

Schedule 18

Appendix 18R – Process Performance Guarantees

SECTION A. DEFINITIONS

A.1 Capitalized Terms

A.1.1 Capitalized terms used in this Appendix 18R have the meanings given in Schedule 18 – Technical Requirements or the Design Build Agreement.

SECTION B. PERFORMANCE PERIOD

B.1 Duration

B.1.1 The performance period will begin on the Substantial Completion Date and continue for 365 Calendar Days.

B.2 Sampling and Analysis

B.2.1 The City will collect grab samples twice a week, or at a frequency agreed upon by both Parties, acting reasonably, for analysis of the parameters indicated in Table 1.

B.2.2 Screenings samples will be collected at the point where screenings are discharged into the screenings bin.

B.2.3 Grit samples will be collected at the point where dewatered grit is discharged into the grit bin.

B.2.4 Samples will be analyzed in accordance with method 2540G, published in Standard Methods for Examination of Water and Wastewater, 23rd Edition, or another method agreed upon by both Parties, acting reasonably.

B.2.5 Samples will be analyzed by the City's Water and Waste laboratory located at the NEWPCC Facility, unless:

- (a) Design Builder uses a third-party laboratory accredited with the Canadian Association of Laboratory Accreditation;
- (b) Design Builder bears all costs related to sample collection, sample preservation, shipment, preparation, analysis, and reporting;
- (c) collected samples are of a sufficient size to split the sample to allow the City to carry out its own analysis at its own cost; and
- (d) the City Representative agrees, in writing, to Design Builder performing such work.

B.3 Reporting

B.3.1 If sampling and analysis is performed by the City, results from the analyses will be provided to Design Builder on a monthly basis.

B.3.2 If sampling and analysis is performed by a third-party, the third-party results reports shall be provided to the City by Design Builder on a monthly basis.

B.4 Determination of Performance

B.4.1 An annual average for each parameter will be calculated by the City using the data collected during the entire performance period to determine the average performance of the processes.

B.4.2 The annual average will be calculated by the following equation:

$$avg = \frac{(P_1 + P_2 + \dots + P_N)}{N}$$

where:

- (a) P is the value of a result for a given parameter; and
- (b) N is the number of results for a given parameter.

B.5 Review of Performance

B.5.1 Design Builder shall periodically review the process performance data to ascertain that the Process Performance Guarantees are being met. If the data trends show that the Process Performance Guarantees are consistently not being met, this shall be considered a Non-Conformance and Design Builder shall submit a NCR Plan in accordance with Schedule 18 – Technical Requirements Section A.4.

B.5.1.1 NCR Plans that extend beyond the end of the performance period will not be accepted. Upon expiration of the performance period, Design Builder will not be permitted to modify the process equipment or control strategy.

B.5.2 Upon completion of the performance period, all of the data collected will be used to determine the Process Performance Guarantee Adjustment, in accordance with Section D, unless Design Builder demonstrates, to the satisfaction of the City that certain data should not be used because of:

- (a) errors that occurred during sampling or analysis;
- (b) changes to the process equipment or control that resulted in some data no longer being representative of the process performance; or
- (c) a process upset, at no fault of Design Builder;

but in no case shall the removal of data result in a calculated average performance that is not representative of the process performance.

SECTION C. DESIGN BUILDER’S PROCESS PERFORMANCE GUARANTEES

C.1 Design Builder makes the following performance guarantees, as shown in Table 1:

[Note to Proponents: Guarantees from Design Builder’s Proposal will be inserted into Table 1. If no guarantees are provided in Design Builder’s Proposal, the minimum performance criteria specified in Appendix 18A – Process Functional Requirements will be inserted into Table 1.]

Table 1: Summary of Process Performance Guarantees

No.	Process Parameter	Performance Guarantee	Units
S1	Screenings Dry Solids		dry solids (% weight/weight)
S2	Grit Dry Solids		dry solids (% weight/weight)
V1	Grit Volatile Solids Content		volatile solids/dry solids (% weight/weight)
Performance guarantees shall be no less than the minimum specified in Schedule 18 – Technical Requirements – Appendix A – Process Functional Requirements			

SECTION D. PROCESS PERFORMANCE GUARANTEE ADJUSTMENT

D.1 Determination of Total Process Performance Guarantee Adjustment

D.1.1 The Total Process Performance Guarantee Adjustment will be calculated as follows:

- (a) the annual cost difference for each of the three guarantee parameters will be calculated as shown in Table 2 and Table 3;
- (b) the annual cost difference for each of the three guarantee parameters will be converted to a lifecycle cost Process Performance Guarantee Adjustment by applying the following formula:
 - (i) $\text{Process Performance Guarantee Adjustment (\$)} = D * 26.0.$
- (c) if an individual Process Performance Guarantees Adjustment is negative, it indicates the guarantee has been met, and it will be removed from the calculation of the Total Process Performance Guarantee Adjustment;
- (d) if an individual Process Performance Guarantees Adjustment is positive, it indicates the guarantee has not been met, and it will be used in the calculation of the Total Process Performance Guarantee Adjustment; and
- (e) all individual Process Performance Guarantees Adjustments with a positive value will be summed to determine the Total Process Performance Guarantee Adjustment.

Table 2: Residuals Dryness Performance Guarantee Adjustment

No.	Process Parameter	Guarantee	Units	Average % TS (dry) in Performance Period	Units	Commodity Cost	Difference Cost	Units
		A		B		C	D	
S1	Screenings Dry Solids Content		% TS (dry)		% TS (dry)	\$8,500 / % TS / year	(A-B)*C	\$/year
S2	Grit Dry Solids Content		% TS (dry)		% TS (dry)	\$11,000 / % TS / year	(A-B)*C	\$/year

Table 3: Residuals Volatiles Solids Content Performance Guarantee Adjustment

No.	Process Parameter	Guarantee	Units	Average VS/TS Content (%) in Performance Period	Units	Commodity Cost	Difference Cost	Units
		A		B		C	D	
V1	Grit Volatile Solids Content		% (VS / TS)		% (VS / TS)	\$6,000 / % VS / year	(A-B)*C	\$/year