Moore&VanAllen

James H. Jeffries IV Attorney at Law

T 704 331 1079 F 704 339 5879 jimjeffries@mvalaw.com

Moore & Van Allen PLLC

Suite 4700 100 North Tryon Street Charlotte, NC 28202-4003

November 9, 2017

VIA ELECTRONIC FILING

Ms. M. Lynn Jarvis Chief Clerk North Carolina Utilities Commission 430 N. Salisbury Street, Dobbs Building Raleigh, North Carolina 27603

Re: Docket No. G-9, Sub 710

Dear Ms. Jarvis:

Enclosed for filing is the Joint Proposed Order of Piedmont Natural Gas Company, Inc. and the Public Staff in the above-referenced docket. I have emailed the Proposed Order in word format to <u>briefs@ncuc.net</u>.

Thank you for your assistance with this matter. If you have any questions regarding this filing, you may reach me at the number shown above.

Sincerely,

<u>/s/ James H. Jeffries IV</u> James H. Jeffries IV

JHJ/rkg

cc: Bruce Barkley Pia Powers Elizabeth Culpepper

OFFICIAL COPY

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the attached is being served this date upon all of the parties to this docket electronically or by depositing a copy of the same in the United States Mail, First Class Postage Prepaid, at the addresses contained in the official service list in this proceeding.

This the 9th day of November, 2017.

/s/ Richard K. Goley Richard K. Goley

STATE OF NORTH CAROLINA UTILITIES COMMISSION RALEIGH

DOCKET NO. G-9, SUB 710

BEFORE THE NORTH CAROLINA UTILITIES COMMISSION

)

)

)

)

In the Matter of Application of Piedmont Natural Gas Company, Inc. for Annual Review of Gas Costs Pursuant to G.S. 62-133.4(c) and Commission Rule R1-17(k)(6)

JOINT PROPOSED ORDER OF PIEDMONT NATURAL GAS COMPANY, INC. AND THE PUBLIC STAFF

- HEARD: Tuesday, October 3, 2017, at 10:00 a.m., Commission Hearing Room 2115, Dobbs Building, 430 North Salisbury Street, Raleigh, North Carolina
- BEFORE: Commissioner ToNola D. Brown-Bland, Presiding, and Commissioners Jerry C. Dockham and James G. Patterson

APPEARANCES:

For Piedmont Natural Gas Company, Inc.:

James H. Jeffries IV, Moore & Van Allen PLLC, Bank of America Corporate Center, 100 N. Tryon Street, Suite 4700, Charlotte, North Carolina 28202-4003

For the Using and Consuming Public:

Elizabeth D. Culpepper, Staff Attorney, Public Staff – North Carolina Utilities Commission, 4326 Mail Service Center, Raleigh, North Carolina 27699-4300

For Carolina Utility Customers Association, Inc.:

Robert F. Page, Crisp & Page, PLLC, 4010 Barrett Drive, Suite 205, Raleigh, North Carolina 27609

BY THE COMMISSION: On August 1, 2017, pursuant to G.S.

62-133.4(c) and Commission Rule R1-17(k)(6), Piedmont Natural Gas

Company, Inc. (Piedmont or Company), filed the direct testimonies and exhibits

of MaryBeth Tomlinson, Manager of Gas Accounting; Michelle R. Mendoza,

Director of Pipeline Services; and Sarah E. Stabley, Director of Gas Supply, Scheduling and Optimization, attesting to the prudence of the Company's gas purchasing practices and the accuracy of the Company's gas cost accounting for the twelve-month period ended May 31, 2017.

On August 4, 2017, the Commission issued its Order Scheduling Hearing, Requiring Filing of Testimony, Establishing Discovery Guidelines and Requiring Public Notice. This Order established a hearing date of October 3, 2017, set prefiled testimony dates, and required the Company to give notice to its customers of the hearing on this matter.

On August 9, 2017, Carolina Utility Customers Association, Inc. (CUCA), filed a petition seeking to intervene in this docket. On August 15, 2017, the Commission issued an Order Granting Petition to Intervene.

On September 14, 2017, Piedmont filed the Supplemental Testimony and Exhibit of MaryBeth Tomlinson.

