STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF NORTHERN INDIANA PUBLIC SERVICE COMPANY LLC PURSUANT TO IND. CODE §§ 8-1-2-42, 8-1-2-42.7 AND 8-1-2-61 FOR (1) AUTHORITY TO MODIFY ITS RETAIL RATES AND CHARGES FOR GAS UTILITY SERVICE THROUGH A PHASE IN OF RATES; (2) APPROVAL OF NEW SCHEDULES OF RATES AND CHARGES, GENERAL RULES AND REGULATIONS, AND RIDERS (BOTH EXISTING AND NEW); (3) APPROVAL OF A NEW SALES RECONCILIATION ADJUSTMENT MECHANISM; (4) APPROVAL OF REVISED GAS DEPRECIATION RATES APPLICABLE TO ITS GAS PLANT IN SERVICE; (5) APPROVAL OF NECESSARY AND APPROPRIATE ACCOUNTING RELIEF, INCLUDING BUT NOT LIMITED TO APPROVAL OF CERTAIN DEFERRAL MECHANISMS FOR PENSION, OTHER POST-RETIREMENT BENEFITS, AND LINE LOCATE EXPENSES; AND (6) TO THE EXTENT NECESSARY, APPROVAL OF ANY OF THE RELIEF REQUESTED HEREIN PURSUANT TO IND. CODE CH. 8-1-2.5.	)	**CAUSE NO. 45967**

INDIANA OFFICE OF UTILITY CONSUMER COUNSELOR'S

PUBLIC'S EXHIBIT NO. 9 – TESTIMONY OF OUCC WITNESS BRIEN R. KRIEGER

January 31, 2024

Respectfully submitted,

____
Thomas R. Harper
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NORTHERN INDIANA PUBLIC SERVICE COMPANY LLC
CAUSE NO. 45967
TESTIMONY OF OUCC WITNESS BRIEN R. KRIEGER

I. INTRODUCTION

Q: Please state your name and business address.

A: My name is Brien R. Krieger and my business address is 115 W. Washington Street, Suite 1500 South, Indianapolis, Indiana 46204.

Q: By whom are you employed and in what capacity?

A: I am employed by the Indiana Office of Utility Consumer Counselor ("OUCC") as a utility analyst in the Natural Gas Division. For a summary of my educational and professional experience and general preparation for this case, please see Appendix BRK-1.

Q: What is the purpose of your testimony?

A: The purpose of my testimony is to provide my analysis of Northern Indiana Public Service Company LLC's ("NIPSCO" or "Petitioner") cost of service study ("COSS") and proposed rate design. My analysis specifically provides detail on why I agree with Petitioner's proposed cost allocation of transmission assets using Peak and Average allocation based upon Petitioner's system load factor.

Q: From a high-level perspective, how would NIPSCO's cost of service request in this case affect various customer classes?

A: NIPSCO's cost of service request includes proper cost causation for residential, commercial, industrial, and transportation customers.

Q: Can you further detail your recommendations?

A: I recommend the Indiana Utility Regulatory Commission ("Commission") approve the use of Petitioner's Allocated Cost of Service Study ("ACOSS") model, the allocation methods contained within the model, and the use of the ACOSS model results for designing the margin rate increase for each rate class. I also recommend the Commission:

- Adopt Petitioner's ACOSS model results for rate design.
- Approve Petitioner's proposed Peak and Average transmission allocation derived from Petitioner's system load factor.
- Approve Petitioner's proposed cap for any rate class to not have a margin increase greater than 1.5 times the system average for the rate classes receiving subsidies.
- Approve volumetric rate blocks as proposed, and remove the Commission-approved customer charge from volumetric rate block design.

Q: To the extent you do not address a specific item in your testimony, should it be construed to mean you agree with NIPSCO's proposal?

A: No. My silence regarding any topics, issues, or items NIPSCO proposes does not indicate my approval of those topics, issues, or items. Rather, the scope of my testimony is limited to the specific items addressed herein.

Q: Are you sponsoring any attachments in this proceeding?

A: Yes. I have one attachment for my testimony, Attachment BRK-1.

II. <u>PETITIONER'S COST OF SERVICE STUDY</u>

Q: Please briefly provide an overview of your COSS analysis.

A: My analysis focused on NIPSCO witness John Taylor's Direct Testimony, Petitioner's Exhibit No. 16 and Attachment 16-B *Cost of Service Allocation Study*. I analyzed Petitioner's ACOSS model for the Future Test Year ended December 31, 2024. (Confidential NIPSCO COSA Model_Workpaper.) An overview of my review is provided in Appendix BRK-1.

I reviewed how the ACOSS model included allocation of FERC accounts and the model's development of allocators, which satisfactorily demonstrated the validity of

Petitioner's model for representing cost causation of all rate classes. I also reviewed and analyzed the direct testimonies of NIPSCO witnesses Rosida Robles (Petitioner's Exhibit 10) and Melissa Bartos (Petitioner's Exhibit 15). I compared the ACOSS model in this Cause to Petitioner's previous study from Cause No. 45621.

