

McGuireWoods LLP
434 Fayetteville Street
Suite 2600
PO Box 27507 (27611)
Raleigh, NC 27601
Phone: 919.755.6600
Fax: 919.755.6699
www.mcguirewoods.com

E. Brett Breitschwerdt
Direct: 919.755.6563

McGUIREWOODS

bbreitschwerdt@mcguirewoods.com

OFFICIAL COPY

Dec 13 2019

December 13, 2019

VIA Electronic Filing

Ms. Kimberley A. Campbell, Chief Clerk
North Carolina Utilities Commission
Dobbs Building
430 North Salisbury Street
Raleigh, North Carolina 27603

Re: Docket No. E-100, Sub 157

Dear Ms. Campbell:

Pursuant to the North Carolina Utilities Commission's ("Commission") directive in its July 22, 2019 *Order Accepting Smart Grid Technology Plans* ("SGTP Order") and November 13, 2019 *Order Amending Commission Rule R8-60, Eliminating Rule R8-60.1, and Requiring Compliance Filing*, Virginia Electric and Power Company, d/b/a Dominion Energy North Carolina ("DENC"), respectfully submits this Compliance Filing in the above-referenced proceeding.

As required by the SGTP Order, Attachment A to this filing provides DENC's responses to the questions posed in the Commission's August 23, 2013 *Order Requesting Additional Information and Declining to Initiate Rulemaking*. Attachment B to this filing provides the Company's preliminary assessment of Grid Integrated Water Heater technology. The Company is also soliciting more detailed assessments of this technology, and commits to submit this more detailed assessment in the first quarter of 2020.

Please feel free to contact me with any questions. Thank you for your assistance in this matter.

Very truly yours,

/s/E. Brett Breitschwerdt

EBB:mth

Enclosures

Customer Data Access Supplement to Questions Posed in August 23, 2013 Order

Question No. 1.

State the details of all historical customer usage information that is regularly provided on retail customers' bills, including the time periods or blocks in which the information is provided and the data that is provided.

Response:

The Company provides the following historical customer usage information regularly on retail customer bills for the current billing period: beginning and ending billing period dates, beginning and ending meter readings, number of days in billing period, total kilowatt hours ("kWh"), and (where applicable by rate) on peak kWh, off peak kWh, total demand ("kW"), on peak kW, off peak kW, kilo quantity hours ("KQH"), and reactive kilovolt ampere ("RKVA"). In addition, the Company automatically provides the following information for up to the prior 12 billing periods on retail customer bills: month and year bill generated and total kWh for the billing period. Prior billing period information is only provided for the time period the customer has been responsible for the premise. Retail customers on the Company's eBill (electronic billing) program have online access to an exact copy of the bill mailed to the Company's paper bill customers.

Sample Residential Schedule 1 North Carolina Bill

Oct 31, 2019		Customer Bill		Dominion Energy	
ROANOKE RAPIDS, NC 27870					
Billing and Payment Summary			Explanation of Bill Detail		
Account #	Due Date: Nov 25, 2019		Customer Service 1-866-DOM-HELP (1-866-366-4357)		
Total Amount Due:	\$	84.67			
To avoid a Late Payment Charge of 1.0% please pay by Nov 25, 2019.					
Previous Amount Due:	\$	93.97	Previous Balance 93.97		
Payments as of Oct 30:	\$	93.97 CR	Payment Received 93.97 CR		
			Balance Forward 0.00		
			Residential Service (Schedule 1) 09/30-10/28		
			Electric Charges 75.46		
			Rider RP 0.34		
			Rider RPE 0.09		
			Fuel Charge 3.24		
			State Sales Tax 5.54		
			Total Current Charges 84.67		
			Total Account Balance 84.67		
For service emergencies and power outages please call 1-866-DOM-HELP (1-866-366-4357). Visit us at www.dominionenergy.com.					
Meter and Usage		Usage History			
Current Billing Days: 28		Mo	Yr	kWh	
Billable Usage		Nov	18	145	
Schedule 1 09/30-10/28		Dec	18	145	
Total kWh 700		Jan	19	528	
		Feb	19	519	
		Mar	19	417	
		Apr	19	431	
		May	19	205	
Measured Usage		Jun	19	229	
Meter: 09/30-10/28		Jul	19	287	
Current Reading 85561		Aug	19	729	
Previous Reading 84861		Sep	19	713	
Total kWh 700		Oct	19	789	
		Nov	19	700	
View payment options, request service changes and enroll in eBill at www.dominionenergy.com, search: Manage Your Account					

Question No. 2.

