

BEFORE THE STATE OF FLORIDA  
DEPARTMENT OF ENVIRONMENTAL PROTECTIONIn re: City of St. Petersburg Petition for  
Variance from Rule 62-600.400(6)(b), F.A.C

OGC Case No. 17-0969

DEP File No.: FLA128848-022-DWF/VO

**ORDER GRANTING PETITION FOR VARIANCE**

On June 30, 2018, the City of St. Petersburg (City or Petitioner), filed a petition with the Department of Environmental Protection (Department) for a variance under section 120.542, Florida Statutes, from the requirements in Rule 62-600.440(6)(b) Florida Administrative Code (F.A.C.). Rule 62-600.440(6)(b), F.A.C., requires that the minimum acceptable contact time shall be 15 minutes at the peak hourly flow where chlorine is used for high level disinfection.

The Petitioner seeks a temporary variance until September 30, 2019, from the requirements of Rule 62-600.440(6)(b), F.A.C., to allow the facility to use less than 15 minutes of contact time at the peak hourly flow with an increase to the sodium hypochlorite dosage to provide high level disinfection.

A notice of receipt of the petition was published in the Florida Administrative Register on July 6, 2018. No public comment was received.

**BACKGROUND AND APPLICABLE REGULATORY CRITERIA**

1. Petitioner's address is: City of St. Petersburg Water Resources, P.O. Box 2842, St. Petersburg, Florida 33731. The City's Southwest Wastewater Reclaim Facility (SWWRF), is located at 3800 4<sup>th</sup> Avenue South, St. Petersburg, Florida in Section 10, Township 32 South, Range 16 East, in Pinellas County, at Latitude: 27° 43' 04.5" N/Longitude: 82° 41' 4" W.
2. The applicable rules pertinent to the petition for variance states as follows:  
  
*Rule 62-600.440(6)(b):* Where chlorine is used for disinfection, a total chlorine residual of at least 1.0 mg/L shall be maintained at all times. The minimum acceptable contact time shall be 15 minutes at the peak hourly flow. Higher residuals or longer contact times shall be provided to meet the criteria for high-level disinfection as described in paragraphs 62-600.440(6)(a) and (c), F.A.C. The chlorine residual and contact time selected shall be justified in the preliminary design or engineering report. Rapid and uniform mixing shall be provided.
3. In support of the Petition for Variance, the Petitioner alleges as follows:
  - a) The request for variance is temporary until the third chlorine contact tank (CCT) is constructed for the City of St. Petersburg - SWWRF as required by the Consent Order (OGC File No.16-1280).

- b) The construction of the third CCT will be completed by September 30, 2019, and it will increase the hydraulic capacity of the existing CCT to 78 MGD and will provide the minimum acceptable contact time of 15 minutes at the peak hourly flow.
- c) Petitioner provided a bench-scale disinfection testing performed in December 2016. The Bench-Scale Disinfection Testing (BSDT) report provided a recommended sodium hypochlorite dosage based on total flow. The sodium hypochlorite dosages will provide an effective disinfection required to inactivate pathogens.
- d) Not allowing the variance would constitute a substantial hardship because there is no practicable means known or available to provide the required contact time until the construction of the CCT expansion is completed. In addition, residents of the City St. Petersburg may be impacted by reducing the capacity of the Southwest WRF to treat wastewater effluent.

THE VARIANCE OR WAIVER WILL MEET THE UNDERLYING PURPOSE OF THE  
STATUTE

- 4. Section 120.542(2), Fla. Stat., states “variances and waivers shall be granted when the person subject to the rule demonstrates that the purpose of the underlying statute will be or has been achieved by other means by the person and when application of a rule would create a substantial hardship or would violate principles of fairness.” The variance procedure is intended to provide relief from unreasonable, unfair, and unintended results in unique cases.
- 5. The purpose of the underlying statutes for Rule 62-600.440(6)(b), F.A.C., will be or has been achieved by other means. The purpose of the statute is to ensure that the quality and use of the public access reuse water is environmentally acceptable and not a threat to public health and safety.
- 6. The variance would serve the purpose of the statute because Petitioner’s SWWRF was designed and built to meet high-level disinfection standards. The results of the BSDT demonstrated that the reclaimed water system will meet the disinfection criteria as required by applicable regulations using the dosage provided on the BSDT report.