My primary goal was to verify whether Petitioner's proposed model results represent cost causation for the 2024 plant-in-service and expenses used by each rate class. I checked Petitioner's rate design looking for reasonable margin cost increases representing the ACOSS model results while limiting subsidy exchange between rate classes.

I analyzed Petitioner's system load factor calculation and associated rate class characteristics of annual volumes and coincident peak. I reviewed Petitioner's proposal to limit any rate class increase to 1.5 times the overall margin increase while Petitioner reduces subsidy exchange and maintains a rate design representing cost causation. On December 13, 2023, the OUCC had a tech-to-tech meeting during which Petitioner addressed my requests for additional COSS information and helped clarify my understanding of its ACOSS model.

Q: Please describe the factors within the COSS model most important to your analysis concerning cost causation of each rate class.

A: Determining and applying allocators based upon customer characteristics is important within the COSS model. Before looking at rate class characteristics, I reviewed Petitioner's natural gas delivery system, including the interstate pipeline connections and the additional plant added since NIPSCO's last rate case (Cause No. 45621), as presented in Petitioner's prior COSS model. (Petitioner's Exhibit No. 17 and Attachment 17-B in Cause No. 45621.) My analysis indicates the most important rate class characteristics are rate class consumption and when the consumption occurs.

The ACOSS study details rate class annual volumes consumed, rate class co-incident peak demands, removal of customers not served by a particular part of the system, and direct allocation of costs such as residential services. One example in Petitioner's ACOSS model is: "…customers that are directly connected to either transmission or high-pressure distribution pipelines were excluded from the allocation of the downstream distribution mains." (Petitioner's Exhibit No. 16, page 24, lines 15-17.) This example indicates the COSS modeler makes reasonable choices to directly assign plant-in-service to those customers using the plant-in-service.

To assign usage causation, or system impact, of rate class consumption on the natural gas delivery system NIPSCO first determined a comparison of the total annual gas throughput to peak one-day demand – the system load factor. Understanding system load factor allows costs to be defined and analyzed separately as costs associated with total annual volume consumption or costs caused during, and due to, peak demand. System load factor is especially useful for determining transmission asset allocation because the system load factor contains a summation of each rate class's contribution to both system peak demand and system annual throughput.

Petitioner defines demand consumption costs stating: "Demand or capacity related costs are associated with plant that is designed, installed, and operated to meet maximum hourly or daily gas flow requirements, such as the utility's transmission and distribution mains, …" (Petitioner's Exhibit No. 16, page 11, lines 4-8.)

Q: Please define system load factor in more detail.

A: System annual load factor is a comparison, expressed as a fraction, of total annual consumption of all rate classes (numerator) divided by the system peak multiplied by all hours in the year (denominator). The numerator and denominator inputs consist of each rate class's contribution to the system load factor. These inputs are used to define how much demand cost should be associated with peak demand and how much should be associated with daily demand of 365 days per year.

Each rate class's consumption allocators are driven by normal annual consumption. Normal annual consumption is defined by production for industrial customers or by non-weather dependent loads for non-industrial customers. Peak demands are also considered a consumption attribute. Peak demands for industrial customers are driven by production, while peak demands for non-industrial customers are primarily driven by weather. (Petitioner's Exhibit No. 15, page 9, lines 6-16.)

Q: What are the consumption allocators used in Petitioner's ACOSS model?

A: My analysis of Petitioner's COSS methodology shows two primary allocators: annual volumes and peak coincident demand. There are also external and internal allocators derived on plant allocation from the two primary allocators of each rate class.

I analyzed the application and magnitude of each rate class Total Volumes allocator and the coincident peak demand allocator – Design Day. (Petitioner's Exhibit No. 16, Attachment 16-B, pages 33 and 35.) Because my analysis indicates these and other allocators accurately portray NIPSCO's natural gas system, I then analyzed the rate design. In rate design, I looked for a reduction in subsidy exchanges and rate shock mitigation while accurately applying the COSS results within the confines of reducing subsidies and avoiding rate shock.

Petitioner's Networked Transmission System

Q: Does Petitioner have a networked pipeline system supporting the demand and consumption of high demand/high load factor customers located in its northwest service area?

A: Yes. Petitioner's entire system has a total of 38 interstate pipeline interconnections supporting its networked system from seven different interstate pipeline companies. (Petitioner's Exhibit No. 10, page 8, lines 12 – 16.) Petitioner states the 483 and 600 PSI systems are primary transmission feeds to high demand customers in the northwest corner of Petitioner's service territory:

> NIPSCO has a group of high demand, high non-weather conforming load factor customers located in the northwest corner of the system. The primary feed to these customers is through NIPSCO's 483 and 600 PSI systems. In the summer months, these systems handle approximately two-thirds of the entire NIPSCO system sendout.
>
> (Petitioner's Exhibit No. 10, page 9, lines 1 – 5.)