Describe in detail all customer usage information that is available to your retail customers.

Response:

The following customer usage information provided by an interval data recorder (“IDR”) or an AMI meter (where applicable by rate schedule) is available to the Company’s retail customers:

Usage Information Available	Customer Bill (Mail & Online)	Customer Portals (Online)	Phone	Written (Account Statement & Interval Report)
Meter reading dates	Yes	Yes	Yes	Yes
Meter readings	Yes	Yes	Yes	Yes
Number of days in billing period	Yes	Yes	Yes	Yes
Meter reading source (e.g. estimated or actual read)	Yes	Yes	Yes	No
Total kWh <i>Kilowatt hour (kWh) is a measurement of electrical energy.</i>	Yes	Yes	Yes	Yes
Average daily kWh <i>Average daily kWh is obtained by dividing the total kWh used during the billing period by the number of days in the billing period.</i>	No	Yes	Yes	No
On peak kWh <i>On peak is a term used to define demand (kW) or energy (kWh) used during a specific time period when the Company traditionally experiences high customer usage or demand.</i>	Yes	No	Yes	No
Off peak kWh <i>Off peak is a term used to define demand (kW) or energy (kWh) used during a specific time period when the Company generally has excess electrical capacity available.</i>	Yes	No	Yes	No
Total demand (kW) <i>Kilowatt (kW) is a measure of demand for power during a specific time.</i>	Yes	No	Yes	No
On peak demand (kW)	Yes	No	Yes	No

Question No. 3.

State the details of the modes (internet, email, telephone, letter) that retail customers can utilize to request and receive their usage information.

Response:

The Company's retail customers may utilize the following modes to request and receive usage information:

- Residential and Non-Residential customers may register and log into the Company's customer portal ("Manage Account") to view their last 12 bills, access 18 months of historical usage, and view 30-minute interval data (where applicable).
- Customers designated as Key Accounts may log into the Company's Key Accounts customer portal to view bills, historical usage, and 30-minute interval data (where applicable). Key Accounts are the Company's largest commercial, industrial, and governmental accounts based on on-peak demands (kW) and kWh purchases.
- Residential and Non-Residential customers may contact the Company by telephone to discuss their usage with a Company employee, or they may request a copy of their bill or an account statement covering 18 months of usage be mailed to them to their address on record by contacting the Company by telephone or letter.

Question No. 4.

State the details of the modes by which retail customers can authorize the release of their usage information to a third party and the modes by which the third party can receive the information.

Response:

Customers may use the following modes to authorize release of their usage information to a third party:

- 1) The customer may mail a written release to the Company authorizing release of their usage information to a third party. Once the Company receives that release, it will provide the specified information to the third party via phone, U.S. mail, email, or fax.
- 2) The customer may obtain their own usage information (online, copies of bills, or usage history) and provide it themselves to a third party by any mode they deem appropriate.

Question No. 5.

Does your company have a standard form that retail customers can sign to authorize the release of their usage information to a third party? If so, please attach a copy of the form to your responses.

Response:

Yes. See attachment “Question 5 – Letter of Authorization Release of Information to Third Party” for a letter template and a copy of the form.

Question No. 6.

State whether your company provides real time pricing and/or real time data streaming to its retail customers. If so, provide the details of the customer classes to which this information is provided, the applicable tariffs, the data that is available, the modes that customers can utilize to request and receive such data, the frequency with which the data is available (every minute, 15 minutes, hour, etc.) and the time periods or blocks in which the data is provided.

Response:

The Company does not offer real time pricing nor does it offer the processing of real time data streaming in North Carolina.

