

**1.0 Purpose and Need**

The purpose of this revenue policy is to ensure that there is sufficient revenue to support direct and indirect operating, capital, reserves and current and future debt service costs.

**2.0 Definitions**

**2.1 Domestic Quality Wastewater.** Defined in accordance with HRSD's Domestic Wastewater Survey that specifies the primary pollutants and the corresponding concentration levels for domestic wastewater.

**2.2 Domestic Quality Wastewater Survey.** A sampling evaluation of wastewater to define Domestic Quality Wastewater concentrations of primary pollutants conducted in residential neighborhoods in various localities (cities/counties) served by HRSD.

**2.3 Facility Charges.** Charges to cover the cost of treatment and conveyance capacity consumed by new connections or redevelopment. Facility charges are applied to any sewer or sewer system discharging into HRSD facilities and any increase to existing service.

**2.4 Flat Rate.** A constant rate applied to customer accounts in lieu of a metered based bill. The rate is based on the winter average water consumption of existing flat rate accounts as determined periodically.

**2.5 Hauled Wastewater.** Wastewater transported and discharged to a wastewater treatment plant by conveyance other than pipelines.

**2.6 High Strength or Unusual Waste.** Biochemical Oxygen Demand (BOD), Total Suspended Solids (TSS), Total Phosphorus (TP), and Total Kjeldahl Nitrogen (TKN) discharged waste concentrations that exceed those defined as Domestic Quality Wastewater or unusual wastes not covered by the Rate Schedule that may be considered separately and may be assigned a special rate.

**2.7 HRSD Charges.** Any and all charges or fees billed to customers for wastewater services provide by HRSD.

**2.8 HRSD Collection System.** All infrastructure conveying flow to the Interceptor System in localities where HRSD owns or operates a collection system.

- 2.9 **HRSD Collection System Charges.** Rates for HRSD Collection System operating and maintenance costs that are in addition to Wastewater Treatment Charges.
- 2.10 **HRSD Enabling Act.** The Commonwealth of Virginia 1960 Acts of the Assembly, c. 66 as amended.
- 2.11 **HRSD Rate Schedule.** Published listing of rates, fees and charges applicable for specified time frame
- 2.12 **Interceptor System.** Larger diameter pipelines conveying flow from the collection system to the Wastewater Treatment Plant.
- 2.13 **NAICS Surcharge Categories.** The North American Industry Classification System (NAICS) standard used by Federal statistical agencies in classifying business establishments for the purpose of collecting, analyzing, and publishing statistical data related to the U.S. business economy.
- 2.14 **Rational Nexus Criteria.** These ensure that there is a reasonable connection between HRSD Charges and the actual cost of operating the wastewater system. These criteria ensure: (1) the charges are not arbitrary, (2) the charges are equitable, and (3) the charges are not discriminatory.
- 2.15 **Regional Sanitary Sewer System.** All portions of the individual locality and HRSD wastewater collection and interceptor systems and appurtenances thereto.
- 2.16 **Surcharge Rate.** Rates for High Strength or Unusual Wastes to recover costs in direct proportion to volume and pollutant concentrations. Surcharge rates are based on a marginal cost approach for the variable costs associated with the incremental costs to treat High Strength or Unusual Wastes.
- 2.17 **Wastewater Treatment Charges.** Charges to convey and treat Domestic Quality Wastewater that are based on billed water consumption, an effluent wastewater meter, or a Flat Rate.
- 2.18 **Wastewater Treatment Rate.** Rate per specified unit of measure to recover the costs of conveyance and treatment of Domestic Quality Wastewater.

### 3.0 Guiding Principles

#### 3.1 General.

- 3.1.1 To the extent feasible, HRSD is a cost recovery enterprise and supports a uniform rate structure for interception and treatment regardless of which wastewater treatment plant treats a customer's wastewater.
- 3.1.2 Wastewater Treatment and Collection Charges shall not be waived. However, payment extensions may be established for the collection of HRSD Charges.
- 3.1.3 All new connections and redevelopment shall pay an equitable share for the treatment and conveyance capacity consumed by their wastewater discharge to the Regional Sanitary Sewer System.
- 3.1.4 All HRSD rates shall be reviewed and revised (if required) at least annually and approved by the Commission. Changes shall be publicly advertised in accordance with HRSD's Enabling Act and posted on HRSD's web site.
- 3.1.5 Surcharge rates are set to recover costs in direct proportion to volume and pollutant concentrations in excess of Domestic Quality Wastewater.
- 3.1.6 Facility Charges ensure that an unfair burden is not placed on existing users that would otherwise pay higher rates to expand the system to accommodate new flows and loads to HRSD's facilities. HRSD uses the Rational Nexus Criteria as one of the guiding principles to derive Facility Charges.
- 3.1.7 HRSD will not depend on temporary revenues such as grants to fund operating costs. One-time temporary revenues or grants should typically be used to fund one-time expenses.
- 3.1.8 Surcharge rates are applied to non-permitted commercial facilities using sampling data for groups of businesses that produce similar goods or services using the North American Industry Classification System (NAICS).

