Exhibit No.:	
Issue:	Revenue Allocation Affordability of Rates
Witness:	Richard Nelson
Type of Exhibit:	Surrebuttal Testimony
Sponsoring Parties:	MECG
Case No.:	ER-2024-0261
Date Testimony Prepared:	September 17, 2025

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company d/b/a Liberty for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in Its Missouri Service Area	**)** **)** **)** **)** **)**	**File No. ER-2024-0261**

Surrebuttal Testimony of

Richard Nelson
Linde Inc.

On behalf of

MIDWEST ENERGY CONSUMERS GROUP

September 17, 2025

BEFORE THE PUBLIC SERVICE COMMISSION OF THE STATE OF MISSOURI

In the Matter of The Empire District Electric Company d/b/a Liberty for Authority to File Tariffs Increasing Rates for Electric Service Provided to Customers in Its Missouri Service Area	)))))	**File No. ER-2024-0261**

STATE OF _____)
) SS
COUNTY OF _____)

AFFIDAVIT OF RICHARD NELSON

Richard Nelson, being first duly sworn, on his oath states:

1. My name is Richard Nelson. I am employed by Linde Inc., Inc. as Director, Energy Management - North Region. My principal place of business is East Chicago, Indiana.

2. Attached hereto and made a part hereof for all purposes is my surrebuttal testimony which was prepared in written form for introduction into evidence in Missouri Public Service Commission Case No. ER-2024-0261

3. I hereby swear and affirm that the testimony is true and correct and that it shows the matters and things that it purports to show.

B W Nelson

Richard Nelson 9/10/2025

Subscribed and sworn to before me this ___ day of_____, 2025.

_____
Notary Public

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Surrebuttal Testimony of Rick Nelson

I. INTRODUCTION

Q. PLEASE STATE YOUR NAME AND OCCUPATION.

A. My name is Richard Nelson. I am employed by Linde Inc., ("Linde"), formerly Praxair, Inc., as the Director, Energy Management – North Region. In this role, I have been involved in energy management and utility regulation issues for over fifteen years and am responsible for procurement of over $250 million per year of electric power and natural gas for approximately twenty Linde facilities including Kansas City and Neosho, Missouri. In the ten years prior to assuming the Energy Manager position, I held various business and management positions with Linde Inc., including Sales Manager for the geography that includes Missouri. I am very familiar with Linde Inc.'s business in Missouri, including the challenges posed by significant and regular increases in electric power costs at our Neosho, Missouri production facility, over the last fifteen years. Additionally, I am Chairman of the Executive Committee for the Indiana Industrial Energy Consumers ("INDIEC") and am active in industrial groups in a number of other states, including Michigan, Minnesota and Missouri. Finally, in the course of participating on industrial

energy user groups I engage with energy managers with other energy-intensive companies with similar responsibilities across the United States.

Q. PLEASE STATE YOUR BUSINESS ADDRESS.

A. My office is located at 4400 Kennedy Avenue in East Chicago, Indiana.

Q. PLEASE PROVIDE YOUR EDUCATIONAL BACKGROUND.

A. Bachelor's of Science – Chemistry, Illinois College (Jacksonville, IL)
Master's of Business Administration – Finance, DePaul University (Chicago, IL)
Business Energy Professional Certification (Association of Energy Professionals)
Certified Energy Manager Certification (Association of Energy Professionals)

Q. HAVE YOU PREVIOUSLY TESTIFIED BEFORE THE MISSOURI COMMISSION?

A. Yes. I testified before the Missouri Public Service Commission for Linde Inc. when it was known as Praxair, Inc. I testified on behalf of Missouri Energy Consumers Group ("MECG") in the 2016 Empire District Electric Case in docket ER-2016-0023.

Q. WHICH RATES DO THE NEOSHO FACILITIES USE?

A. At its Neosho facility, Linde operates two air separation facilities. Linde installed the first facility in the early 1960s and then a second facility was put into service in 2020. The older facility is served by Liberty Utilities (formerly Empire District Electric Company) ("Liberty" or "Company") Transmission Service Rate or Schedule TS. It is my

understanding that Linde is the only customer on this rate schedule which incorporates interruptible service provisions. The newer facility is served under the Large Power rate. The focus of my testimony here is regarding Schedule TS.