Customers interested in additional information can request metering that provides additional data directly to the customer as described in Section X.H. of the Company’s Terms and Conditions. See attachment “Question 6 – Company Terms and Conditions” for a copy of Section X of the Company’s Terms and Conditions for details.

Written Consent to Release Confidential Customer Usage-Related Information to a Third Party and/or Authorize a Third Party to take Certain Account Actions

Dominion Energy Virginia / Dominion Energy North Carolina (Dominion) is committed to safeguarding the security and privacy of your account-related information, including billing records, billing history and electricity usage data (collectively, "Usage-Related Information").

Dominion will safeguard your confidential Usage-Related Information unless you provide advance written consent expressly authorizing Dominion to release your Usage-Related Information to third parties. Therefore, if you would like to provide Dominion with your consent to release your Usage-Related Information to a third party, please complete **Section A** of the enclosed Voluntary Authorization to Release Customer Information.

If you also would like to authorize the same third party to take certain actions concerning your account service(s), please complete **Section B** of the form. Only limited actions can be authorized using this form. To authorize a third party to take other actions, you will need to provide a power of attorney. Please refer to Section B for more information on the actions you may authorize on this form.

Complete **Section C** to indicate the duration of your consent.

After completing the applicable sections of the form, please review and sign **Section D**, initial the form on each page where indicated.

Email form to: AccountSupport@domenergy.com

Or mail to:

Attn: Customer Account Management Department
Dominion Energy
2700 Cromwell Drive
Norfolk, VA 23509

This form must be completed in its entirety and signed and initialed by the Account Holder or by someone with legal authority to bind the Account Holder.

You can view your electric usage securely online by visiting www.dominionenergy.com/mya and logging on to Manage Your Account.

If you are a Key Account Customer, you can securely view electric usage on line by visiting <https://dominionenergy.com/large-business/key-accounts> and logging on to the Key Account Customer website.

Should you need to establish a User ID and Password for access to the Key Account Customer website please contact your Key Account Manager.

VOLUNTARY AUTHORIZATION TO RELEASE CUSTOMER INFORMATION

- A. RELEASE OF INFORMATION.** To provide your consent for Dominion Energy Virginia / Dominion Energy North Carolina (“Dominion”) to release your customer Usage-Related Information (as defined below) to a third party, please complete this section.

This Authorization provides my consent to Dominion to release the following information to the Authorized Party: All billing records, billing history, and usage-related data (collectively, “Usage- Related Information”) collected by the meter installed at my residence or place of business during the time my account is active; to the extent such data is available in Dominion’s billing system.

Voluntary Authorization to Release Customer Usage-Related Information to a Third Party

I hereby provide my express written consent and authorization for Dominion to release my utility customer account Usage-Related Information for the account(s) listed below to:

Authorized Party: _____

Address: _____

Telephone Number: _____

Fax Number: _____

Email Address: _____

Dominion Energy Account Number(s) Included in this Authorization:

Account Number: _____ Name on Account: _____

Account Number: _____ Name on Account: _____

Account Number: _____ Name on Account: _____

Account Number: _____ Name on Account: _____

Account Number: _____ Name on Account: _____

Account Number: _____ Name on Account: _____

Account Number: _____ Name on Account: _____

Initials of Person Providing Consent: _____

Date: _____

B. AUTHORIZATION TO TAKE ACTIONS ON ACCOUNT. If you also want to authorize the same Authorized Party to take certain actions concerning your account(s) listed in Section A, please complete and initial Section B below:

 (Account Holder Initials) I hereby authorize the Authorized Party to take the following actions concerning my account(s): (check all that apply)

- ☐ Request rate analysis/rate comparison
- ☐ Request rate changes
- ☐ Request a User ID and temporary password for the Dominion Key Customer Website to obtain an Interval Data Report (IDR)
- ☐ Request a Profile Data Summary Report (Key Account Customers)

Please note: To authorize a third party to take other actions, including execution of contracts for service, opening/closing accounts, and/or terminating electric service on your behalf, you will need to provide a valid Power of Attorney.