On September 18, 2017, the Public Staff filed the prefiled joint testimony of Poornima Jayasheela, Staff Accountant, Natural Gas Section, Accounting Division; Jan A. Larsen, Director, Natural Gas Division; and Julie G. Perry, Accounting Manager - Natural Gas and Transportation Section, Accounting Division (Public Staff Panel or Panel). On September 19, 2017, the Public Staff filed a revised page 9 to its prefiled testimony.

On September 21, 2017, Piedmont and the Public Staff filed a joint motion for witnesses to be excused from appearance at the evidentiary hearing and requested that the prefiled testimony and exhibits of all witnesses be

tion. , and

received into the record without requiring the appearance of any such witnesses. CUCA waived cross-examination of the witnesses for Piedmont and the Public Staff and did not otherwise object to the relief sought therein. The Commission granted the motion on September 25, 2017.

On September 29, 2017, the Company filed its affidavits of publication.

On October 3, 2017, the matter came on for hearing as scheduled, and all prefiled testimony and exhibits were admitted into evidence. No public witnesses appeared at the hearing.

On November 2, 2017, Piedmont and the Public Staff filed a joint motion seeking an additional seven (7) days for parties to file proposed orders and briefs in this docket which was granted by Commission order issued on November 3, 2017.

On November 7, 2017, Piedmont and the Public Staff filed their Joint Motion to Supplement the Record in this proceeding pursuant to which they sought leave to file three revised pages to the Public Staff's prefiled direct testimony in order to correct minor errors in that testimony. That motion was allowed by Commission order dated November 8, 2017.

On November 9, 2017, the Joint Proposed Order of Piedmont and the Public Staff was filed.

Based on the testimony and exhibits received into evidence and the record as a whole, the Commission makes the following:

FINDINGS OF FACT

1. Piedmont is a public utility as defined in Chapter 62 of the North Carolina General Statutes.

2. Piedmont is engaged primarily in the business of transporting, distributing, and selling natural gas to customers in North Carolina, South Carolina, and Tennessee.

3. Piedmont has filed with the Commission and submitted to the Public Staff all of the information required by G.S. 62-133.4(c) and Commission Rule R1-17(k).

 The review period in this proceeding is the twelve months ended May 31, 2017.

5. The Company properly accounted for its gas costs incurred during the review period.

6. During the review period, the Company incurred total North Carolina gas costs of \$284,034,828, which was comprised of demand and storage charges of \$132,821,781, commodity gas costs of \$173,683,773, and other gas costs of (\$22,470,726).

7. At May 31, 2017, the Company had a credit balance of \$3,372,155, owed from the Company to the customers, in its Sales Customers' Only Deferred Account and a debit balance of \$10,741,279, owed from the customers to the Company, in its All Customers' Deferred Account.

8. During the review period, Piedmont actively participated in secondary market transactions earning actual margins of \$31,613,832 for the benefit of North Carolina ratepayers.

9. Piedmont operated a gas cost hedging program on behalf of customers during the review period. Piedmont's hedging activities during the review period were reasonable and prudent.

10. At May 31, 2017, the balance in the Company's Hedging Deferred Account was a debit balance of \$764,597.

11. It is appropriate for the Company to transfer the \$764,597 debit balance in its Hedging Deferred Account to its Sales Customers' Only Deferred Account. The combined balance for the Hedging and Sales Customers' Only Deferred Accounts is net credit balance of \$2,607,558.

12. The Company has transportation and storage contracts with interstate pipelines, which provide for the transportation of gas to the Company's system, and long-term supply contracts with producers, marketers, and other suppliers.

13. The Company utilized a "best cost" gas purchasing policy during the applicable review period consisting of five main components: price of gas, security of the gas supply, flexibility of the gas supply, gas deliverability, and supplier relations.

14. The Company's gas purchasing policy and practices during the review period were prudent.

15. The Company's gas costs during the review period were prudently incurred, and the Company should be permitted to recover 100 percent of such prudently incurred gas costs.