Q. WHAT IS THE PURPOSE OF YOUR SURREBUTTAL TESTIMONY?

A. The purpose of my surrebuttal testimony is to respond to Staff's recommendations regarding revenue allocation and Staff's response regarding MECG's recommended increase to the interruptible credit to Schedule TS. My goal is to provide context and real world perspective as an industrial customer operating in a highly competitive environment that made the business decision to manage its costs in part by taking non-firm service. I also describe the serious commitment and steps taken to ensure that the facility responds to the Company's instructions to interrupt and explain the importance of equitable compensation to remain an interruptible customer.

II. NATURE OF LINDE'S OPERATIONS

Q. WOULD YOU DESCRIBE LINDE'S OPERATIONS?

A. Linde is the largest industrial gas supplier in the world with an extensive footprint across North America and throughout the world. Linde's primary products in its industrial gases business are atmospheric gases (oxygen, nitrogen, argon, and rare gases) and process gases (carbon dioxide, helium, hydrogen, electronic gases, specialty gases, and acetylene). The company also designs, engineers, builds and operates equipment that produces industrial gases.

Q. PLEASE DESCRIBE HOW LINDE PRODUCES ATMOSPHERIC GASES.

A. Atmospheric gases are the highest volume products produced by Linde. Using air as its raw material, Linde produces oxygen, nitrogen and argon through several air separation processes of which cryogenic air separation is the most prevalent. Cryogenic air separation is very energy intensive because it requires that the temperature of the air used be brought down to approximately minus 300 degrees Fahrenheit which in turn requires large amounts of electricity. As a pioneer in the industrial gases industry, Linde is a leader in developing a wide range of proprietary and patented applications and supply systems technologies. Linde has also invested heavily in air separation equipment and processes that allow it to quickly and easily modify its power usage and shed its electric load if called to do so.

Q. WOULD YOU DESCRIBE LINDE'S CUSTOMERS?

A. Linde's customers utilize its industrial gases to improve the efficiency, productivity, quality, and environmental performance of their own operations. In Missouri, Linde's customers use industrial gases for numerous applications, but the most common are medical oxygen and other healthcare needs, aerospace, automotive, chemicals, metal fabrication and food processing. In addition, Linde industrial gases are also used in many other industries including transportation; energy; beverage; glass; metals; pharmaceutical & biotechnology; pulp & paper; refining; water & wastewater treatment; and welding. A complete description of the gases produced by Linde and the industries that utilize those gases can be found at the Linde website: www.Linde.com.

Q. IS THE INDUSTRIAL GAS BUSINESS COMPETITIVE?

A. Yes. Linde operates within a highly competitive environment. Competition is based on price, product quality, delivery, reliability, technology and service to customers. Major competitors in the industrial gases industry both in the United States and worldwide include Air Products and Chemicals, Inc.; Airgas Inc. and L'Air Liquide S.A. There are also numerous regional competitors in the United States including Matheson-Trigas, Inc. All of these competitors produce products in adjacent or nearby states and truck them into Missouri. Many of these competitors, particularly those operating in Arkansas, Iowa, Oklahoma and Texas, are enjoying significantly lower electric power costs and are able to competitively truck product into the Missouri market.

Q. IS LINDE'S PRESENCE IMPORTANT TO A LOCAL / REGIONAL ECONOMY?

A. Yes. Industrial gases are critical to the safe and reliable operation of a wide variety of manufacturing processes. Having local industrial gas production facilities is a favorable driver of local manufacturing activity. Local production sources are particularly important for industrial gases because they evaporate, and because they are often delivered by truck production facilities are ideally within 200 miles of the customer.

Linde gases facilitate customer efforts in increased productivity, decreased energy consumption, higher product quality and cost-effective achievement of environmental and safety standards. For example, nitrogen and carbon dioxide are commonly used in food processing for chilling and freezing. Argon is used in various manufacturing processes including as a welding gas. Oxygen is used in healthcare as well as chemical production

processes. In short, Missouri's manufacturing industry and healthcare system needs a reliable supply of gases such as those Linde provides.

Q. ARE LINDE'S OPERATIONS ENERGY INTENSIVE?

A. Yes. Energy is the single largest cost item in the production and distribution of industrial gases. Electric costs comprise 50-75% of Linde 's overall production costs depending on the industrial gas to be produced. Because electric power is such a substantial portion of Linde 's costs, competitively priced electric power is essential to Linde being able to offer its products to customers at competitive prices. Higher electric power costs will be reflected in Linde's product prices. This puts Missouri manufacturers, who are already struggling with high electric power costs of their own, at yet a further disadvantage. Competitive power costs are critical to Linde's ability to competitively supply customers and successfully compete for regional industrial gases business against competitors outside the Liberty footprint and indeed outside of Missouri.

