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 2024-2028 CLEAN HEAT PLAN.	**)** **)** **)** **)**	**PROCEEDING NO. 23A-0392EG**

DIRECT TESTIMONY AND ATTACHMENTS OF DR. SYDNIE M. LIEB
ON

BEHALF OF

PUBLIC SERVICE COMPANY OF COLORADO

August 1, 2023

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TABLE OF CONTENTS

SECTION **PAGE**

LIST OF ATTACHMENTS

Attachment SML-1	Williams Memorandum of understanding
Attachment SML-2	Publicly Filed RSG Premiums

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DIRECT TESTIMONY AND ATTACHMENTS OF DR. SYDNIE M. LIEB

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

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Dr. Sydnie M. Lieb. My business address is 401 Nicollet Mall, Minneapolis, Minnesota 55401.

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

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

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

A. I am testifying on behalf of Public Service.

Q. PLEASE SUMMARIZE YOUR RESPONSIBILITIES AND QUALIFICATIONS.

A. I am responsible for managing Xcel Energy's climate policy, environmental policy, and environmental communications across our operating territories in eight states.

I hold a Bachelor of Science in Mechanical Engineering from Washington University in St. Louis as well as a Master of Science and Doctor of Philosophy in Mechanical Engineering from the University of Southern California. My doctoral thesis focused on particulate emissions from fuel combustion.

Prior to my role at Xcel Energy, I worked for the California Air Resources Board to verify carbon emissions in the state's cap and trade program. After leaving the California Air Resources Board, I worked for two years at the U.S. Environmental Protection Agency ("EPA") in the Greenhouse Gas ("GHG") Reporting Program.

Q. WHAT IS THE PURPOSE OF YOUR DIRECT TESTIMONY?

A. The purpose of my Direct Testimony is to explain the emission reduction potential enabled by the use and acquisition of Certified Natural Gas ("CNG") and why the Company encourages the Commission to consider approving the use and acquisition of the environmental attributes related to CNG as a strategy to reduce emissions from the gas system value chain CNG can complement other Clean Heat Resources specified in statute as Clean Heat Resources to create affordable, near-term emissions reduction benefits for our customers. Indeed, emissions reductions in upstream gas production can be achieved at low-cost with existing technologies, providing emissions reductions across multiple sectors. The purchase of CNG environmental attributes will diversify the resources being brought to bear for the Company to cost effectively contribute to its emission reduction targets under Senate Bill 21-264 ("SB 21-264"). Against that backdrop, my Direct Testimony provides background on the CNG resource and

corresponding emissions reduction capability, and I discuss some of the existing CNG certification processes and efforts the Company recommends the Commission approve to help drive the industry to more stringent and credible standards.

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

A. Yes, I am sponsoring Attachments SML-1 through SML-2, which were prepared by me or under my direct supervision. The attachments are as follows:

- Attachment SML-1: Williams Memorandum of Understanding; and
- Attachment SML-2: Publicly Filed RSG Premiums.

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

A. I recommend that the Colorado Public Utilities Commission ("Commission") consider the effectiveness of CNG to achieve emission reductions at low-cost, approve the Clean Heat Plus portfolio or otherwise allow the Company to move forward with clearly budgeted CNG environmental attribute procurement, and allow recovery of prudently incurred costs associated with CNG environmental attribute procurement within the established budget. . Further, I recommend the Commission approve the proposed certified natural gas ("CNG") Market Transformation Initiative proposed in our Clean Heat Plan.

II. BACKGROUND ON CNG

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

A. The purpose of this section of my Direct Testimony is to provide background on emission reductions that can be enabled through CNG products, the state of the market, and opportunities for market development. This background is important as we evaluate strategies to procure the environmental attributes related to CNG and include it as a complementary emissions reduction measure in any approved Clean Heat Plan.

Q. WHAT IS CNG?

A. CNG is geologic natural gas that is produced on a site that exceeds all state and federal legal requirements that is attested to be produced meeting the criteria for methane monitoring and implementing best practices to reduce emissions. CNG can be acquired in association with environmental attributes that may be managed and retired in a methane emission tracking program. CNG is produced with a certified methane intensity defined as is the calculated percentage representing the volume of methane emissions from the certified gas (mcf) divided by the total certified production from the facility (mcv).

Q. WHY IS REDUCING METHANE IMPORTANT FOR OVERALL REDUCTIONS IN GHG EMISSIONS?

A. Reducing methane emissions is generally believed to achieve significant reductions in greenhouse gas emissions. Methane reductions can be achieved using existing technologies at relatively low costs.