Q: Has Petitioner added transmission plant since the last rate case to improve the deliverability of natural gas to the northwest corner of the system where the high demand and high load-factor customers are located?

A: Yes. Petitioner has an approved Transmission, Distribution, and Storage System Improvement Charge ("TDSIC") Plan and an approved Federally Mandated Cost Adjustment ("FMCA") Plan. Both include transmission projects that address deliverability in the northwest corner of NIPSCO's system. Many of the completed TDSIC and FMCA transmission projects, with 100% of the associated costs, are included in Petitioner's rate base (Future Test Year 2024) and are allocated within the COSS using the Peak and Average allocation factor.

There is a substantial increase in transmission plant. Mr. Taylor states: "… investments were made for increased transmission system reliability and supply diversity and flexibility." (Petitioner's Exhibit No. 16, page 22, lines 12-13.) In his answer to the same question, Mr. Taylor identifies specific locations of the transmission projects:

- Investment in a major transmission segment in northwestern Indiana, referred to by NIPSCO as the 483 lb. system and the 295 lb. system, allowing for a secondary feed for redundancy, additional physical paths for supply, and to maintain higher operating pressures.
- Investment in a redundant feed into the Town of Kokomo for serving additional load growth in that area.
- The investments in TDSIC create an additional high-pressure feed to customers served in northwestern Indiana.

(Petitioner's Exhibit No. 16, page 22, line 17 to page 23, line 4.)

Q: Please provide your comparison of transmission assets from Cause No. 45621 to this Cause.

A: I compared the transmission asset growth (undepreciated Rate Base) of Petitioner's prior base rate case to transmission assets in this case using data from Petitioner's COSS in each rate case. The transmission Plant-in-Service assets found in FERC accounts 365.1, 365.2, 366, 367, 369, and 371 increased 78% in two years. Distribution Plant-in-Service grew 16% for FERC accounts: 374, 375 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, and 387. The comparisons of costs from Cause No. 45621 and Cause No. 45967 are presented in Table 1. (Attachment BRK-1; NIPSCO's Response to OUCC Data Request ("DR") 13-001, and Cause No. 45967, Petitioner's Exhibit No. 16, Attachment 16-B, page 17.)

Table 1. Transmission and Distribution Plant-in-Service (undepreciated)

Transmission and Distribution Plant-in-Service in NIPSCO Base Rate Cases			
	Cause No. 45621 (Test Year 2022)	Cause No. 45967 (Test Year 2024)	Increase
Transmission Plant	$823,667,315	$1,467,230,132	78%
Distribution Plant	$2,776,699,603	$3,219,065,417	16%

Q: Are transportation customers direct users of the transmission mains and the high-pressure distribution mains?

A: Yes. Many high demand transportation customers are typically connected directly to Petitioner's transmission system or the high-pressure (distribution) mains. This is especially the case for Rate 228 DP and Rate 228 HP Large Transport customers. (I use the existing 200 series for rate class designation for clarity, although Petitioner proposes to renumber the rate classes to a 300 series.) These customers are characterized as high load factor industrial transport customers and are located on the transmission system or the system of high-pressure distribution mains (with pressures of 600 lb., 483 lb., 295 lb., and 160 lb.). These direct connections give these customers access to purchase transportation gas from various interstate pipelines. Petitioner describes cost allocation and delivery requirements for the customers located on the transmission mains or high-pressure distribution mains (greater than 60 lb.):

> The vast majority of NIPSCO's customers are served from distribution mains that operate at or below 60 psig. However, due to the pressure requirements and/or locations of some large customers, they are directly connected to either the transmission system or the high-pressure distribution system. These customers do not utilize the 60 psig distribution system, and therefore the peak demands of the Large Transportation (Class 228) and General Transportation (Class 238) customers that are directly connected to

> either transmission or high-pressure distribution pipelines were excluded from the allocation of the downstream distribution mains.
>
> (Petitioner's Exhibit No. 16, page 24, lines 9–17.)

<u>System Load Factor for Determining Transmission Allocators</u>

Q: Please summarize NIPSCO's proposed transmission allocation.

A: NIPSCO proposes the Peak and Average method for allocating transmission mains (FERC Account 367.0) and the other associated FERC transmission accounts (Petitioner's Exhibit No. 16, Attachment 16-B, page 25.) Transmission allocation, Peak and Average, is derived from the calculated system wide load factor to apportion the transmission accounts with two rate class consumption allocators – Design Day and Total Volume.

The NIPSCO system load factor is 45.35%. This percentage is used to assign 45.35% of the transmission cost, which is allocated according to each rate class's individual annual throughput. Petitioner describes this allocator as the Total Volume rate class allocator. (Petitioner's Exhibit No. 16, page 21, line 19 – page 22, line 5.) For example, the Total Volume allocator is 17.93% for Rate 211 (Residential) and the Total Volume allocator for Rate 228 HP is 62.46%. (Petitioner's Exhibit No. 16, Attachment 16-B, page 35, line 69.)

