Region of Waterloo

Stage 1 Light Rail Transit Project

Maintenance & Rehabilitation Specifications

Article 3

System Service Availability Requirements

Table of Contents

ARTICLE 3 SYSTEM SERVICE AVAILABILITY REQUIREMENTS

3.1 General

(a) This Article describes the method of calculating performance factors for operations and maintenance services provided by Project Co.

(b) System Availability will evaluate the availability of key system and facility elements to the public as well as the operating performance of Project Co. This measure is defined through a series of formulas measured over the course of each day and month as described below. Project Co shall submit a System Assurance Monitoring (SAM) Plan to the Region which will include in detail how Project Co will meet the requirements for System Service Availability measurement and calculation as described in this Article. The SAM Plan shall include specific measurement criteria, data capture techniques, a specific review process, a daily and monthly report format, and sample calculations based on expected service performance.

(c) Record Keeping

Project Co shall maintain accurate records of all funds received and disbursed in connection with the operation and maintenance of the System. Project Co shall be responsible for collecting and verifying all performance data and preparing the input for the monthly reports as per Schedule 15-4 Article 1. Project Co's Project Manager shall review all documentation and backup for completeness and compliance with the Project Agreement prior to Project Co submitting an invoice to the Region.

3.2 Definitions

(a) As used in this Article shall be as follows:

(i) "Baseline Service Plan" shall mean the train service as set forth in Appendix D for each Contract year during the Maintenance Term. The Baseline Service Plan shall be defined, for each year, in terms of scheduled departure and arrival times for each train and number of rail cars for each train, per route for each day of the week including weekend service. The Baseline Service Plan will also identify the number of vehicles for Project Co to operate and maintain in each year of the Maintenance Term. The hours cited in the Baseline Service Plan are train operator hours in revenue service including any short term layover time (less than the time of the current train headway) at the LRT Stop for an immediate turnaround of the train for revenue service. The kilometers cited in the Baseline Service Plan are fixed distances based on the physical distance between the outbound ends of the platform at the LRT Stops and are not based on odometer readings which can vary per trip. Dead heading train operator hours or dead heading kilometres are not included in the Baseline Service Plan and shall not be included in the Scheduled Service Plan or in any calculation related to operator hours or vehicle kilometres. Within the limits defined herein, the Baseline Service Plan shall be modified, as needed, each month to create the Scheduled Service Plan.

(iii) "Route" shall mean the specific train routing consisting of a designated direction using specific track sections and specific platforms at each LRT Stop applied to achieve the Scheduled Service Plan. The Baseline Service shall assume that the Stage 1 LRT System will have only one route. That route is from Conestoga Mall to Fairview Mall.

(iv) "Scheduled Service Plan" shall mean the approved plan for a specific month of scheduled train service, including departure times, arrival times and a specific minimum number of functional cars per train per Route as approved by the Region. The Schedule Service Plan shall include all Region approved train service changes for planned maintenance activities during revenue service, special events and any other known deviation from the normal train service provided for weekday, weekend or holiday service. The Scheduled Service Plan will include a general layover time of 4 minutes and not less than 3 minutes, and will incorporate the run times between each terminal LRT Stop based on the VISSIM analysis of the most current configuration of the Traffic Signal Control/Traffic Signal Priority Systems

(v) "Departure Time" shall mean the time at which the doors are closed and the train is ready to move forward in revenue service.

(vi) "Arrival Time" shall mean the time at which the train is fully stopped and properly berthed at the LRT Stop platform and the doors interlock is released.

(vii) "Trip" or "Train Trip" is the service provided by a train initiating at a terminal LRT Stop and terminating at another terminal LRT Stop as designated in the Scheduled Service Plan

3.3 Operation Services

(a) Monthly Operations Performance Factor (MOPF)

(i) This Article will determine the value of the Monthly Operations Performance Factor that reflects the performance of train operations or other operations related Work by Project Co.

(ii) Refer to Schedule 20 for the application of the MOPF.