Q. ARE THERE MULTIPLE NAMES FOR CNG PRODUCTS?

A. Yes. CNG is sometimes referred to as differentiated gas or responsibly-sourced gas. For purposes of my Direct Testimony and our inaugural Clean Heat Plan, I will refer to it as CNG. However, these products—regardless of naming convention—share the characteristics I described in response to the prior question.

Q. HOW ARE EMISSIONS FROM CNG MEASURED AND QUANTIFIED?

A. Emissions from CNG are measured by methane monitors. Methane monitors may be deployed as stationary land monitors, satellite or arial monitors, or high frequency mobile monitoring units, with the type of monitor depending on the type and location of the emission source. The emission monitors must be capable of detecting emissions and quantifying the emission rate. In some cases, emissions are estimated where equipment is lacking.

Q. HOW ARE ENVIRONMENTAL ATTRIBUTES FROM CNG VERIFIED, TRACKED, AND TRANSFERRED?

A. After measurement, the methane intensity is calculated by the producer or a third-party certifier. The methane emission intensity of CNG may be reviewed by an independent third-party on a periodic basis. A certificate attesting to the methane intensity associated with the gas production is created and provided to the purchaser or sold separately to willing buyers. The emissions certificate may or may not be placed on a registry for tracking of the claimed emissions reductions.

Q. WHAT TYPES OF CERTIFICATES ARE AVAILABLE TODAY IN THE MARKET?

A. There are a variety of methods for certifying low emission natural gas. The majority of gas exported in the LNG market, for example, is measured and verified using a partnership created by producers. There are also independent third-party organizations that measure and verify production emissions. Three such organizations are Project Canary, MiQ Standard, and Equitable Origin. These organizations are focused on measuring methane intensity of gas production and providing a rating based on both methane emission intensity, monitoring technology, and best practices. In addition to the independent certifiers, there are also developing reporting frameworks that support the assessment of methane intensity. One example of such a framework is the Oil and Gas Methane Partnership ("OGMP") 2.0 program for oil and gas reporting and mitigation. OGMP 2.0 Level 4 and 5 are considered the highest standard, while Level 5 is the most stringent and includes site-level measurement. While there is no standard for certification, each certification provider has specific grades and levels that explain the best management practices and measurement methodologies that were applied as part of the certification.

Q. DOES THE COMPANY BELIEVE THAT THERE IS AN OPPORTUNITY TO IMPROVE THE EXISTING MEASUREMENT AND VERIFICATION PROCESS?

A. We believe that the existing measurement and verification process could be improved through increased transparency and standardization in emissions reporting and measurement protocols. The process should allow interested parties

to draw a connection between activities performed by the producer and a consequent reduction in emissions. The process should also allow for public access to emissions registries for auditing purposes. Further, the existing protocols do not always require continuous emissions monitoring. As regulatory requirements and technology evolve, we expect that CNG will require deployment of continuous monitoring for emission sources that can be controlled with continuous detection technology. Finally, CNG certificates should provide transparency into where, when, and how emission measurements are performed. We are working with our suppliers, and federal agencies including Department of Energy and Environmental Protection Agency, and third-party organizations to improve the existing certification process.

In Section VI of my testimony, I describe the Company's proposed Market Transformation Initiative designed to drive the industry to a transparent and standardized certification process. This Market Transformation Initiative will address many of the deficiencies that I have identified above and provide an example to the market of how CNG should be monitored and emissions disclosed to support credible and verifiable emission reductions. This initiative can serve as a template to support larger CNG purchases as part of a Clean Heat Plan portfolio and is one we can take action on in the near-term ahead of additional CNG purchases if the Commission approves a portfolio with a CNG budget.

III. CNG SUPPLY IN COLORADO

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

A. The purpose of this section of my Direct Testimony is to provide background on currently available CNG supply in Colorado. CNG supply is limited but poised to grow, creating an opportunity for the Company to procure CNG products and capture attendant emissions reduction benefits for customers.

Q. WHAT IS THE CURRENT AVAILABILITY OF CNG IN COLORADO?

A. Currently, the supply of CNG in Colorado is limited. In 2020, the Company issued a request for information ("RFI") to collect information from suppliers on CNG availability. The Company received seven responses to its RFI, and responses showed that supply of 500,000 MMBtu/day was potentially available for purchase in Colorado. However, much of that potential supply had not yet gone through the measurement and verification process. Once that supply is verified, it will increase the availability of CNG in Colorado. More recently, in April of this year, the Company conducted a confidential supply auction for gas purchases, where only one package of CNG was offered. One further challenge facing Colorado is that many sellers today offer gas physically produced in Colorado but offer environmental certificates related to production from locations in states far from Colorado. The Company and other buy-side entities, however, can help to drive increased supply by showing interest and a clear acquisition pathway for CNG products.