The remainder of the Load Factor, 54.65%, is allocated with each rate class's Design Day demand. For example, the Design Day allocator is 39.34% for Rate 211 and the Design Day allocator for Rate 228 HP is 32.63%. (Petitioner's Exhibit No. 16, Attachment 16-B, page 33, line 4.) The weighted average of the Peak and Average allocator is 33.49% for Rate 211 and 40.78% for Rate 228 HP. (Petitioner's Exhibit No. 16, Attachment 16-B, page 33, line 13.)

Q: What is your opinion on Petitioner's calculation of Load Factor and its derivation of Design Day and Annual Volumes?

A: I do not object to Petitioner's development of its system load factor. Petitioner did not remove any rate class consumption characteristics from the Load Factor calculation and cost causation allocations. This means the same rate class total annual volumes and coincident peaks were used. NIPSCO described the development of its system peak and each rate class Design Day allocator:

> Design day demand for the non-temperature sensitive rate classes is estimated using an average of the three-day peak usage by class. The temperature sensitive design day demand by rate class is adjusted to ensure that the total design day demand estimated by class equals the total system-wide design day demand.

(Petitioner's Exhibit No. 15, page 9, lines 12-16.)

The annual volumes were developed through econometric modeling coupled with actual measured 2022 data as explained in Petitioner's Exhibit No. 15. (Petitioner's Exhibit No. 15, Attachment 15-C, NIPSCO Gas Normal Therms.) Petitioner's normalized 2024 total annual volumes used in the COSS model were approximately 3% higher than 2022 actuals based upon expected growth. [((3,731,430,274 - 3,609,865,125)/3,609,865,125) x 100]. (NIPSCO External Allocation Factors_Workpaper, Volumes tab and Petitioner's Exhibit No. 15, Attachment 15-C, NIPSCO Gas Normal Therms.) My analysis indicates the estimated system peak and annual volumes compare accurately to historic numbers and reasonably with normal growth. The OUCC discussed these calculations with Petitioner in a tech-to-tech meeting on December 13, 2023.

Q: Were all rate class Annual Volumes and peak usage during the System Design Day used in the System Load Factor calculation?

A: Yes. I calculated and verified Petitioner's annual load factor as 45.35% [(3,731,430,274 annual therms)/(365 days/22,544,240 Design Day therms)]. To determine the annual load factor, Petitioner defined the numerator equal to system annual therms and the denominator equal to Design Day therms. (Petitioner's Exhibit No. 16, Attachment 16-B, page 35, line 68 and, page 33, line 3, respectively.)

Q: How do the 45.35% Total Volume allocator and 54.65% Design Day allocator replicate cost causation for the transmission mains (FERC Account 367.0) and the other associated transmission FERC accounts?

A: Petitioner's testimony states:

> NIPSCO's transmission system is a large diameter, high pressure pipeline system that moves large volumes of gas between dispersed interstate pipeline interconnecting points and its downstream distribution systems throughout the year. This transmission pipeline configuration permits the sourcing of gas supplies from multiple trading points and supply basins to the benefit of both sales and transportation customers.
>
> (Petitioner's Exhibit No. 16, page 21, lines 14-19.)

Petitioner explains the use of multiple trading points on its transmission system to benefit its transportation customers and Petitioner's sales (non-transport) customers. I do not disagree with Petitioner's assessment concerning multiple trading points benefitting transportation customers through multiple purchase points for large volumes. Transportation customers directly use the high volume/high pressure pipes to access interstate natural gas which reduces costs, improves competition, and improves reliability for all users. Petitioner testified the Peak and Average transmission allocation represents cost causation and the design benefits of its system because "[t]he operational improvements, cost-saving supply sourcing flexibility and associated pricing options described above were influential in the choice of the P&A allocation method for the NIPSCO transmission system mains." (Petitioner's Exhibit No. 16, page 23, lines 16-19.)

Q: Please describe how the physical design of NIPSCO's transmission supports transmission customers for both Peak Demand and Average Demand?

A: Concerning the physical design of NIPSCO's pipelines, my analysis indicates transmission main usage can be characterized by two factors, peak demand and throughput: 1) peak demand - the additional pipe cost for larger pipe diameter and 2) throughput - all remaining costs associated with installing a pipe length, annual maintenance, design, restoration, and easement costs - which are not a function of pipe diameter.

Larger pipe diameter and thicker pipe walls allow for more peak demand capacity (larger volume and higher pressure) while the pipe length allows for 365 days per year of throughput capacity carried from various interstate pipeline connection points. Petitioner's transmission pipeline design consisting of large diameter pipes and high pressures allows for large volumes of gas to feed high demand customers through NIPSCO's 483 PSI and 600 PSI systems.

Q: Does the Peak and Average transmission allocation method reflect collection of margin revenue requirements?