C. EXPIRATION/TERMINATION OF AUTHORIZATION. Please complete this section to specify how long you want your authorization in Section A (and B, if applicable) to remain in effect:

This Authorization is Valid Until:

(Account Holder must initial one of the following)*

 Date Specific - One Year Maximum – Requests for Usage-Related Information and/or for the actions specified above will be accepted and processed each time requested from the date of execution of this Authorization until .

 Two Years – Requests from the Authorized Party for Usage-Related Information and/or for the actions specified above will be accepted and processed each time requested within the 24-month period from the date of execution of this Authorization.

 Three Years – Requests from the Authorized Party for Usage-Related Information and/or for the actions specified above will be accepted and processed each time requested within the 36-month period from the date of execution of this Authorization.

**Please note: This authorization will NOT terminate automatically if the specified Dominion account(s) close(s) before the end of the authorization period. You may revoke this Authorization by providing written notice to Dominion at the address in Section D.*

Initials of Person Providing Consent:

Date: - -

D. ACKNOWLEDGEMENT AND SIGNATURE

I hereby affirm that I have the authority to make and sign this Authorization as account holder of record for the Dominion Energy account(s) listed above, or that I am a corporate officer or management employee fully and duly authorized to make and sign this Authorization on behalf of the Dominion business account listed above. I understand that Dominion reserves the right to verify any authorization request submitted before releasing information or taking any action on my behalf.

I understand that by providing my written consent, I am authorizing Dominion to release the requested information on the account(s) listed above to the Authorized Party listed above, and that Dominion will not be responsible or liable in any way for the third parties' use and security of my Usage-Related Information or actions taken on my behalf with regard to the account(s) pursuant to this Authorization. I further understand that it is my responsibility to ensure that the third parties will safeguard my Usage- Related Information on receiving such information from Dominion. I hereby release, hold harmless, and indemnify Dominion from any liability, claims, demands, and causes of action, damages, or expenses resulting from: 1) any release of information pursuant to this Authorization; 2) the unauthorized use of this information by the Authorized Party; and 3) any actions taken by the Authorized Party pursuant to this Authorization. I understand I have the right to revoke this Authorization at any time by providing further written notice to Dominion at the following address:

Attn: Customer Account Management
 Dominion Energy Virginia / Dominion Energy North Carolina
 2700 Cromwell Drive
 Norfolk, VA 23509

As evidenced by my initials at the bottom of each page of this Authorization, I hereby acknowledge that I have read and understand the contents of this Authorization, and that I am voluntarily signing this Authorization.

 Signature

 Mailing Address

 Title (if applicable)

 Email Address

 Print Name

 Date

HAVE YOU INITIALED AND DATED EACH PAGE OF THIS FORM?

Initials of Person Providing Consent:

Date:

TERMS AND CONDITIONS

X. BILLING AND RE-BILLING OF METERED AND UNMETERED SERVICES

A. When meters are installed by the Company to measure the electricity used by the Company's Customers, all charges for electricity used, except certain minimum charges, shall be calculated from the readings of such meters. Charges for electricity used will be based solely on the readings of meters owned and operated by the Company. The Company may for its own purposes use meters that are read remotely.

B. Normally electricity will be furnished through one Delivery Point and one set of metering apparatus and will be billed separately on the applicable Rate Schedule selected by the Customer. Residential master meter installations are prohibited by Statute 143-151.42 of the North Carolina State law. However, the Company reserves the right, where it desires for its own purposes because of the amount or characteristics of electricity required, to install two or more sets of metering apparatus, to combine the readings of meters so installed for billing purposes, and to bill these combined readings on the applicable Rate Schedule selected by the Customer.

C. All electricity will normally be metered at the voltage delivered to the Customer; however, the Company reserves the right, where it desires for its own purposes, to meter the electricity on the Company's side of the transformer or transformers, but the Customer will then be allowed a discount of 2% in the energy charge.

D. Meters in service may be tested by the Company, the Commission or any other lawfully constituted authority having jurisdiction. When, as the result of such a test, a meter is found to be no more than 2% fast or slow, no adjustment will be made in the Customer's bills. If the meter is found to be more than 2% fast or slow because of incorrect calibration, the Company will rebill the Customer for the correct amount as calculated in accordance with the then effective applicable Commission rule.