(b) Operations Performance Factors

(i) Project Co's performance with respect to operations will be assessed by the following factors:

A. Scheduled Service Performance Factor (SSPF)

B. Completed LRT Trips Performance Factor (CLTPF)

(ii) Project Co shall provide the Region with all information and documentation to measure and calculate the Scheduled Service Performance Factor and Completed LRT Trip Performance Factor for each month of operations service. Project Co shall collect all information related to Scheduled Service Performance Factor and Completed Performance LRT Trip Factor using automated data collection processes and software from the on-board or CCF equipment provided by Project Co.

(iii) The summation of all of the factors used to determine the Monthly Operations Performance Factor, for any month shall not exceed 1.0.

(c) Scheduled Service Performance Factor (SSPF)

(i) This performance factor shall be calculated based upon the number of train trips programmed into the Scheduled Service Plan for the month and the actual departure time

at the initial LRT Stop and arrival time at the destination LRT Stop. Inbound and outbound service to and from the same LRT Stop designated in the Scheduled Service Plan performed by the same train shall be considered as two separate and distinct train trips for the purposes of determining this performance factor.

(ii) The Daily Scheduled Service Performance Factor (DSSPF) is determined by the following formula.

DSSPF = (Actual Train in Service Points/Scheduled Train in Service Points).

(iii) Where:

A. Since Train in Service points are assigned for on time departure and on time arrival, the total number of points that can be earned per train trip is two points.

B. DSSPF shall be calculated on a daily basis and the daily totals shall be summed up and divided by the number of days in the Scheduled Service Plan for the month to determine the overall SSPF for the month.

C. Actual Train in Service Points are the summation of the daily Earned Departure Time Points and Earned Arrival Time Points earned by each train as per the tables below.

EXHIBIT 3.3-1 Actual Departure Time Deviation

Rule No.	Rule Violation	Actual Departure Time (ADT) Deviation from Scheduled Departure Time (SDT)	Earned Departure Time Points
1	early	ADT is more than 0.5 minutes earlier than SDT	0.0
2	early	ADT is more than 0.25 minutes earlier and up to 0.5 minutes earlier than SDT	0.9
3	late	ADT is 0.25 minutes earlier and up to 1.0 minute later than SDT	1.0
4	late	ADT is later than 1.0 minute and up to 2.5 minutes later than SDT	0.9
5	late	ADT is later than 2.5 minutes and up to 4.5 minutes later than SDT	0.8
6	late	ADT is later than 4.5 minutes than SDT but not later than the number of minutes for the scheduled train headway or 15 minutes, whichever is less.	0.7
7	late	ADT is later than the SDT by more than the number of minutes for the scheduled train headway or 15 minutes whichever is less	0.0

EXHIBIT 3.3-1 Actual Departure Time Deviation

Rule No.	Rule Violation	Actual Departure Time (ADT) Deviation from Scheduled Departure Time (SDT)	Earned Departure Time Points
8	No trip	Trip is cancelled	0.0

EXHIBIT 3.3-2 Actual Arrival Time Deviation

Rule No.	Rule Violation	Actual Arrival Time (AAT) Deviation from Scheduled Arrival Time (SAT)	Earned Arrival Time Points
1	early	AAT is more than 1.50 minutes earlier than SAT	0.0
2	early	AAT is 1.50 minutes earlier and up to 1.0 minute earlier than SAT	0.9
3	early	AAT is earlier than 1.0 minute and up to 3.0 minutes later than SAT	1.0
4	late	AAT is later than 3.0 minutes and up to 3.75 minutes later than SAT	0.9
5	late	AAT is later than 3.75 minutes and up to 4.5 minutes later than SAT	0.8
6	late	AAT is later than 4.5 minutes than SAT but not later than the number of minutes for the scheduled train headway or 15 minutes, whichever is less	0.7
7	late	AAT is later than SAT by more than the number of minutes for the scheduled train headway during this period or 15 minutes whichever is less	0.0

D. Any train trip that is canceled prior to entering revenue service or is taken out of revenue service earns no Departure or Arrival Time Points. Any train which fails to complete any part of its normal scheduled service train trip, such as missing an LRT Stop, earns no Departure or Arrival Time Points.

E. Project Co is required to provide train service at any time when service is scheduled and at least partial service, when possible, even if no points are earned for that train trip.