A: Yes. A utility collects margin revenue monthly to pay for daily/monthly utility costs. Collecting costs based on Annual Volumes from a 365-day cost causation mirrors monthly consumption and is essential to Petitioner's monthly revenue for operations. Design Day represents normal industrial load demand on the system peak day, because it is a high load factor consumer, plus greater than normal daily volume during cold days for heat sensitive loads. The peak demands of both are supplied through larger pipe diameters which allow for increased short-term flow and higher pressure without pressure loss.

A gas transmission system would not exist if only short duration peak demand related costs were collected. For Rate 228 DP and Rate 228 HP, Petitioner has designed, and continues to design, rates with a peak demand charge and volumetric/delivery block rates. (Petitioner's Exhibit No. 16, Attachment 16-D, page 3.) It is therefore proper to design rates based on both Annual Volume and Design Day.

In an extreme example, if the utility collected revenues using only one of these allocators, subsidies would flow from those paying in rates for the defined allocator to those not paying for the singularly defined allocator. Using both rate class characteristics, or allocators, is appropriate for revenue collection and for accurate cost causation representation – Design Day and Annual Volume.

Q: Please provide another example in Petitioner's testimony explaining why Peak and Average represents cost causation for transmission assets.

A: Mr. Taylor's answer to Question 38 in his testimony summarizes Petitioner's reasons. A portion of the answer to Question 38 follows:

> To summarize, the NIPSCO transmission system provides increased supply diversity, and price options, for transportation customers as well as core sales customers. It facilitates the transfer of supply from five of the seven pipeline interconnection points, even when NIPSCO might not be receiving gas from all interconnection points. It allows transportation customers to receive supply at various points of interstate pipeline delivery, whether near or far from their location on the system.

(Petitioner's Exhibit No. 16, page 23, line 5-11.)

I agree with Mr. Taylor's Peak and Average allocation methodology based upon system load factor because system load factor is calculated by using each rate class consumption characteristic. Petitioner's transmission system design meets and satisfies these consumption attributes as described above.

Rate Class Volume Consumption – Total Volume Allocator

Q: Please provide a comparison of annual consumption (Total Volume allocator) for the residential rate, the large volume transport rate, and all remaining rates.

A: Annual system throughput (Total Volume allocator) is dominated by Rate 228 HP Large Transport. It represents 62.46% of the systems' total throughput. The annual throughput of Rate 228 HP and Rate 228 DP combined, the two largest transport rates, is 68.03% of the total annual system throughput. Rate 211 Residential is 17.93% of NIPSCO's total annual system delivery. (Petitioner's Exhibit No. 16, Attachment 16-B, page 35, line 69.)

Table 2. Large Transports and Residential Throughput Comparison

System Annual Usage = 3,731,430,274 therms (2024 Adjusted)		
	Rate Class Consumption (therms)	Rate Class Percentage of Total System Annual Usage
Residential Rate 211	669,107,758	17.93%
Large Transport Rate 228 DP	207,677,634	5.57%
Large Transport Rate 228 HP	2,330,559,588	62.46%

These three rate classes use 85.96% of NIPSCO's total system annual consumed volume of natural gas. The remaining rates use approximately 14%: Rate 215 Multiple Family, Rate 221 General Small, Rate 225 General Large, Rate 234 Interruptible, and Rate 238 General Transport. It is clear Rate 228 HP is the dominant annual volume consumer. Rate 228 HP is approximately 3.5 times greater than the next largest rate class consumer – Rate 211 Residential.

My analysis indicates the large transport customers use NIPSCO's transmission plant 365 days per year for purchasing natural gas from the NIPSCO interstate pipeline connections. Assigning 45.35% (the system load factor) of transmission assets with annual rate class consumption (Total Volume allocator) is reasonable because transportation consumers are not penalized for their constant use of NIPSCO's transmission system and the associated expenses of the transmission system. The annual system load factor percentage, 45.35%, is less than the Rate 228 HP annual consumption percentage, 62.46%, thus attributing less cost for volumes consumed to a rate class with high daily consumption rates.

Rate Class System Coincident Peak – Design Day Allocator

Q: Please explain the relationship between coincident demand (Design Day) and system peak.

A: The system peak demand normally occurs during a winter month. Each rate class's calculated Design Day *could* occur during system peak. Contributing demands to Design Day are a function of heating loads during the coldest outdoor temperature day and industrial productivity during that same cold day. Petitioner used modeling and metering to determine each rate class peak that is coincident and contributing to the system peak.

In this Cause, Petitioner calculated the coincident peaks to be equal to its measured system peak plus expected normal demand growth. The heat sensitive loads were modeled but the industrial loads were derived from actual three-day average peaks. Petitioner's Exhibit No. 15 contains the description of the derivation of modeling combined with metering.

Q: Please briefly describe how Petitioner derived its system Design Day, the contribution of each individual rate class to system Design Day, and forecasted throughput.