16. The Company should implement the temporary rate decrement and the increments proposed by Company witness Tomlinson and agreed to by the Public Staff Panel.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 1-2

The evidence supporting these findings of fact is contained in the official files and records of the Commission and the testimony of Company witnesses Tomlinson, Mendoza, and Stabley. These findings are essentially informational, procedural, or jurisdictional in nature and are based on uncontested evidence.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 3-4

The evidence supporting these findings of fact is contained in the testimony of Company witnesses Tomlinson, Mendoza, and Stabley, the testimony of the Public Staff Panel, and the provisions of G.S. 62-133.4(c) and Commission Rule R1-17(k)(6).

G.S. 62-133.4 requires that each natural gas utility submit to the Commission information and data for an historical twelve-month review period concerning its actual cost of gas, volumes of purchased gas, sales volumes, negotiated sales volumes, and transportation volumes. Commission Rule R1-17(k)(6)(a) establishes May 31, 2017, as the end date of the annual review period for the Company in this proceeding. Commission Rule R1-17(k)(6)(c)

requires the filing by the Company of certain information and data showing weather-normalized sales volumes, workpapers, and direct testimony and exhibits supporting the information.

Company witness Tomlinson testified that the Company filed with the Commission and submitted to the Public Staff throughout the review period complete monthly accountings of the computations required by Commission Rule R1-17(k)(6)(c). Witness Tomlinson included the annual data required by Commission Rule R1-17(k)(6)(c) as Exhibit_(MBT-1) to her direct testimony. The Public Staff Panel stated that they had presented the results of their review of the gas cost information filed by Piedmont in accordance with G.S. 62-133.4(c) and Commission Rule R1-17(k)(6).

Based upon the foregoing, the Commission concludes that Piedmont has complied with the procedural requirements of G.S. 62-133.4(c) and Commission Rule R1-17(k) for the twelve-month review period ended May 31, 2017.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 5-7

The evidence supporting these findings of fact is contained in the testimony of Company witness Tomlinson and the Public Staff Panel.

Company witness Tomlinson testified that Piedmont incurred total North Carolina gas costs of \$284,034,828 during the review period, which was comprised of demand and storage charges of \$132,821,781, commodity gas costs of \$173,683,773, and other gas costs of (\$22,470,726).

Company witness Tomlinson's prefiled testimony and exhibits reflected

a credit balance of \$3,372,155 in its Sales Customers' Only Deferred Account and a debit balance of \$10,741,279 in its All Customers' Deferred Account as of May 31, 2017. The Public Staff Panel agreed with these balances and testified that the Company properly accounted for its gas costs incurred during the review period.

Based upon the foregoing, the Commission concludes that the Company properly accounted for its gas costs incurred during the review period. The Commission also concludes that the appropriate level of total North Carolina gas costs incurred for this proceeding is \$284,034,828. The Commission further concludes that the appropriate balances of the Company's deferred accounts as of May 31, 2017, are a credit balance of \$3,372,155, owed from the Company to the customers, in its Sales Customers' Only Deferred Account, and a debit balance of \$10,741,279, owed from the customers to the Company, in its All Customers' Deferred Account.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 8

The evidence supporting this finding of fact is contained in the testimony of Company witness Stabley and the Public Staff Panel.

Company witness Stabley provided testimony on the process that Piedmont utilized and the market intelligence that was evaluated during the review period to determine the prices charged for off-system sales. Witness Stabley explained that the process and information used by Piedmont in pricing off-system sales depends upon the location of the sale, term and type of the sale, and prevailing market conditions at the time of the sale. Witness Stabley

stated that for long-term delivered sales (longer than one month), Piedmont generally solicits bids from potential buyers and, if acceptable, awards volumes based on bids received and its evaluation. Witness Stabley further stated that, for short-term transactions (daily or monthly), Piedmont monitors prices and volumes on the Intercontinental Exchange, as well as by talking to various market participants and, for less liquid trading points, estimating prices based on price relationships with more liquid points. The Company also evaluates the amount of supply available for sale and weighs that against current market conditions in formulating its sales strategy.

The Public Staff Panel testified that the Company earned actual total company margins of \$49,531,908 on secondary market transactions and credited the All Customers' Deferred Account in the amount of \$31,613,832 for the benefit of North Carolina ratepayers [(\$49,496,547 x NC demand allocator x 75% ratepayer sharing percent) + (100% of Duke Energy Carolinas/Duke Energy Progress secondary market transactions of \$35,361 x NC demand allocator)], in accordance with the Commission's Order Approving Stipulation issued on December 22, 1995, in Docket No. G-100, Sub 67, and the Merger Order, effective October 1, 2017. The margins earned were a result of Piedmont's participation in asset management arrangements, capacity releases, and off system sales.