E. Whenever it is found that, for any reason other than incorrect calibration, the metering apparatus has not registered the true amount of electricity which has been used by the Customer, billing adjustments will be made in accordance with the then effective applicable Commission Rule. In the case of tampering, interest will be charged at a rate equal to that authorized by the Commission for late payments.

(Continued)

TERMS AND CONDITIONS

**X. BILLING AND RE-BILLING OF METERED AND UNMETERED SERVICES
(Continued)**

- F. If, during the term of agreement for furnishing electricity to a Customer, the Customer is unable to operate his facilities, in whole or in part, because of accident, act of God, fire, or strike of the Customer's employees occurring at the location where electricity is supplied, the charge for electricity used during the period reasonably necessary to correct any such conditions will, in the discretion of the Company, be reasonably adjusted in accordance with all pertinent facts and conditions.
- G. If a Customer is a Natural Disaster Victim, the Company shall have the right to make certain adjustments to the charges for electricity assessed to the Customer. The Company may, at its discretion, adjust or waive minimum charges, temporary service charges, service connection charges, or security deposits.
- H. Customers who elected an Interval Metering Service Option (i.e., interval meters or contact closures) prior to January 1, 2011, are grandfathered on the specified charges shown in the tables below:
1. The applicable Installation Charge listed below shall be increased by the Tax Effect Recovery Factor, pursuant to Rider D - Tax Effect Recovery, and shall be paid by the Customer prior to the installation.
 2. In addition, the Customer shall pay an on-going Monthly O & M Charge that is equal to the applicable Installation Charge multiplied by the Excess Distribution and Substation Facilities charge found in Section IV.F.3.a. of the Terms and Conditions. Such payment will continue until the Interval Metering Service Option is discontinued in accordance with item 3. below.
 3. The One-time Removal Charge shall apply when either a) the Customer requests removal of the Interval Metering Service Option or b) the Customer discontinues electric service at the location of the Interval Metering Service Option.

(Continued)

TERMS AND CONDITIONS

X. BILLING AND RE-BILLING OF METERED AND UNMETERED SERVICES (Continued)

The applicable Installation Charges and One-time Removal Charges for the Interval Metering Service Options are as follows:

Interval Metering Service Options Installation and Removal Charges for Interval Meters		
Type	Installation Charge	Removal Charge
Single-phase, 240 Volt, 3 wire, class 200	\$271.50	\$62.38
Single-phase, 240 Volt, 3 wire, class 320	\$216.48	\$62.38
Single-phase, 240 Volt, 3 wire, class 400 OR Three-phase, 120 Volt, 4 wire, class 400	\$787.70	\$143.75
Three-phase, 120 Volt, 4 wire, class 200 and 320, or class 10 and 20	\$233.79	\$143.75

Installation and Removal Charges for Contact Closures (for kW Data Only)		
Type	Installation Charge	Removal Charge
One Circuit (Assumes Recorder Under Glass), or Single Service (Assumes Demand Meter Installation)	\$203.77	\$108.49
Additional Circuits at Same Site (Assumes Recorder Under Glass)	\$122.40	\$27.12

(Continued)

TERMS AND CONDITIONS

X. BILLING AND RE-BILLING OF METERED AND UNMETERED SERVICES (Continued)

4. On and after January 1, 2011, the Excess Distribution and Substation Facilities Charge in Section IV.F.3.a. or IV.F.3.c. (at the Customer's option) of the Terms and Conditions will apply to Customers electing Interval Metering Service Options.
5. The Company will own interval metering service devices used for measuring and billing the Customer for its consumption of demand and energy. The Company is responsible for the installation and removal of all meters.

DENC Discussion of Grid Integrated Water Heater Technology
Docket No. E-100 Sub 157

The Commission's July 22, 2019, Order Accepting Smart Grid Technology Plans and Requiring Additional Information, directed DENC to address Grid Integrated Water Heater technology ("GIWH") in its 2019 Smart Grid Technology Plan Update. In its Order Amending Commission Rule R8-60, Eliminating Rule R8-60.1, and Requiring Compliance Filing, issued November 13, 2019 the Commission renewed its prior directive for the Company to address GIWH technology in a compliance filing to be made on or before December 13, 2019. In response to the Commission's directive, the Company has reviewed information on GIWH technology from a variety of sources and has engaged several firms who have relevant expertise regarding this type of demand side management program and regarding this technology.

