxy"). Throughout my time at Oxy, I held positions of increasing responsibility from software programming supporting the trading organization within Oxy operations, to directing and operating Oxy's wholly owned REP in the ERCOT ("Electric Reliability Council of Texas") region and leading various regulatory activities of Oxy's facilities located within the New York Independent System Operator, the Southwest Power Pool ("SPP"), and ERCOT. In 2001, I began my professional career in the energy industry through my employment with Enron Energy Services, where I provided software application design and support to a variety of departments within that company.

I graduated from Texas A&M University in 2001, receiving a Bachelor of Business Administration degree with a major in information and operations management. I have testified before this Commission and the New Mexico Public Regulation Commission and provided written testimony a number of times before the Public Utility Commission of Texas. In July 2017 I completed the Program for Leadership Development at Harvard Business School in Boston, MA.

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF COLORADO

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IN THE MATTER OF APPLICATION OF PUBLIC SERVICE COMPANY OF COLORADO FOR A CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY FOR COLORADO'S POWER PATHWAY 345 KV TRANSMISSION PROJECT AND ASSOCIATED FINDINGS REGARDING NOISE AND MAGNETIC FIELD REASONABLENESS	))))))))	**PROCEEDING NO. 21A-XXXXE**

AFFIDAVIT OF ALICE K. JACKSON
ON BEHALF OF
PUBLIC SERVICE COMPANY OF COLORADO

I, Alice K. Jackson, being duly sworn, state that the Direct Testimony and attachments were prepared by me or under my supervision, control, and direction; that the Direct Testimony and attachments 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 attachments if asked under oath.

Dated at Denver, Colorado, this 2nd day of March, 2021.

Alice K. Jackson
President, Public Service Company of Colorado

Subscribed and sworn to before me this 2nd day of March, 2021.

AMANDA CLARK
Notary Public
State of Colorado
Notary ID # 20164004880
My Commission Expires 03-25-2024

Notary Public

My Commission expires 3/25/2024