Q. TO THAT POINT, WHAT IS XCEL ENERGY DOING TO SUPPORT MARKET GROWTH OF CNG IN COLORADO?

A. Xcel Energy has purchased several packages of CNG, along with the related environmental attributes, across our footprint to demonstrate the transactability of CNG and develop our understanding of the market and process. In these cases, we were able to acquire the environmental attributes at no premium to the cost of the physical gas because the producers were also trying to develop their respective portfolios of the product. These purchases sent a market signal to CNG producers that we are interested in procuring CNG. Our first transaction with environmental attributes occurred in Colorado in partnership with Crestone Peak Resources and Project Canary. This was a purchase for 5,000 Dth/day and lasted the span of one year. The CNG purchases made to date have provided an important signal to the market but they have generally lacked the more stringent measurement and verification standards that I address in my testimony.

The Company is proposing in this Clean Heat Plan to conduct a project that would demonstrate the viability of improved emissions measurement and verification processes as one of its Market Transformation Projects. More specifically, the Company is proposing a one-year purchase of CNG, and the related environmental attributes, from Williams, a large and well-established mid-stream gas company. As discussed in the attached Memorandum of Understanding, Attachment SML-1, Williams has provided the Company with an indicative offer to sell CNG at a volume of 25,000 MMbtu per day of physical natural gas and its associated Environmental Attributes, for an initial term of 1-year. The

Environmental Attributes are proposed to be sold at a small premium, which is reflected in the submitted Clean Heat budget.

With this purchase, the natural gas production and gathering will have real-time monitored methane emissions and unique certification to quantify production related emissions. The Williams project offers multiple, overlapping measurement techniques, such as on-ground direct monitoring in conjunction with satellite and plane over-flight measurement. These overlapping tools will provide for a level of continuous emissions monitoring that is unusual in the current environment. As a part of the project, Williams will provide monthly emissions data to the Company for its review. The Company will use the data to work with Williams to demonstrate the accuracy of the data as a model for expanding improved measurement and verification technologies with the expectation that the improved technologies could be expanded to other CNG purchases in the future.

In addition to this project, the Company recently joined the Differentiated Gas Coordinating Council ("DGCC"), which is a group made up of a broad coalition of stakeholders including utilities, methane technology vendors, oil and gas producers, certifiers, mid-stream operators, and academics working to build support and market transactability for CNG. The DGCC engagement represents an important coordination step with producers, buyers, and technology enablers working together to create a marketplace that can provide near-term and enhanced procurement opportunities and emissions reduction benefits.

Q. IS PROCUREMENT OF CNG A COMPONENT OF THE COMPANY'S NET-ZERO VISION FOR NATURAL GAS?

A. Yes. The Company has committed to procuring 100% of our supply from certified producers by 2030 for both the gas LDC and our gas-fired electric generating units. We have a set a near-term goal to reduce methane emissions as part of our Net-Zero Vision. Additionally, as Company witness Mr. Jack Ihle notes in his Direct Testimony, CNG is a low-cost emission reduction option that can contribute to emission reductions in Colorado.

Q. IS THERE A COST PREMIUM FOR CNG?

A. The Company anticipates that a modest premium will be required for the environmental attributes related to CNG relative to conventional natural gas. We have tracked public regulatory filings in other states including Michigan, Pennsylvania, Washington DC, and Virginia, and the cost premiums seen in these filings is generally in line with how the Company has modeled CNG for the purposes of this Clean Heat Plan. Details are provided in Attachment SML-2. Given that this market is in its infancy, there is no price transparency at this point on which to base future cost estimates. However, since the Company's plans call for more fulsome measurement processes, we anticipate that our future purchases could be higher than the premiums to date in other jurisdictions. The premium for CNG is relatively low on a cost-per ton of carbon basis and represents a relatively cost-effective emission reduction tool, Mr. Dan Aas provides details of the relative costs of the emission reduction resources that we are considering in his direct testimony.