SUBSTANTIAL HARDSHIP TO THE PETITIONER and  
VIOLATIONS OF PRINCIPLES OF FAIRNESS

- 7. “Substantial hardship” means a demonstrated economic, technological, legal, or other type of hardship to the person requesting the variance or waiver. “Principles of fairness” are violated when the literal application of a rule affects a particular person in a manner significantly different from the way it affects other similarly situated persons who are subject to the rule. Section 120.54(2), Florida Statutes.
- 8. Petitioner requests a variance of the strict application of rules 62-600.440(6)(b), F.A.C., because applying the rules would be unfair, and would create a substantial hardship, and would violate the principles of fairness because the consent order schedule requires

upstream hydraulic enhancements being constructed before CCT expansion. The constructed enhancements allow the facility to pass up to 70 MGD of peak hour flow during wet-weather events, when the disinfection process cannot meet the 15 minutes contact time. The facility can meet the disinfection requirements by simply applying a higher dosage of chlorine disinfectant.

9. Petitioner seeks a variance in order to avoid substantial economic hardship. Not allowing this variance constitutes a substantial hardship because there is no practicable means known or available to provide the required contact time at the enhanced peak hour flows until construction of the CCT expansion is completed.
10. The current configuration reduces the hydraulic loading capacity on the SWWRF, especially during the wet-season. SWWRF needs to increase treatment capacity peak flow and operational reliability associated with wet weather events which corresponds to the time of the peak flow wet season at the SWWRF. Failure to reevaluate the facility design would create an unacceptable risk of exceeding the SWWRF's hydraulic capacity.
11. The Petitioner believes that principles of fairness would be violated if the City is required to comply with rules 62-600.440(6)(b), F.A.C., which requires a 15 minutes contact time without increasing the upstream hydraulic enhancements and the construction of the third CCT as indicated in Consent Order OGC File No. 16-1280.
12. The Petitioner demonstrated that strict application of the rule would result in substantial hardship to the Petitioner.

THEREFORE, IT IS ORDERED:

13. Based on the foregoing reasons, the Petitioner has demonstrated that there are no practicable means known or available for the adequate control of the pollution involved, the Department intends to grant the proposed variance. The Petitioner must ensure that the City of St. Petersburg's SWWRF meets the pathogen inactivation requirements in Rule 62-600.440(6)(b), F.A.C. as specified in paragraph 62-600.440(6)(a), F.A.C. by using a higher chlorine dosage and shorter contact time as specified in Table 1 (Recommended Sodium Hypochlorite Dosage) of the Technical Memorandum attached as an Exhibit 1 under the petition for variance application. **PETITIONER'S REQUEST FOR A VARIANCE IS GRANTED.**
14. The current Wastewater Reclamation Facility permit FLA128848, with an interim discharge monitoring report, is revised to include the shorter chlorine contact time granted with this variance.
15. This variance shall remain in effect until September 30, 2019 when the third CCT is scheduled to be completed.

## **NOTICE OF RIGHTS**

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the request for a variance or waiver.

### Petition for Administrative Hearing

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rule 28-106.201, F.A.C., a petition for an administrative hearing must contain the following information:

- (a) The name and address of each agency affected and each agency's file or identification number, if known;
- (b) The name, address, telephone number, and any e-mail address of the petitioner; the name, address, telephone number, and any e-mail address of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests are or will be affected by the agency determination;
- (c) A statement of when and how the petitioner received notice of the agency decision;
- (d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
- (e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
- (f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
- (g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

### Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing must be filed within 21 days of receipt of this written notice. The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, before the applicable deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

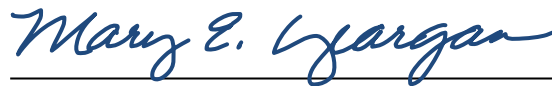
Mediation is not available in this proceeding.

Judicial Review

Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Rules 9.110 and 9.190, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 3900 Commonwealth Boulevard, M.S. 35, Tallahassee, Florida 32399-3000; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this action is filed with the Clerk of the Department.

DONE AND ORDERED this 14<sup>th</sup> day of September, 2018 in Hillsborough county, Florida.

STATE OF FLORIDA DEPARTMENT  
OF ENVIRONMENTAL PROTECTION



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Mary E. Yeargan, P.G.  
Southwest District Director  
Florida Department of Environmental Protection  
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Temple Terrace, Florida 33637

**Copies furnished to:**

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**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that this Order, including all copies, were mailed before the close of business on September 14, 2018, to the above listed persons.