A: Petitioner derived a theoretical system peak, occurring during a winter month, by modeling and regression analysis, with respect to the coldest January day that occurred between 1961 and 2022. Petitioner calculated each rate class's contribution to theoretical system peak demand using the heating degree day ("HDD") method and an econometric method. (Petitioner's Exhibit No. 15, pages 8-11.) To determine a 2024 forecast, Petitioner calculated the industrial coincident peak and throughput by conducting interviews with large industrial customers and analysis of historical data. Petitioner explained the process:

> Design day demand for the non-temperature sensitive rate classes is estimated using an average of the three-day peak usage by class. The temperature sensitive design day demand by rate class is adjusted to ensure that the total design day demand estimated by class equals the total system-wide design day demand.
>
> (Petitioner's Exhibit No. 15, page 9, lines 12-16.)

Q: Please provide a comparison of annual consumption (Design Day allocator) for the residential rate, the large volume transport rates, and all remaining rates.

A: System Peak Daily Demand (Design Day allocator) is set by three rate classes: Rate 211 Residential, Rate 221 General Small, and Rate 228 HP Large Transport. These three rate classes are responsible for 91.28% of system peak demand. The remaining rates are responsible for less than 9% of system peak demand. (Petitioner's Exhibit No. 16, Attachment 16-B, page 33, line 4.)

Table 3. Large Transportation and Cold Day Heating Comparison (Design Day allocator)

Peak System Day Demand = 22,544,240 therms (2024 Adjusted)		
	Rate Class Peak Daily Consumption (therms)	Rate Class Percentage of Total System Design Day
Residential Rate 211	8,868,376	39.34%
General Small Rate 221	4,354,324	19.31%
Large Transport Rate 228 HP	7,356,136	32.63%

Allocating 54.65% of transmission assets with each individual rate class's annual peak demand is reasonable because there is one additional rate (as compared to annual volumes) that is a large contributor to peak demand – Rate 221 General Small. This highlights a dimension of consumption, peak demand, that is driven by cold ambient temperatures causing customers to use natural gas for space heating loads.

COSS Summary

Q: Do you disagree with Petitioner's proposed COSS?

A: No. I recommend the Commission approve Petitioner's proposed COSS methodology, including Petitioner's transmission mains allocation methodology using Peak and Average based upon its system load factor. I reviewed Petitioner's entire ACOSS model including other allocators. The other allocators are either a function of the plant asset allocators or associated labor costs for specific assets. Petitioner assigned costs directly to individual rate classes when possible (such as residential meters, distribution assets without customers located on transmission assets, and industrial meters.) A complete description of allocators is contained in Petitioner's Exhibit No. 16, Attachment 16-B, pages 6-11. I do not recommend changes to Petitioner's ACOSS model because my analysis indicates the model is a reasonable representation of cost causation of individual rate classes.

III. SUBSIDY MITIGATION AND RATE DESIGN

A. Subsidies

Q: Does Petitioner propose to mitigate subsidies for all rate classes through its proposed rate design?

A: Petitioner has proposed to mitigate subsidies by increasing rates for all rate classes except for three: Rate 228 DP Large Transport, Rate 234 Interruptible, and Rate 238 General Transport, because these three rate classes currently subsidize the other rate classes. These three rate classes have a current Relative Revenue to Cost Ratio of greater than or equal to 1.43, such as the current Relative Revenue to Cost Ratio of 1.48 for Rate 228 DP Large Transport. The Relative Revenue to Cost Ratio compares rates to cost causation as determined by the COSS model. If this number for a given rate class is greater than one, the rate class is paying more (subsidizing other rate classes) than its cost causation as determined by the COSS model.

The Relative Revenue to Cost Ratio remains greater than or equal to 1.13 in the proposed rate design without any margin rate increase to the three rates identified in the preceding paragraph. (Petitioner's Exhibit No. 16, Attachment 16-D, page 1.) This means these three rates (Rate 228 DP Large Transport, Rate 234 Interruptible, and Rate 238 General Transport) will continue to pay subsidies greater than all other rate classes. However, Rate 228 HP Large Transport receives a subsidy, meaning its Relative Revenue to Cost Ratio is less than one. All other rate classes pay a subsidy to Rate 228 HP and have Relative Revenue to Cost Ratio greater than one.

In Petitioner's proposed rate design there is only one class receiving subsidy, Rate 228 HP Large Transport. The proposed Parity Ratio in rate design for Rate 228 HP Large Transport is 0.71 which means even with a proposed 41.6% margin increase this rate is still 0.29 or 29% short of paying its full COSS fully allocated cost – cost causation.

My analysis indicates Petitioner's ACOSS reasonably represents cost causation; therefore, rate design should closely follow the ACOSS results and reduce subsidies paid and subsidies received. My analysis indicates Petitioner reasonably represents the COSS results in its rate design. Subsidies continue to be paid by all other rates to Rate 228 HP but these subsidies are reduced or held constant for each rate class, and not increased. Additionally, Rate 228HP receives less subsidy, but the rate class will not pay its fully allocated cost, because its increase is limited by NIPSCO's proposed rate design, as described below.

