

THE VPU QUARTERLY

a newsletter published by Virginia Public Utilities

April 2022

WHERE WE'VE BEEN AND WHERE WE'RE GOING

A Look at the Utility's Steam and Power Generation Past & Future

The office will be closed on the following dates:

April 15th

May 30th

July 4th

VPU — QUICK NOTES

KNOW THE SMELL OF NATURAL GAS—BE SAFE!

If there is a faint smell of natural gas, call VPU at 218-748-7540.

If in doubt, leave the building immediately & call 9-1-1.

DIRECT PAY

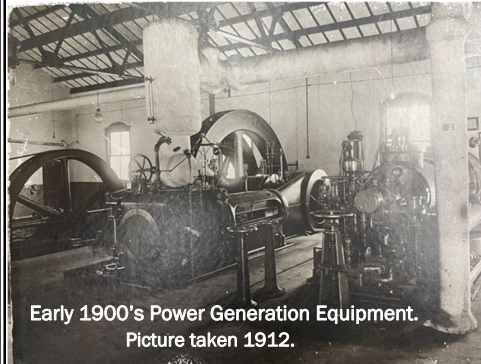
Sign up for Direct Pay, and eliminate the need to write out a check each month. Enrollment forms are available in the VPU office, or on our website at www.vpuc.com

Before You Dig,

Contact Gopher State One Call Dial 8-1-1 or 800-252-1166 or www.gopherstateonecall.org

CONSTRUCTION SEASON IS UNDERWAY

Please watch for utility workers as you drive throughout Virginia over the next several months. With the warm weather comes repairs and upgrades to many of the utility lines located under the City's streets. In order to perform needed repairs and installations, Utility workers may have to barricade areas in the streets and alleyways.



Early 1900's Power Generation Equipment. Picture taken 1912.

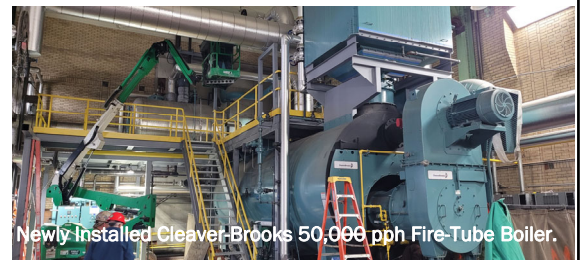
The Early Years – Around the time when Virginia became a city, some 130 years ago, each larger city had its own power generation facility providing a small amount of power primarily for lighting. People who lived out of town had no access to electricity. In fact, in 1913, when the City purchased the Public Utility, its population of roughly 12,000 required less than 2 megawatts (MW) of power generating capacity – most of which was housed and used by the Virginia and Rainy Lake Mill. Today, with a population below 9,000, we require 20 MWs with no industrial load. At roughly the same time, in the early 1900's, steam heat was a welcome change from the coal and wood heating systems. The steam district began its expansion in the 20's

alongside the expansion of electric power usage. It was in 1946, with the purchase of a 5,000 kW Elliot back-pressure turbine, that the electric and steam departments were, in essence, married together when the plant became a cogeneration facility – meaning the steam for the heating district was the same steam used to make power.

That worked fine for the thirty years from 1950 to 1980, but, with the advent of electric heat in the 60's and natural gas heat in the 70's and 80's, the luster of steam heat began to wear off. It was then recognized that our sprawling residential steam system could not be sustainable and initial efforts began to address the trouble.

The Recent Past - Meanwhile, power generation over the last fifty years has shifted from each city producing its own power to larger and larger production facilities producing and transporting power to huge swaths of customers. MP's Boswell Units 3 and 4 together have a capacity to generate 800 MWs while the production capacity of our plant was a paltry 26 MW. The days of competitively priced power being generated in small local facilities are past. The Laurentian Energy project, begun in 2007, bought twenty years of time for the Utility to figure a way out of the power and steam generation business and it appears we are well on our way to doing that.