Q. WHAT ARE YOUR COMMENTS REGARDING THE PROPOSED INCREASE TO SCHEDULE TS?

A. I support the recommendation of MECG's Ms. Maini. While the rate increase itself is very concerning, Ms. Maini's recommended allocation is based on a cost of service method that is reasonable and the Company has also found it justifiable enough to accept. Her approach results in a below system average increase for Schedule TS and is fair and reasonable and incorporates gradual movement in the overall context of this case. In sharp contrast, Staff's proposed options for increasing rates to Schedule TS are not reasonable and result in above system average increases. Staff recommends a lower revenue requirement of 23.7% For

this increase, Staff presents two options for Schedule TS: Either a higher than system average non-cost of service based increase of 27.25% or $1.27 million or Staff's cost of service based increase of 32.15% of $1.5 million. Both these options are highly unreasonable, especially since Linde is the only customer on Schedule TS and is being asked to bear such excessive increases.

I would find it highly unlikely that any other customer served by Liberty would end up with an over one million dollar increase in rates with a lower revenue requirement compared to the Company's original increase. Staff's proposal, if adopted, would have a substantively adverse impact not only on Linde but also other manufacturers that Linde serves in MO. As discussed further below, this increase would be disproportionate and ignores the contribution to system stability and avoided costs that interruptibility provides. I strongly oppose this increase and ask the Commission to implement Kavita's recommendations.

III. LINDE'S MISSOURI OPERATIONS AND VALUE OF INTERRUPTIBLE SERVICE

Q. WOULD YOU DESCRIBE LINDE'S OPERATIONS IN AND AROUND THE LIBERTY SERVICE AREA?

A. Yes. Linde's primary industrial gas facility in Liberty's service area is located in Neosho, Missouri. The Neosho facility was built in 1961 and has continuously produced argon, nitrogen and oxygen for customers in and around Missouri. In order to effectively minimize the utility's cost to serve us, Linde has used non-firm (interruptible) power for over twenty years. Linde has extensive experience providing interruptible service at its

facilities across the United States including in Missouri. Linde reliably provides interruptible service, and over the last 25 years, has never failed to provide interruptible service at the Neosho facility when requested by Liberty.

Q. DOES LINDE PROVIDE VALUE TO THE LIBERTY CUSTOMER BASE BY TAKING INTERRUPTIBLE SERVICE?

A. Yes. Given its ability to store its gas product and shift production, Linde is capable of having its energy usage interrupted by Liberty. Linde provides 7600 KW of interruptible load that can be interrupted with a notification time of 30 minutes. It is well established that the presence of interruptible load results in cost savings and increased bulk electric system reliability for all other customers in that the Company does not have to include interruptible load in its IRP filings and capacity additions. Indeed, as explained in MECG's witness Kavita Maini's direct testimony, the Company not only achieves savings by avoiding capacity for the amount of interruptible load but also for the additional planning reserve margin that would be required to reliably serve this load.[1]Further, there are also transmission loss savings.

Q: WHAT IS LINDE'S RECENT EXPERIENCE WITH CAPACITY COSTS?

A: Linde operates numerous production facilities across the US. In general, Linde is observing higher capacity costs as well as higher and more volatile energy prices due to the increased reliance on renewable energy generation and widespread retirements of coal generation. ERCOT, MISO and PJM capacity prices have increased dramatically in recent years. For example, MISO production resource auction (capacity) prices for the 2024-25

[1] See Kavita Maini's Direct Testimony pages 31-32.

planning year increased ten-fold versus the 2023-24 planning year. Further, as it relates directly to Liberty, Ms. Maini's direct testimony describes that the Company faces increasing uncertainty in its capacity position due to the many changing rules associated with SPP's resource adequacy construct.to SPP, [2]

Q. HOW DOES LIBERTY'S INTERRUPTIBLE CREDIT FOR SCHEDULE TS COMPARE TO THAT OF OTHER MIDWEST UTILITIES?

A. Under Schedule TS (previously Schedule SC-P), Linde receives an interruptible credit of $4.01 per KW-month, which has not changed since 2013. This compares unfavorably to the credits and/or avoided demand charges for interruptible service provided by other regulated utilities in the Midwest as noted in the table below. These various credits reflect the importance and value that interruptible/curtailable service provides to utility resource planning and benefits to all rate classes. While Ms. Maini's surrebuttal testimony provides technical justification for demonstrating the reasonableness of increasing the interruptible credit to $6/KW-month, the comparisons below also substantiate the reasonableness of her recommended increase.