### 3.2 Basis of Charges.

#### 3.2.1 Wastewater Treatment Charges

- (1) The Wastewater Treatment Rate is derived from the Rate Model, see Appendix A.
- (2) Volumetric Accounts
  - a. Volume of water purchased by the customer (as recorded by a water meter); or,
  - b. Volume of effluent discharged to the sewer system (as recorded by an effluent meter)
- (3) A rate based on facility use and billing period.
- (4) A single family residential Flat Rate as defined herein.
- (5) HRSD treatment plants are designed to treat domestic quality wastewater. Additional charges may be assessed for wastewater with qualities that differ from the current definition of Domestic Quality Wastewater.
- (6) Minimum charges apply to all accounts, except as specified herein.

#### 3.2.2 Facility Charges.

- (1) HRSD shall establish Facility Charges for new connections based upon the size of the water meter serving the new connection. If the locality does not offer a specific meter size, a combination meter is proposed, or another similar scenario exists, the Facility Charge may be based on a calculated meter size using the AWWA M22 Sizing Water Service Lines and Meters manual. Additional special exceptions, including redevelopment provisions, may be outlined in the HRSD Rate Schedule.
- (2) The Facility Charge for each meter size is based on the total net replacement value of all HRSD's assets, HRSD's total hydraulic capacity, and the average water consumption for each meter size.
- (3) HRSD reserves the right to require Facility Charges based upon wastewater that differs from domestic quality wastewater and that consumes loading capacity in excess of capacity consumed by the equivalent volume of Domestic Quality Wastewater.

**3.2.3** HRSD Collection System rate - A rate to recover HRSD costs for maintenance and operation of HRSD owned collection systems. The rate shall be based upon the weighted average rate charged by localities within the HRSD service area for collection system operation and maintenance of locality owned collection systems. Localities that do not charge a Locality collection rate will be excluded from this calculation. The weighted average will be based on the latest population estimates provided by the Welden Cooper Center for Public Service or other Commonwealth designated demographics agency. HRSD may establish separate collection system maintenance charges for each locality within the HRSD Collection System where warranted by unique circumstances.

**3.2.4** Hauled Wastewater Rate - This rate is based on five individual charges: BOD, TSS, TP, TKN and volume as derived from the HRSD Rate Model, see Appendix A and are not subject to a minimum charge. Since waste haulers do not use the Interceptor System, those costs are excluded from the volume rate.

#### **4.0** Procedures

**4.1** Determining Costs Used in the HRSD Rate Model, See Appendix A.

**4.1.1** The budgeted annual costs shall be used to calculate rates that will be in effect for the budget fiscal year.

**4.1.2** Budgeted costs shall be loaded into a comprehensive rate model to allocate costs to applicable categories annually. This model shall allocate costs to volume and each pollutant identified in the most recent Domestic Wastewater Survey.

**4.1.3** The Domestic Wastewater Survey shall be updated every five years or more frequently if permit requirements or treatment technology changes warrant revisiting.

**4.2** Determining Total Wastewater Volume.

The total volume of wastewater to be billed during a budget year shall be estimated based upon the water consumption trends within the HRSD service area and other information when available.

**4.3** Calculating Rates.

**4.3.1** The model shall calculate the Wastewater Treatment Rate based on total budgeted cost divided by the estimated volume of wastewater to be billed in the

fiscal year. The rate shall be expressed in dollars per hundred cubic feet or per 1,000 gallons.

- 4.3.2** The HRSD Rate Model shall calculate the Surcharge Rate for High Strength Waste based on the incremental cost to treat each additional pound of each pollutant in excess of the pounds of pollutants identified for Domestic Quality Wastewater in the most recent HRSD Domestic Quality Wastewater Survey. The rates shall be expressed in dollars per 100 pounds or per milligrams per liter per hundred cubic feet of wastewater.
- 4.3.3** Facility Charges shall be calculated by dividing the replacement cost for all HRSD facilities by HRSD's total hydraulic capacity to obtain the replacement cost per gallon. This replacement cost per gallon shall be multiplied by the estimated flow expected from new connections and redevelopment and expressed in dollars per meter size. The estimated flow is based on the average daily flows for each size water meter using actual historical data from HRSD's meter database and any additional information available.
- 4.3.4** Flat Rate shall be calculated by determining the average water consumption for the months of January, February, and March for all existing flat rate accounts for a 30-day period multiplied by the Wastewater Treatment Rate.
- 4.3.5** Daily Minimum shall be calculated by dividing the total labor costs (not dependent on volume of wastewater conveyed or treated) of the Operations Department by the total number of accounts' ten-year rolling average divided by 365.
- 4.4** Implementation.