Based on the foregoing, the Commission concludes that Piedmont actively participated in secondary market transactions, resulting in \$31,613,832 of margin for the benefit of North Carolina ratepayers during the review period.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 9-11

The evidence supporting these findings of fact is contained in the testimony of Company witnesses Tomlinson and Stabley and the Public Staff Panel.

Company witness Tomlinson stated in her testimony that the Company had a debit balance of \$764,597 in its Hedging Deferred Account at May 31, 2017. The Public Staff Panel testified that the net hedging costs were composed of Economic Gains on Closed Positions of (\$1,689,560), Premiums Paid of \$2,234,893, Brokerage Fees and Commissions of \$38,859, and Interest on the Hedging Deferred Account of \$180,405.

Company witness Stabley testified that Piedmont's Hedging Plan accomplished its goal of providing an insurance policy to reduce gas cost volatility for customers in the event of a gas price fly up. Witness Stabley testified that the Company did not make any changes to its Hedging Plan during the review period. Witness Stabley further testified that the Company continues to utilize storage as a physical hedge to stabilize cost, and that the Company's Equal Payment Plan, the use of the Purchased Gas Adjustment benchmark price, and deferred gas cost accounting also provide a smoothing effect on gas prices.

The Public Staff Panel testified that its review of the Company's hedging activities is performed on an ongoing basis and includes analysis and evaluation of information contained in several documents and other data. These include the Company's monthly hedging deferred account reports,

maximum targeted hedge volumes for each month, periodic reports on the status of hedge coverage for each month, periodic reports on the market values of the various financial instruments used by the Company to hedge, monthly Hedging Program Status Reports, monthly reports reconciling the Hedging Program Status Report and the hedging deferred account report, minutes from the meetings of Piedmont's Energy Price Risk Management Committee (EPRMC), minutes from the meetings of the Board of Directors and its committees that pertain to hedging activities, reports and correspondence from the Company's internal and external auditors, hedging plan documents, communications with Company personnel regarding key hedging events and plan modifications under consideration by the EPRMC, and the testimony and exhibits of the Company's witnesses in the annual proceeding.

detailed source documentation, workpapers supporting the derivation of the

The Public Staff Panel concluded that Piedmont's hedging activities were reasonable and prudent and recommended that the \$764,597 debit balance in the Hedging Deferred Account as of the end of the review period be transferred to the Sales Customers' Only Deferred Account. Based on this recommendation, the Panel stated that the combined balance in the Sales Customers' Only Deferred Account as of May 31, 2017 is a net credit balance owed by the Company of \$2,607,558.

As demonstrated by the testimony and exhibits provided by Piedmont and the Public Staff, the Commission finds that Piedmont's hedging program has met the objective of contributing to the mitigation of gas price volatility and

avoiding rate shock to customers. The Commission concludes that Piedmont's hedging activities were reasonable and prudent and the \$764,597 debit balance in the Hedging Deferred Account as of the end of the review period should be transferred to the Sales Customers' Only Deferred Account. The combined balance for the Hedging and Sales Customers' Only Deferred Accounts is a net credit balance of \$2,607,558, owed to the customers from the Company.

EVIDENCE AND CONCLUSIONS FOR FINDINGS OF FACT NOS. 12-15

The evidence supporting these findings of fact is contained in the testimony of Company witnesses Stabley and Mendoza, and the Public Staff Panel.

Company witness Stabley testified that the Company maintains a "best cost" gas purchasing policy. This policy consists of five main components: price of the gas; security of the gas supply; flexibility of the gas supply; gas deliverability; and supplier relations. Witness Stabley testified that all of these components are interrelated and that the Company weighs the relative importance of each of these factors in developing its overall gas supply portfolio to meet the needs of its customers.