Specifically, Rate 228 HP Large Transport receives an actual rate reduction as compared to its actual allocated cost because it continues to receive subsidies from all other rate classes. Rate 228 HP is not charged its fully allocated cost represented in the COSS model. Petitioner does propose to lessen rate shock to Rate 228 HP by limiting its overall increase to 1.5 times the proposed margin. This does avoid rate shock for Rate 228 HP and does not increase the Revenue to Cost Ratio paid by other rate classes.

B. Rate Design

Q: Does the OUCC's reduced revenue requirement affect the rate design?

A: Yes. The OUCC recommends a decrease to Petitioner's proposed revenue requirement, as described by OUCC witness Mark Grosskopf. For purposes of setting Petitioner's Phase I and Phase II rates, I recommend NIPSCO rerun the proposed ACOSS model using the OUCC's recommended revenue requirements ultimately approved by the Commission in this Cause.

Petitioner's witness Taylor states there may be reasons to cap margin increases thus not allowing a customer to pay for its cost as determined by the COSS and continues: "I typically see these caps set between 1.5-2.5 times the overall system increase." (Petitioner Exhibit No. 16, page 43, lines 5-6.) Petitioner's proposed COSS determined the margin increase for equal rates of return would increase by 98.54% for Rate 228 HP. (Petitioner's Exhibit No. 16, Attachment 16-B, page 13.)

Petitioner proposed a cap of 1.5 times the margin cost but also provided the following analysis: "Consequently, this is still below the increase required to move Large Transport Rate 228 HP to parity under the alternative design day allocation of transmission mains, which would require an increase of 61.2 percent." (Petitioner's Exhibit No. 16, page 43, line 18 to page 44, line 2.)

Petitioner's assessment that no rate class's revenue allocation should increase by more than 150% of the system margin increase is reasonable. Furthermore, I do not object to Petitioner's proposed subsidy exchange between rate classes and my recommendation is for the Commission to approve the rate design as Petitioner proposed.

Q: Do you recommend any changes to rate design?

A: No. I reviewed the rate design and recommend no changes to the volumetric rates contained in the rate blocks.

C. Customer Charges and Tariff Changes

Q: Are Monthly Customer Charges, tariff language changes, and other tariff costs discussed in a different OUCC Analyst's testimony?

A: Yes. OUCC Witness Jared Hoff discusses these issues in Public's Exhibit No. 10.

IV. RECOMMENDATIONS

Q: Please summarize your COSS recommendations.

A: NIPSCO's cost of service proposal includes proper cost allocations. I recommend the Commission:

- Adopt Petitioner's ACOSS model results for rate design.
- Approve Petitioner's proposed Peak and Average transmission allocation derived from Petitioner's system load factor.
- Approve Petitioner's proposed cap for any rate class to not have a margin increase greater than 1.5 times the system average for the rate classes receiving subsidies.
- Approve Petitioner's proposed volumetric rate blocks and remove Commission approved customer charge from volumetric rate block design.

Q: Does this conclude your testimony?

A: Yes.

APPENDIX BRK-1 TO THE TESTIMONY OF OUCC WITNESS BRIEN R. KRIEGER

I. PROFESSIONAL EXPERIENCE

Q: Please describe your educational background and experience.

A: I graduated from Purdue University in West Lafayette, Indiana with a Bachelor of Science Degree in Mechanical Engineering in May 1986, and a Master of Science Degree in Mechanical Engineering in August 2001 from Purdue University at the IUPUI campus.

From 1986 through mid-1997, I worked for PSI Energy and Cinergy progressing to a Senior Engineer. After the initial four years as a field engineer and industrial representative in Terre Haute, Indiana, I accepted a transfer to corporate offices in Plainfield, Indiana where my focus changed to industrial energy efficiency implementation and power quality. Early Demand Side Management ("DSM") projects included ice storage for Indiana State University, Time of Use rates for industrials, and DSM Verification and Validation reporting to the IURC. I was an Electric Power Research Institute committee member on forums concerning electric vehicle batteries/charging, municipal water/wastewater, and adjustable speed drives. I left Cinergy and worked approximately two years for the energy consultant, ESG, and then worked for the OUCC from mid-1999 to mid-2001.

I completed my Master's in Engineering in 2001, with a focus on power generation, including aerospace turbines, and left the OUCC to gain experience and practice in turbines. I was employed by Rolls-Royce (2001-2008) in Indianapolis working in an engineering capacity for military engines. This work included: fuel-flight regime performance, component failure mode analysis, and military program control account management.

From 2008 to 2016 my employment included substitute teaching in the Plainfield, Indiana school district, grades 3 through 12. I passed the math Praxis exam requirement for teaching secondary school. During this period, I also performed contract engineering work for Duke Energy and Air Analysis. I started working again with the OUCC in 2016.