  - 4.4.1** All rates shall be approved by the Commission.
  - 4.4.2** Rates shall be advertised for four consecutive weeks in a newspaper of general circulation within the District.

**4.5** Financial Forecast.

HRSD will analyze water consumption, regional economic and population data periodically to identify any trends that may impact its long-range financial forecast. HRSD will also analyze and conservatively project major expense drivers, such as construction costs, inflation, operating cost increases, and borrowing costs. The forecast should target financial metrics, across the twenty-year period, that are consistent with rating agency metrics for a strong, double-A rated credit. This approach will ensure the long-range forecast is resilient and maintains HRSD's strong financial framework.

**4.6** Collections.

**4.6.1** HRSD will monitor all collections to ensure they are equitably administered, timely and accurate. The cost of collections shall not exceed the marginal incremental revenue and it should not be a large percentage of the amount to be collected.

**4.6.2** Charges shall be collected for all services rendered unless determined to be uncollectable.

**4.6.3** Charges may be assessed for services received but not billed (for any reason) for a period of up to three prior years. The rate in effect in the year treatment services were provided shall be applied. If necessary, at HRSD's sole discretion, billing adjustments and/or payment plans may be established for payment of delayed billing or unbilled previous service.

**4.6.4** Past due charges for services received and billed shall be pursued for up to 10-years after write-off.

**4.6.5** If a customer has past due charges on any account for services received, and establishes a new account within HRSD's service area, customer will be subject to the past due charges being transferred to their active account, and collection will be pursued.

**COMMISSION ADOPTED POLICY**  
*Revenue Policy*




Adopted: May 23, 2017

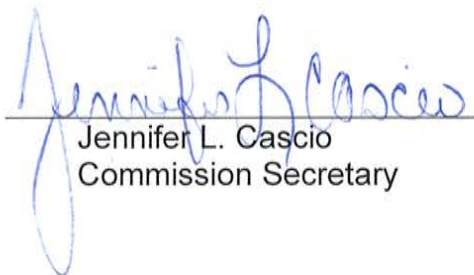
Revised: May 28, 2019

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**5.0 Responsibility and Authority**

- 5.1 The General Manager shall ensure the Commission reviews all rates annually as part of the annual budget process.
- 5.2 Rates may only be changed with an affirmative vote of a majority of the Commission at a legally noticed public meeting of the Commission.
- 5.3 The General Manager shall ensure any rate revisions are advertised and published in accordance with the HRSD Enabling Act.
- 5.4 The Director of Finance will present an updated Financial Forecast to the Commission and manage the update to the Rate Model on an annual basis.

Approved:  \_\_\_\_\_ 5/28/19  
Frederick N. Elofson  
Commission Chair  
Date

Attest:  \_\_\_\_\_ 5/28/19  
Jennifer L. Cascio  
Commission Secretary  
Date



**COMMISSION ADOPTED POLICY**  
**Revenue Policy**  
**Appendix A – Rate Model Summary**



Adopted: May 23, 2017

Revised: May 28, 2019

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**1.0 HRSD's Rate Model Summary**

HRSD's Rate Model uses a cost accounting process to allocate all operating costs to volume and each of four specific pollutants. The model designates each line item cost as fixed or variable. Fixed costs are those that are not influenced, in the short run, by volume or the quantity of pollutants in the wastewater being treated. These include for example, personnel costs, office, administrative, customer service, billing and collection expenses, and debt service. Conversely, variable costs are those that are affected by the volume and the amount of pollutants present; these include treatment plant expenditures for chemicals, electricity, fuel, and solids disposal. The rate model uses engineering criteria to allocate the variable costs to each of the four pollutants. Once the operating costs have been allocated, the model deducts miscellaneous revenues, includes a provision for bad debt, and derives rates for volume (\$/CCF) and high strength surcharges (\$/pound); the latter equates to HRSD's marginal or incremental cost attributable to treating each pollutant in excess of the amount present in typical domestic wastewater and is also presented as the equivalent \$ per mg/l per 100 CF to facilitate calculation by customers. Net fixed costs and the variable costs to treat the four pollutants present in typical domestic sewage are recovered via the volume rate and surcharges.

2.0 Rate Model Schematic