IV. EMISSIONS BENEFITS FROM CNG

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

A. The purpose of this section of my Direct Testimony is to provide more detail around the emissions reduction benefits from CNG. With the sector-specific emission reduction approach used in Colorado, CNG technically reduces emissions outside the LDC sector. However, I want to underscore two important points. First, CNG drives emissions reductions and cleaner supply. Second, there are approaches that can avoid double-counting in CNG procurement and avoid a scenario where entities in two different sectors are claiming the same emissions reductions.

Q. DOES CNG PROCUREMENT REDUCE UPSTREAM EMISSIONS?

A. Yes. The direct emissions monitoring occurs upstream and the emissions reductions occur at that stage of the exploration and production process. The state of Colorado is working to implement rules that will drive significant reductions in emissions through Regulation 7; however, CNG procurement can accelerate adoption of measures to monitor, measure, and mitigate methane emissions beyond what is required by state or federal requirements.

Q. ARE UPSTREAM EMISSIONS INCLUDED IN THE 2015 BASELINE ESTABLISHED BY SB 21-264 FOR USE IN CLEAN HEAT PLANS?

A. No. The 2015 baseline does not include upstream emissions for natural gas.

Q. WHY IS IT APPROPRIATE TO APPROVE THE USE OF CNG HERE IF UPSTREAM EMISSIONS ARE NOT PART OF THE BASELINE?

A. Public Service is supportive of the sector-specific emissions reduction framework used in Colorado. But that framework should not be a limitation on opportunities

to capture emissions reductions, nor do we believe it is intended to be one. Significant reductions in statewide greenhouse gas emissions can be achieved through procurement of CNG environmental attributes at low-cost relative to other emissions reduction strategies, including the Clean Heat Resources in SB 21-264. An all-of-the above approach is important to tackle the challenging task of reducing emissions from across the value chain. Given the importance of methane, we should not simply set aside CNG opportunities because of the lines between sectors. There are two salient issues from my perspective: (1) whether double-counting can be avoided; and (2) who should get emissions reduction credit when CNG results in reduced emissions. On the first question, the use of certificates for emissions reduction attributes can ensure that only one entity obtains emissions reduction credit for CNG. As to the second question, in the event that the Commissions approves CNG attribute procurement, Public Service customers will pay a small premium for the emission benefits associated with CNG; therefore, it follows that they should receive credit for the reductions.

Q. GIVEN THE INTENT OF SB 21-264 IS TO ACHIEVE EMISSIONS REDUCTION FROM NATURAL DISTRIBUTION AND GAS END USE, HOW DOES CNG CONTRIBUTE TO THIS GOAL?

A. The Company is committed to achieving the Clean Heat Targets under SB 21-264, both in the near-term and the long-term; indeed, that is a driver of why we have our Net-Zero Vision. At the same time, we acknowledge that achieving these goals will rely on both technology development and many decisions by individual customers to adopt efficiency measures and clean fuel alternatives. Conventional

natural gas will continue to be used as this evolution progresses. Given continued use in, at least the near-term, future, we believe it is imperative to reduce methane emissions associated with that gas supply to reduce the overall climate impact of continued natural gas use. Emissions from natural gas include the end use combustion emissions but also the emissions that occur throughout the supply chain. Environmental attributes related to CNG have the ability to achieve emissions reductions in the supply chain at low cost to customers. More critically, and unlike customer measures where we may only have limited influence on customer choices, the Company can directly exert its influence on gas suppliers to develop CNG products. As Company witness Ms. Quillian explains in her testimony, we have included Scope 3 emissions in a gas utility target, and we believe reducing these emissions is an important component of our voluntary carbon reduction target. For these reasons, the Company has evaluated CNG environmental attributes as a tool to reduce emissions as part of its Clean Heat Plus portfolio. And moreover, as Company witness Mr. Ihle explains in more detail, CNG can be a part of a near-term resource portfolio while a dialogue among the Commission, stakeholders, customers, and the Company continues as to the long-term future of our LDC business.

V. EMISSIONS REDUCTION POTENTIAL FROM CNG

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

A. The purpose of this section of my testimony is to provide details regarding the potential emissions reductions that can be achieved through CNG purchases and related accounting mechanisms.

Q. WHICH STATES DOES THE COMPANY SOURCE GAS FROM?

A. The Company sources much of its gas from within Colorado including the nearby Denver Julesburg basin. However, state production is not well positioned to serve our customer's needs exclusively. We purchase gas from Wyoming, Utah, Texas, and Oklahoma as well.