Witness Stabley further testified that the Company purchases gas supplies under a diverse portfolio of contractual arrangements with a number of reputable gas producers and marketers. In general, under the Company's firm gas supply contracts, Piedmont may pay negotiated reservation fees for the right to reserve and call on firm supply service up to a maximum daily

contract quantity (nominated either on a monthly or daily basis), with marketbased commodity prices tied to indices published in industry trade publications. Some of these firm contracts are for winter only (peaking or seasonal) service and some provide for 365 day (annual) service. Firm gas supplies are purchased for reliability and security of service and are generally priced on a reservation fee basis according to the amount of nomination flexibility built into the contract with daily swing service generally being more expensive than monthly baseload service.

Witness Stabley testified that the Company identifies the volume and type of supply that it needs to fulfill its market requirements and generally solicits requests for proposals from a list of suppliers that the Company continuously updates as potential suppliers enter and leave the market place. The type of supply is classified as either baseload or swing. Witness Stabley stated that swing supplies priced at first of month indices command the highest reservation fees because suppliers incur all the price risk associated with market volatility during the delivery period. Keep-whole contracts require the Company to reimburse suppliers for the difference between first of the month index prices and lower daily market prices if the Company does not take its full contractual volume.

Witness Stabley testified that because the Company assumes the volatility risk associated with falling prices, a lower reservation fee is warranted. Lower reservation fees are also associated with swing contracts based upon daily market conditions since both buyer and seller assume the risk of daily

market volatility. Witness Stabley stated that after forecasting the ultimate cost delivered to the city gate for each point of supply and evaluating the cost of the reservation fees associated with each type of supply and its corresponding bid, the Company makes a "best cost" decision on which type of supply and supplier best fulfills its needs. Company witness Stabley also testified regarding the current U.S. supply situation and the various pricing alternatives available, such as fixed prices, monthly market indexing, and daily spot market pricing.

Witness Stabley also described how the interrelationship of the five factors affects the Company's construction of its gas supply and capacity portfolio under its best cost policy. The long-term contracts, supplemented by long-term peaking services and storage, generally are aligned with the firm market; the short-term spot gas generally serves the interruptible market. In order to weigh and consider the five factors, the Company stays abreast of current issues facing the natural gas industry by intervening in all major Federal Energy Regulatory Commission (FERC) proceedings involving its pipeline transporters, maintaining constant contact with existing and potential suppliers, monitoring gas prices on a real-time basis, subscribing to industry literature, following supply and demand developments, and attending industry seminars. Witness Stabley further testified that the Company did not make any changes in its best cost gas purchasing policies or practices during the test period. Witnesses Mendoza and Stabley also indicated that during the past year the Company has taken several additional steps to manage its costs, including, actively participating in proceedings at the FERC and other regulatory agencies

that could reasonably be expected to affect the Company's rates and services, promoting more efficient peak day use of its system, and utilizing the flexibility within its existing supply and capacity contracts to purchase and dispatch gas, and release capacity in the most cost effective manner.

Company witness Mendoza testified about the market requirements of Piedmont's North Carolina customers and the acquisition of capacity to serve those markets. Witness Mendoza also testified that the Company expects the economy to continue recovering and to result in potentially increasing residential, commercial and industrial demand, and in turn, result in greater firm temperature sensitive requirements that will require firm sales service from the Company.

Witness Mendoza further testified that Piedmont and the natural gas industry have not seen evidence that conservation/reduced usage occurs during design day conditions. For that reason, witness Mendoza testified that Piedmont is confident the conservative approach to design day forecasting is the most prudent approach.

Witness Mendoza testified that the Company currently believes that it has sufficient supply and capacity rights to meet its near term customer needs into the 2017-2018 winter period timeframe but that growth projections begin to show a capacity deficit beginning in the 2019-2020 timeframe if the Atlantic Coast Pipeline (ACP) capacity does not go into service as projected. Witness Mendoza testified that in light of prospective growth requirements, Piedmont reviewed new capacity options in addition to continuous monitoring of interstate

pipeline and storage capacity offerings. Witness Mendoza further stated that although the Company subscribed to the Leidy Southeast Expansion Project (Leidy Southeast) of Transcontinental Gas Pipe Line Company, LLC (Transco), for 100,000 dekatherms (dts) per day of year around capacity and 20,000 dts per day on Transco's Virginia Southside Expansion Project (Virginia Southside), the Company signed a Precedent Agreement with ACP in October of 2014 for 160,000 dts of firm capacity, which is scheduled to go in service in November of 2019. Witness Mendoza testified that previously contracted capacity for Leidy Southeast and Transco's Virginia Southside went into service late 2015 and 2016.

