

**FY 2019-2020 Virginia Beach Budget
Response to Council Questions**

Question Number: FY 20 30

Question: What is the plan to bring up sewer pump stations after a storm event?

Date Requested: March 5, 2019

Requested By: Councilman Moss

Department: Public Utilities

Response:

Public Utilities maintains 412 sanitary sewer pump stations. To enhance continuity of service during wide-spread power outages, 86 sewer pump stations have been equipped with permanent generators and one sewer pump station is equipped with a permanent bypass pump. Additionally, 315 sewer pump stations are outfitted with “quick connect” equipment that allows immediate connection of a portable generator in the event of a station power failure. Additionally, all sewer pump stations have connections for emergency bypass pumping operations.

Public Utilities sewer pump stations are categorized using two classification systems. The first classification establishes each sewer pump station’s “Priority” for emergency response. The priority of a sewer pump station is based on the holding time available before a sewer overflow is likely to occur due to non-operable pumps.

Priority 1 - holding time of less than 4 hours

Priority 2 - holding time of less than 8 hours

Priority 3 - holding time of less than 12

Priority 4 - holding time of over 12 hours

The second classification designates each sewer pump station with a “Tier 1” or “Tier 2” status. Tier 1 stations require the highest level of reliability during a loss of power.

Sewer pump stations designated as Tier 1 meet at least one of the following criteria:

- Classified as Priority 1
- Serves a Critical Care Facility or Emergency Shelter
- Receives wastewater flows from two or more pump stations
- Associated with properties subject to basement sewage backups
- Located near a water reservoir
- Located where access is limited

Public Utilities has a total of 186 Tier 1 stations and 226 Tier 2 stations, with

28% of the Tier 1 stations having permanent generators.

Public Utilities responds to anticipated storm-related power outages by pre-positioning portable emergency equipment (portable generators and bypass pumps) prior to the storm event and responding to identified needs once the storm event has passed.

When pre-positioning portable equipment, Tier 1 stations classified as Priority 1 and Priority 2 are first to receive portable generators and bypass pumps. Resources are shifted to Tier 2 stations as power is restored at Tier 1 stations. The status of power availability and wet well levels of sewer pump stations is monitored by the Public Utilities Supervisory Control and Data Acquisition (SCADA) system. This system allows staff to comprehensively monitor and operate the water and sewer systems from its control center. Data from SCADA allows for informed decision-making when resources are dispatched from the available fleet of 52 portable generators and 27 portable bypass pumps.

To better manage the dispatching, movement, and refueling of resources during emergency response operations, Public Utilities is currently in the process of installing equipment location devices on all portable generators and bypass pumps.