Q. STARTING AT A HIGH LEVEL, WHAT IS THE AVERAGE METHANE INTENSITY OF GAS PRODUCED IN COLORADO?

A. We do not have a state-specific estimate of the average methane intensity produced in Colorado. We are currently relying on a national average methane intensity produced by the DOE National Energy Technology Laboratory. We are working to encourage both the DOE and the State of Colorado to develop improved basin-specific methane emission intensities based on direct measurement of emissions.

Q. HOW DOES REGULATION 7 IMPACT AVERAGE METHANE INTENSITY OF GAS PRODUCED IN COLORADO RELATIVE TO THE AVERAGE METHANE INTENSITY OF CNG PURCHASED BY THE COMPANY?

A. The requirements in Regulation 7 are likely to both reduce the average methane intensity of gas produced in Colorado and improve the estimate of the average

emission rate of methane intensity in the state. We plan to follow closely as these requirements are adopted by operators and we will continue our commitment to procure gas that is produced with methane intensity below the state's average emission rate.

Q. HOW DOES CNG REDUCE EMISSIONS ASSOCIATED WITH NATURAL GAS?

A. CNG produces verifiable emissions reductions from the upstream that can be quantified with sound GHG accounting protocols. We are committed to procuring CNG that is produced with a methane intensity below the average methane intensity of gas in Colorado on an annual basis. As the State works to develop an improved baseline estimate of methane intensity of natural gas, we will continue to source CNG that is certified with a methane intensity below the State's average. Emission reductions will be determined by the delta between the state's average methane intensity and the methane intensity of the CNG on a volumetric basis.

Q. IF THE CLEAN HEAT PLUS PORTFOLIO OR A PORTFOLIO WITH A BUDGET FOR CNG IS APPROVED, HOW WILL THE COMPANY MOVE FORWARD?

A. If the CNG Project is approved, the Company will implement the proposed project and make the purchases from Williams as part of the Market Transformation Initiative described above. Also, as noted above, we will use the one-year project to evaluate the effectiveness of the more stringent measurement processes. Upon successful completion of the pilot, the Company will also proceed to purchase additional CNG environmental attributes consistent with the Clean Heat Plus portfolio budget. This market is still in its early stages; however, with our market presence and a budget dedicated to CNG environmental attribute purchasing, I am

confident that we can secure a cost-effective supply of CNG that will also reduce emissions. The Company would report on these purchases through its Clean Heat reporting, as detailed by Company witness Mr. Ihle. In addition, the potential to provide updates to the Commission through a Commissioners Information Meeting process, again as explained by Mr. Ihle through our proposed "Plan, Do, Check, Act" process, would give an opportunity to provide a regular update on the state of CNG opportunities in the State.

Q. WHAT IS THE COMPANY'S PROPOSED BUDGET FOR CNG ENVIRONMENTAL ATTRIBUTE PURCHASES UNDER THE CLEAN HEAT PLUS PORTFOLIO?

A. The Company's proposed budget, based on modeling by E3 to produce the lowest-cost portfolio of emission reduction measures as described by Company witness Mr. Aas, is as follows:

Table SML-D-1: Clean Heat Plus CNG Budget

	2024	2025	2026	2027	2028
Certified Natural Gas	-	$ -	$ 2.4	$ 4.6	$ 6.2

Q. HOW WOULD CNG ENVIRONMENTAL ATTRIBUTE COSTS BE RECOVERED BY THE COMPANY?

A. Company witness Mr. Ihle explains the cost recovery process in more detail. However, at a high level the cost of the CNG environmental attribute would be recovered through the proposed Clean Heat Support Gas Adjustment ("CHSGA"). The cost of the physical gas, on the other hand, would be recovered through the Gas Cost Adjustment ("GCA"). The gas purchases would continue to be presented

in Gas Purchase Plans ("GPPs") and GPPs would continue to be presented to the Commission for review and approval, as they are today. The CNG environmental attribute budget would be housed in the approved Clean Heat Plan, with reporting in the Clean Heat Plan context as I describe above.

VI. MARKET TRANSFORMATION - CNG

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

A. The purpose of this section of my testimony is to provide detail around the Market Transformation Initiative related to CNG.

Q. IS THE COMPANY PROPOSING A MARKET TRANSFORMATION INITIATIVE RELATED TO CNG PROCUREMENT?

A. Yes.

Q. PLEASE DESCRIBED THE NATURE AND SPECIFICATIONS AROUND THE PROPOSED PROJECT.

A. The Company is proposing to partner with a leading midstream Company (Williams) and Context Labs to help drive the CNG certification process to a more rigorous standard. In this proposed project, Williams Energy will provide gas supply and emissions measurement and Context Labs will provide the calculation and tracking. The project will demonstrate that enhanced monitoring and verification of natural gas supply production and emissions can result in credible and scalable methane emission reduction claims that contribute to economy-wide GHG emission reductions. The gas sold and delivered will be produced from facilities physically located within the state of Colorado. The physical gas will be produced from facilities that generate a measured CH4 intensity rate no greater than 0.25%.