Witness Mendoza testified that capacity additions are acquired in "blocks" of additional transportation, storage, or liquefied natural gas capacity, as they become needed, to ensure Piedmont's ability to serve its customers based on the options available at that time. Witness Mendoza explained that as a practical matter, this means that at any given moment in time, Piedmont's actual capacity assets will vary somewhat from its forecasted demand capacity requirements. Witness Mendoza also stated that this aspect of capacity planning is unavoidable but Piedmont attempts to mitigate the impact of any mismatch through its use of bridging services, capacity release, and off-system sales activities.

The Public Staff Panel testified that they had reviewed the testimony and exhibits of the Company's witnesses, the monthly operating reports, and the gas supply and pipeline transportation and storage contracts, as well as the

Company's responses to the Public Staff's data requests. Based on this review, the Panel testified that the Company's gas costs were prudently incurred.

The Public Staff Panel further testified that, although the scope of Commission Rule R1-17(k) is limited to a historical review period, they also considered other information in order to anticipate the Company's requirements for future needs, including design day estimates, forecasted load duration curves, forecasted gas supply needs, projection of capacity additions and supply changes, and customer load profile changes.

Based on the foregoing, the Commission concludes that the Company's gas costs incurred during the review period were reasonable and prudently incurred and that the Company should be permitted to recover 100% of its prudently incurred gas costs.

EVIDENCE AND CONCLUSIONS FOR FINDING OF FACT NO. 16

The evidence supporting this finding of fact is contained in the testimony of Company witness Tomlinson and the Public Staff Panel.

Company witness Tomlinson testified that based on the Company's deferred accounts end-of-period balances, as reflected on revised Tomlinson Exhibit_(MBT-1), she recommended that the increments/decrements to Piedmont's rates be placed into effect for a period of twelve months after the effective date of the final order in this proceeding.

The Public Staff Panel testified that they had reviewed Company witness Tomlinson's proposed temporary rate decrement applicable to the Sales Customers' Only Deferred Account balance in Tomlinson Revised

Exhibit_(MBT-4) and the proposed temporary rate increments applicable to the All Customers' Deferred Account balance in Tomlinson Revised Exhibit_(MBT-3) and agreed that they should be implemented. The Panel also recommended that Piedmont remove all temporary rates that were implemented in Docket No. G-9, Sub 690, Piedmont's last annual review proceeding.

The Public Staff Panel further testified that Piedmont monitor the balances in both the All Customers' and Sales Customers' Only Deferred Accounts, and, if needed, Piedmont file an application for authority to implement new temporary increments or decrements through the Purchased Gas Adjustment mechanism in order to keep the deferred account balances at reasonable levels.

Based on the foregoing, the Commission concludes that it is appropriate for the Company to remove the temporary rates that were implemented in Docket No. G-9, Sub 690, and implement the temporaries in the instant docket.

IT IS, THEREFORE, ORDERED as follows:

1. That the Company's accounting for gas costs during the twelvemonth period ended May 31, 2017, is approved;

2. That the gas costs incurred by Piedmont during the twelve-month period ended May 31, 2017, including the Company's hedging costs, were reasonably and prudently incurred, and Piedmont is hereby authorized to recover 100 percent of its gas costs incurred during the period of review;

3. That the Company shall remove the existing temporaries that were implemented in Docket No. G-9, Sub 690, and implement the rate

decrement for the Sales Customers' Only Deferred Account and the temporary rate increments for the All Customers' Deferred Account, as found appropriate herein, effective for service rendered on and after the first day of the month following the date of this Order;

4. That Piedmont shall give notice to its customers of the rate changes allowed in this Order; and

5. That Piedmont shall file revised tariffs within five (5) days of the date of this Order implementing the rate changes shown in Ordering Paragraph No. 3 above.

ISSUED BY ORDER OF THE COMMISSION.

This the _____ day of _____, 2017.

NORTH CAROLINA UTILITIES COMMISSION

M. Lynn Jarvis, Chief Clerk