Utility	Jurisdiction	Interruptible Credit/ Avoided Demand Charge
AEP Indiana Michigan Power Company[3]	Indiana	$9.65 / kW – month
DTE Energy[4]	Michigan	$9.74 / kW – month
Xcel Energy[5]	Minnesota	$6.09 / kW – month

Note: The interruptible credits summarized above are as of August 1, 2025.

IV. COMMITMENT AND ACTIONS TO ENSURE INTERRUPTIBILITY

[2] See Kavita Maini's Direct Testimony pages 33-34.
[3] Tariff Industrial Power
[4] Rate D11 plus Rider 10. Interruptible credit is associated with avoided demand charges.
[5] Rate A24 (Short Notice)

Q. PLEASE DESCRIBE LINDE'S PARTICIPATION IN INTERRUPTIBLE SERVICE PROGRAMS

A. Linde participates in interruptible service programs with the expectation of rate mitigation for its participation. Notably, Linde incurs costs in the form of lost production to participate, and these costs go beyond the duration of the interruption event as Linde requires several hours to restart and resume normal operations following even a short interruption. Linde also bears the cost risk of having to supply customers by importing products from more distant production facilities in the event Neosho stocks are drawn down as a result of interruption events. For example, during Storm Uri the Neosho facility was interrupted and voluntarily elected not to restart for several days.

Further, Linde takes steps to ensure its customers are reliably supplied and in order to do so has invested in production, storage and logistics equipment at Neosho and other facilities in order to participate in interruptible service at Neosho and other production facilities. This includes developing sprint capacity and storage. Taken together, these investments and approach allow Linde to participate in a curtailable rate while meeting the needs of its own local customers.

Q. WHAT ARE SPRINT CAPACITY AND STORAGE IN THE CONTEXT OF LINDE'S OPERATIONS?

A. "Sprint (or incremental production) capacity" is a production term used within the industrial gas industry that means overhanging capacity of energy-intensive cryogenic air separation or "production" within the Linde's production and distribution system that facilitates operational flexibility. When Linde curtails its electric service the production of its product at Neosho, that site necessarily is slowed significantly or stopped. Since

deliveries to end-use customers continue, the inventories get pulled down during these periods or product will be imported from other production facilities. Sprint capacity is the ability to "sprint" to rebuild its inventory ahead of, or after, a curtailment event. Linde provides curtailable service at numerous facilities across the US including Missouri and other nearby states.

"Storage" is the ability to both maintain additional inventory on site at Neosho as well as the ability to ship in product from outside the geographic market area served by the Neosho facility. Since the product is atmospheric gasses produced in liquid form, the kinds of equipment necessary to enable the customer to curtail electric service include liquid oxygen storage, liquid nitrogen and liquid argon storage tanks at Neosho. Storage requires large, specialty reservoirs for cryogenic product. Linde also maintains production facilities, trucks and tankers which facilitate reliable supply to customers.

Q. HOW DO THESE EFFORTS BY LINDE IMPACT ITS PARTICIPATION IN INTERRUPTIBLE SERVICE PROGRAMS?

A. Without these investments in storage and overhanging production capacity and distribution resources Linde would not be able to participate in curtailment programs while also meeting the needs of its own customers for vital medical and industrial gases.

Q. WHY IS IT IMPORTANT THAT THE INTERRUPTIBLE CREDIT INCREASE?

As I noted above there is an increasing value to capacity due to generation and market changes. Interruptible capacity is a cost-effective way for utilities to meet their peak demands without incurring additional costs for new generation. As MECG witness Kavita Maini pointed out in her Direct testimony, this is the case with the value of interruptible service to Liberty and its customers**.** This view is also supported by Company witness Tim

Lyons who acknowledges that it is reasonable to increase the credit.[6] I support increasing the interruptible credit to $6/KW-month as suggested by MECG witness Kavita Maini. If Liberty maintains its relatively low value placed on interruptibility, it will discourage Linde from using/ expanding interruptible service and/or encourage production at facilities with better interruptible compensation. Increasing the credit in this case makes movement towards appropriately valuing the interruptible capacity provided to benefit the utility and all of its customers.

Q. DOES THIS CONCLUDE YOUR SURREBUTTAL TESTIMONY?

A. Yes.

[6] Lyons Rebuttal, Doc. No. 268, p. 24.