The methane intensity will be determined using Context Lab's measurement and calculation methodology, which will meet or exceed the requirements prescribed by the Oil and Gas Methane Partnership 2.0 Level 5, as further verified by KPMG, or any other organization that provides auditing of the

methane intensity for an emissions pathway from production through delivery. The calculation of certified emissions data provided each month by Context Labs will include multiple sources of measurement, including measurement informed engineering calculations based on direct measurement of emission sources and continuous ingestion of operational data, continuous emissions monitors, and periodic aerial flyovers from plane and/or satellite-based methane emission monitoring technology.

Q. WHY IS IT APPROPRIATE TO MOVE FORWARD WITH A MARKET TRANSFORMATION PROJECT FOR CNG PROCUREMENT?

A. The proposed project is necessary to provide an example of a scalable CNG environmental attributes purchase and provide transparency into the emissions tracking and measurement procedures for evaluation by stakeholders. The project will provide an opportunity to show the emissions benefits that can be achieved and verified through procurement of CNG and create a forum for stakeholders to provide feedback on potential improvements to future large scale CNG environmental attribute transactions.

Q. HOW MUCH CNG DOES THE COMPANY PLAN TO PROCURE THROUGH THIS MARKET TRANSFORMATION PROJECT?

A. As discussed above and outlined in the attached Memorandum of Understanding, Attachment SML-1, Williams will sell CNG at a volume of 25,000 MMbtu per day of physical natural gas and its associated Environmental Attributes, for an initial term of 1-year.

Q. DOES THIS MARKET TRANSFORMATION PROJECT INCLUDE A ROLE FOR STAKEHOLDER ENGAGEMENT?

A. Yes, we plan to provide transparency in data provided from the CNG certificates to share publicly with interested stakeholders. We will take feedback on the provided data elements and the quality of the data to inform future CNG purchase agreements and provide feedback to the overall market.

VII. CONCLUSION

Q. PLEASE SUMMARIZE YOUR RECOMMENDATIONS.

A. I recommend that the Commission approve the Clean Heat Plus portfolio or otherwise allow the Company to move forward with clearly budgeted CNG environmental attribute procurement, and allow recovery of prudently incurred costs associated with CNG environmental attribute procurement within the established budget. CNG is an emissions reduction tool that the Company can utilize to secure near-term emissions reductions, and the time to move forward is now. Moreover, the approval of a market transformation project for demonstrating the viability of CNG emissions measurement and tracking can serve as a catalyst for more substantial CNG environmental attribute purchases as part of an approved Clean Heat Plan budget. The Company intends to engage with gas suppliers, certifiers, and stakeholders active in the CNG space to identify opportunities to purchase future CNG environmental attributes and maximize emissions reductions available through CNG purchases. These efforts will help the market to mature and grow into a positive direction from an emissions reduction perspective, all while capturing early emissions reductions to assist in meeting statewide greenhouse gas emissions reduction goals. Finally, I am confident that this purchasing and engagement in the CNG market in Colorado can drive increasingly robust certification processes as we participate in and help this important market to continue to mature.

Q. DOES THIS CONCLUDE YOUR DIRECT TESTIMONY?

A. Yes, it does.

Statement of Qualifications
Sydnie M. Lieb

Sydnie Lieb is a Manger of Energy and Environmental Policy for Xcel Energy. The Energy and Environmental Policy team is responsible for leading Xcel Energy's climate policy, environmental policy, and environmental communications across eight states. Dr. Lieb has worked in energy technology and policy for 9 years. She holds a Bachelor of Science in Mechanical Engineering from Washington University in St. Louis as well as a Master of Science and Doctor of Philosophy in Mechanical Engineering from the University of Southern California. Her doctoral thesis focused on particulate emissions from fuel combustion.

Prior to working at Xcel Energy, Dr. Lieb worked for the California Air Resources Board to verify carbon emissions in the state's cap and trade program. After leaving the California Air Resources Board, she worked for two years at the U.S. Environmental Protection Agency ("EPA") in the Greenhouse Gas ("GHG") Reporting Program.