Over my career I have attended various continuing education workshops at the University of Wisconsin and written technical papers. While previously employed at the OUCC, I completed Week 1 of NARUC's Utility Rate School hosted by the Institute of Public Utilities at Michigan State University. In 2016, I attended two cost-of-service/rate-making courses: Ratemaking Workshop (ISBA Utility Law Section) and Financial Management: Cost of Service Ratemaking (AWWA).

In 2017, I attended the AGA Rate School sponsored by the Center for Business and Regulation in the College of Business & Management at the University of Illinois Springfield and attended Camp NARUC Week 2, Intermediate Course held at Michigan State University. I completed the Fundamentals of Gas Distribution on-line course developed and administered by Gas Technology Institute in 2018. In October 2019, I attended Camp NARUC Week 3, Advanced Regulatory Studies Program held at Michigan State University by the Institute of Public Utilities.

My current responsibilities include reviewing and analyzing Cost of Service Studies ("COSS") relating to cases filed with the Commission by natural gas, electric and water utilities. Additionally, I have taken on engineering responsibilities within the

OUCC's Natural Gas Division, including participation in "Call Before You Dig-811" incident review, commenting on proposed IAC rules for natural gas gathering lines and UPPAC/811 issues, along with attending natural gas emergency response training. I regularly attend UPPAC "811" monthly penalty assignment advisory meetings.

Q: Have you previously filed testimony with the Commission?

A: Yes. I have provided written testimony concerning COSS in more than thirteen base rate cases filed with the Indiana Utility Regulatory Commission. Additionally, I have provided written testimony for Targeted Economic Development ("TED") projects in 2017/2018/2020 and various Federal Mandate Cost Adjustment ("FMCA") and Transmission, Distribution, and Storage System Improvement Charges ("TDSIC") petitions. I filed testimony or provided analysis in over thirteen FMCA or TDSIC 7-Year Plan or Tracker petitions in Indiana.

While previously employed by the OUCC, I wrote testimony concerning the Commission's investigation into merchant power plants, power quality, Midwest Independent System Operator and other procedures. Additionally, I prepared testimony and position papers supporting the OUCC's position on various electric and water rate cases during those same years.

II. <u>BACKGROUND OF TESTIMONY ANALYSIS</u>

Q: Please describe the review you conducted to prepare this testimony.

A: I reviewed NIPSCO's Petition, Testimony, Attachments, and Confidential Attachments for this Cause. I reviewed Petitioner's prior base rate case, Cause No. 45621, and the Commission's Order for Cause No. 45621. I also reviewed projects within Petitioner's

Federally Mandated Cost Adjustment ("FMCA"), Cause No. 45703. Additionally, I reviewed Petitioner's Transmission, Distribution, and Storage System Improvement ("TDSIC") projects, Cause No. 45330, focusing on transmission projects.

My analysis focused on Petitioner's COSS witness' testimony (John D. Taylor, Exhibit No. 16), attachments, and COSS model. I participated in OUCC case team meetings concerning Petitioner's case. I was engaged in a tech-to-tech discussion with Petitioner on December 13, 2023. In this meeting with Petitioner, we discussed the COSS model and Petitioner's TDISC/FMCA projects. For additional COSS information, I reviewed Petitioner's Exhibits Nos. 10 and 15 for allocation derivation and system infrastructure design.

Q: Have you reviewed NIPSCO's COSS model sponsored by Atrium Economics?

A: Yes. I analyzed the methodology and inputs of the model. I reviewed the allocator descriptions, derivations, and investigated the rate class allocator magnitudes. I reviewed the allocation method of FERC accounts, the COSS results, and Petitioner's proposed rate design.

Cause No. 45967
Northern Indiana Public Service Company LLC's
Objections and Responses to
Indiana Office of Utility Consumer Counselor's Thirteenth Set of Data Requests

OUCC Request 13-001:
Please confirm the following subtotals of plant-in-service are correct as found in Petitioner's COSS model from Cause No. 45621 – Atrium COSS Model Workpaper, Classification tab for the 12 months ending December 31, 2022: a. Subtotal - Transmission Plant = $823,667,315 (line 33) b. Subtotal - Distribution Plant = $2,776,699,603 (line 50) If not confirmed, please provide the amounts from Petitioner's COSS model from Cause No. 45621 – Atrium COSS Model Workpaper, Classification tab for the 12 months ending December 31, 2022 for the two items listed above.
Objections:
Response:
NIPSCO confirms the amounts cited from the prior case (Cause No. 45621) workpapers for Transmission Plant and Distribution Plant. These amounts were the forecasted pro forma balances at December 31, 2022 included in the case in chief from Cause No. 45621.

AFFIRMATION

I affirm, under the penalties for perjury, that the foregoing representations are true.

Brien R. Krieger

____

Brien R. Krieger
Utility Analyst II
Indiana Office of
Utility Consumer Counselor
Cause No. 45967
Northern Indiana Public Service Company

01/31/2024
Date

CERTIFICATE OF SERVICE

This is to certify that a copy of the foregoing has been served upon the following counsel of record in the captioned proceeding by electronic service on January 31, 2024.

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