The Present - Four years ago, we made a promise to core steam customers that we would make every effort to make the core heat district work and that we would revisit its viability after operating the district for at least one entire year after the initial steam abandonment project was completed. For three years we have tightened up our downtown steam mains. We have mothballed old generating assets and their related boilers in favor of much higher efficiency boiler units. Future steam production will be housed in one large room behind the old 1920 brick facade which faces 6th Avenue. The Utility completed the installation of a 50,000 pph boiler earlier this year. This new boiler utilizes the newest technologies to make steam. It has an operating range of 5,000 pph on the low end and 50,000 pph on the high end. The boiler will produce 50# steam to be fed directly into our core steam district. A second such boiler is to be installed right next to the first. Also, with the installation of these boilers comes the first use of a reverse osmosis water purification system and the reuse of an old well that had been drilled in the 60's.



Newly Installed Cleaver-Brooks 50,000 pph Fire-Tube Boiler.

The Near Future - As we move through the next five or so years, should the hospital exit the steam system as is rumored, it is likely that the steam line going to the hospital will be shut down, leaving only the downtown business district as the core. Unfortunately, the loss of the County Government Services building, two school buildings and many downtown business buildings will make it difficult, but we will try our best to make it work.

Save a Buck!!! Lesson 1

We're all interested in lowering our utility bill. . . at least those of us who have to pay them. So, let me make a few homegrown, low-cost, low-hanging fruit suggestions.

- One of the best things you can do to lower your utility bill is to pay attention to it . . . over time and line-by-line. By paying attention to your usage, you can see how it changes from season to season, or when a child moves out or in, or when there's some special circumstance. Knowing what is normal for you will help you identify when something isn't normal.
- This is going to seem like odd advice, but did you ever notice that 40 degrees in late fall means winter jacket, scarf and hat, but 40 degrees in the spring means off with the winter jacket, scarf and hat and "it's sweater weather." Our bodies somewhat acclimate to the cold. I know it feels great to be toasty warm wrapped in a blanket, but I guarantee you will be cold when you have to get off the couch and you'll never get used to setting the room temperature at 68 degrees.
- Consider replacing older toilets (at about \$12/unit of water, by going from 5 gallons per flush to 1.6 gallons, most toilet replacements pay for themselves in a year. . . especially if you drink a lot of coffee.)
- Match your lighting fixtures to your needs. In my former house, I had a bedroom ceiling light fixture that had 4 - 60 watt bulbs. I didn't need 240 watts to change clothes. I simply unscrewed two of them. The remaining 120 watts was more than enough.
- If you keep outside lights on for long periods of time, consider using an LED light in that fixture.
- If you or your kids leave a trail of lights on wherever you go, consider that it costs roughly a dime for every 75 watt light left on overnight.
- If you have old drafty windows in your house, replacing them would be great but costly. As a temporary option, consider putting plastic on them in late fall through to early spring.
- Consider getting a programmable thermostat and set it so the temp goes down at bedtime and comes back up shortly before you get up for the day. And if you are away from the house during the day, have the temp drop back down again while you're away. This is a small change, but because it is for seven hours, or fifteen hours if you're away during the day, it'll make a noticeable difference.
- Be sure your small space heater is not inadvertently overriding your central heating system. The savings claims of these units are based on heating the occupied room while the room temperatures of the other unoccupied rooms are allowed to drop. If the space heater is in the same room as the furnace thermostat, you may get into a situation where the space heater is heating the entire house and that can get expensive.

Recent Water Service Insurance Solicitation

Recently an insurance company sent letters to our customers offering water service line replacement insurance. Supposedly, should your water service line break, the company would replace it. Although we are hesitant to advise customers one way or another, we ask that you please be careful when purchasing insurance products such as this. We suggest you contact your insurance agent and have them review such offers with you.



Heating with Electric, Propane, Fuel Oil???

We are extending our Conversion Program to non-steam customers.

- 1) \$200 Facility Fee Waived
- 2) Free natural gas service line installation to your residence
- 3) Interest free, 10-year loan on conversion related costs

Stop by our office or access our Natural Gas Conversion Package link on our website at www.vpuc.com. Just click on News and Events, under the About VPU tab, and get the forms you need to get the ball rolling. Deadline to submit your gas service application and loan application, with contractor estimate, is June 15th, 2022.