The Company's preliminary review of industry and technical information related to deployment of GIWH technology indicates that (1) there are opportunities to use GIWH for peak shaving and energy storage depending upon the deployment location and other considerations^{1, 2} which include cost-effectiveness of the technology, reliability of the technology, and the ability of a deployed system to ensure the comfort and safety of participants;³ (2) when viewed strictly from a price per kilowatt perspective, GIWH technology generally compares favorably to existing battery technologies;⁴ and (3) new technology options exist for remotely controlling water heater load which can be used to enable load-shifting in a more optimized manner than older technologies.^{5, 6, 7, 8}

The Company believes that further investigation is warranted specific to the Company's service territory in order to more fully analyze the technological and market potential of GIWH technology for peak shaving and energy storage. For this reason the Company is pursuing additional assessments from Advanced Energy Corporation, E Source consulting, and from several program implementation firms that either operate demand response programs using GIWH technology or have knowledge of comparable programs. The Company expects the

¹ "Utilities in Hot Water: Realizing the Benefits of Grid-Integrated Water Heaters," Herman K. Trabish, June 20, 2017, *Utility Dive*, at <https://www.utilitydive.com/news/utilities-in-hot-water-realizing-the-benefits-of-grid-integrated-water-heaters/445241/>, accessed December 2, 2019

² "Electric Water Heaters as Grid Energy Storage," June 2017, Flink Energy Consulting at http://www.flinkenergy.com/resources/Water_Heater_Energy_Storage.pdf accessed November 18, 2019.

³ Avoiding Customer Health Problems During Water-Heater Demand Response Programs, Essie Snell, October 3, 2014, E Source, proprietary communication

⁴ Battery Killers: How Water Heaters Have Evolved into Grid-Scale Energy-Storage Devices, David Podorson, September 9, 2014, E Source, proprietary report

⁵ "The Hidden Battery – Opportunities in Electric Water Heating," Ryan Hledik, Judy Chang, Roger Lueken, January 2016, The Brattle Group at https://brattlefiles.blob.core.windows.net/files/7167_the_hidden_battery_-_opportunities_in_electric_water_heating.pdf accessed November 19, 2019

⁶ "Standardized Communications for Demand Response," Katherine Dayem, June 2018, Xergy Consulting, prepared for the National Rural Electric Cooperative Association at <https://www.cooperative.com/programs-services/bts/documents/reports/standardized-communications-for-demand-response-report-june-2018.pdf> accessed December 2, 2019

⁷ "CTA-2045 Water Heater Demonstration Report," Bonneville Power Administration, November 9, 2018 at <https://www.bpa.gov/EE/Technology/demand-response/Documents/Demand%20Response%20-%20FINAL%20REPORT%20110918.pdf> accessed November 8, 2019

⁸ News release by Rheem, Inc. at <https://www.rheem.com/about/news-releases/united-illuminating-announces-successful-income-eligible-water-heater-program-in-partnership-with-energyhub-and-rheem/>, June 25, 2019, accessed December 2, 2019

additional information to be provided during the first quarter of 2020 and will file this information with the Commission at that time.

CERTIFICATE OF SERVICE

I hereby certify that a copy of the foregoing Compliance Filing, filed in Docket No. E-100, Sub 157, was served electronically or via U.S. mail, first-class postage prepaid, upon all parties of record.

This the 13th day of December, 2019.

/s/E. Brett Breitschwerdt

E. Brett Breitschwerdt
McGuireWoods LLP
434 Fayetteville Street, Suite 2600
PO Box 27507 (27611)
Raleigh, North Carolina 27601
(919) 755-6563 (Direct)
bbreitschwerdt@mcguirewoods.com

*Attorney for Virginia Electric and Power
Company, d/b/a Dominion Energy North
Carolina*