**FILING AND ACKNOWLEDGMENT**

FILED, on this date, under 120.52(7) of the Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.

  
Clerk

September 14, 2018  
Date

# EXHIBIT I

Technical Memorandum  
May 26, 2017

## TECHNICAL MEMORANDUM

**TO:** Todd Bosso, PE, Brown and Caldwell

**FROM:** Mitch Chiavaroli, PE

**CC:** Anand Mody, PE, Brown and Caldwell  
Dan Davis, PE, Brown and Caldwell

**DATE:** June 29, 2017

**RE:** St. Petersburg SWWRF  
Disinfection

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The existing disinfection facility at the SWWRF includes two (2) chlorine contact tanks (CCTs), each with a volume of approximately 225,800 gallons with a water depth of 7'-10" ft (design high water level 107.83)<sup>1</sup>. While the record drawings indicate this to be the high water level (HWL), the flow rate through each CCT required to achieve this water elevation is 21 mgd. However, at approximately 16.5 mgd, the effluent launderers are submerged and the controlling weir is no longer the effluent launderer, but the openings into the Transfer/Backwash Pump Station wet well. At this point these openings, two per CCT, do not behave as ideal weirs and the weir equations do not apply. Observed conditions reported by the City will be used in determining when high rate disinfection (HRD) is necessary.

Observed conditions reported by the City are as follows.

- As plant flow approaches 48 mgd, the water level in the junction chamber of the CCTs starts to overtop the walls (elevation 109).
- The City has in the past placed sandbags around the junction chamber to keep the effluent within the chamber. As plant flow approaches 54 mgd, the water level in the CCTs, overtops the CCT walls, including the serpentine baffle walls.

With the water level at elevation 109.0, each CCT has a volume of 259,540 gallons. Therefore, the existing CCTs will provide a contact time of 15 minutes for flows up to 50 mgd. Flows between 50 and 54 mgd, when the water level in the CCTs overtops the walls, will see less than 15 minutes detention time in the CCTs. At 54 mgd, the calculated detention time is approximately 13.8 minutes.

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<sup>1</sup> City of St. Petersburg, Florida Southwest Water Reclamation Facility Reclaimed Water System Improvements, Project No. 03052-111, Greeley and Hansen, LLC, record drawings



The bench-scale testing performed in December 2016 (see attached *SWWRF Bench-Scale Disinfection Testing Technical Memorandum*) indicates that at a sodium hypochlorite dosage of 6 mg/L and a contact time of 10 minutes, the fecal coliform count is non-detect. Subsequent bench-scale testing performed in March 2017 using a mixture of secondary effluent (SCE) and plant influent (PI), 85% SCE – 15% PI, to demonstrate disinfection effectiveness on diminished quality effluent show that at a sodium hypochlorite dosage of 10 mg/L and a contact time of 10 minutes, the fecal coliform count ranged from non-detect to 4/100 ml.

With the slight reduction in detention time from 15 minutes to 13.8 minutes at a flow of 54 mgd, an increase in dosage to 10 mg/l should prove effective for plant flows between 50 and 54 mgd. Once the plant flow has exceeded the top of the walls, the serpentine plug flow within the channel is no longer achieved and the detention time cannot be calculated.

The proposed fast-track improvements to the chlorine contact tank will increase the hydraulic capacity of the CCTs to 78 mgd. However, at this higher hydraulic capacity, the detention time will be decrease since no additional volume is being added. HRD will need to be implemented once the flow exceeds 47 mgd<sup>2</sup>. The table below shows the detention times as the flow rate increases above 47 mgd and the recommended sodium hypochlorite dosage based on the results of the SWWRF bench-scale disinfection testing.

Table 1 - Recommended Sodium Hypochlorite Dosage

Flow – Total (mgd)	Flow – Per tank (mgd)	Detention Time (minutes)	NaOCl dosage (mg/L)
47	23.5	15.0	10
50	25	14.1	10
55	27.5	12.8	10
60	30	11.8	10
65	32.5	10.9	10
70	35	10.1	15
75	37.5	9.4	15
78	39	9.1	15

Attachment: May 26, 2017 *SWWRF Bench-Scale Disinfection Testing Technical Memorandum*

<sup>2</sup> With the installation of the weir gates under the fast-track improvements, the intent is to maintain a minimum 6” freeboard in the CCTs. Therefore the effective volume of the CCTs is reduced and the flow at which the existing CCTs provide 15 minutes detention time is also reduced to 47 mgd.