(iv) Scheduled Service Plan

A. The primary means for measuring train operations performance is the Scheduled Service plan. The Scheduled Service Plan shall be submitted to the Region for written approval one month prior to the next calendar month. Two weeks prior to the next calendar month, the Region can direct Project Co to modify the Scheduled Service Plan and resubmit it for Region approval. This plan shall define for each Route the scheduled train service and including all schedule and train size information needed for the performance calculations. In addition, this plan shall define the supervisory staffing positions that coincide with the specific train service being implemented. In the event that either Project Co or Region desires to revise the approved Scheduled Service Plan, Project Co shall submit to the Region the proposed revisions one week in advance of implementation. In all cases the performance shall be determined based upon the Region's approved Scheduled Service Plans.

B. The single tracking or other special train operations needed for special events, maintenance, accommodating railroad freight trains, testing, capital asset replacement activities or driver recertification will be included in the calculation of the DSSPF only if these train operations are part of the Scheduled Service Plan. During the time when maintenance is performed on the system and preplanned single tracking or other special train operation strategies are used to provide train service around the work area, Project Co shall carefully document train performance. Based on the collected historical data for every diversion strategy, an analysis shall be performed by Project Co and the resulting travel times shall be the basis for determining the departure and arrival times included in the Scheduled Service Plan.

C. The DSSPF will not include any trips from additional trains placed in service beyond those trains in the Scheduled Service Plan unless approved by the Region.

(v) Non-Scheduled Service Plan

A. The Region wants to incentivize Project Co to provide the highest quality train service when circumstances force a significant deviation from the Scheduled Service Plan even when the circumstances are not one of the excusing causes. In the event that circumstances prevent train operations as per the Scheduled Service Plan and Project Co must operate one of the preapproved bypass train operations or alternative train operation plans, and the circumstance that has caused the deviation away from Scheduled Service Plan is not one of the exclusionary events, then Project Co may receive partial credit for the Non-Scheduled Service train operations actually provided. The amount of Actual Train in Service Points earned during the Non-Scheduled Service shall be based upon the sole judgment of the Region, acting reasonably, and in consideration of the circumstances which caused the disruption and the quality of the Non Scheduled Service provided by Project Co.

(d) Completed LRT Trips (CLT) and Completed LRT Trips Performance Factor (CLTPF)

(i) This performance factor shall be calculated based upon the ratio of the actual number of completed train trips programmed into the Scheduled Service Plan. A completed trip is any trip to and from the LRT Stops designated in the Scheduled Service Plan that is completed in which the Actual Departure Time (ADT) complies with at least one of Rules 2 to 6 and the Actual Arrival Time complies with at least one of Rules 2 to 6. The train trip will not be counted as a completed trip if either the ADT or the AAT does not comply with these rules.

(ii) The Completed LRT Trips Performance Factor (CLTPF) is determined by the following formula.

CLTPF = (Completed LRT Trips/Scheduled LRT Trips).

(e) Exclusions and Grace Periods

(i) See Schedule 20 and Section 42 of the Project Agreement for exclusionary events and grace periods.

(f) Calculation of the Monthly Operations Performance Factor (MOPF)

The MOPF is calculated by the formula below with all values for SSPF and CLTPF rounded to four decimal places prior to performing the calculation for MOPF. A value such as .00005 is rounded up to .0001 and all values less than .00005 are truncated from the SSPF and CLTPF. The calculated value for the MOPF shall also be rounded to four places to become the final value for the MOPF.

MOPF = (0.25*SSPF) + (.75*CLTPF)

Example 1 = If the SSPF = .9515 and CLTPF = .9952

Then MOPF = .2379 + .7464 = 0.9843

Example 2 = If the SSPF = .8912 and CLTPF = .9772

Then MOPF = .2228 + .7329 = .9557

3.4 Maintenance Services

(a) Monthly Maintenance Performance Factor (MMPF)

(i) This Section will determine the value of the Monthly Maintenance Performance Factor that reflects the performance of maintenance services by Project Co.

(ii) Refer to Schedule 20 for the application of the MMPF.

(b) Maintenance Performance Factors

(i) Project Co's performance with respect to maintenance services will be assessed by the following factors:

A. Fleet Functionality Performance Factor (FFPF)

B. Maintenance and Inspection Performance Factor (MIPF)

(ii) Project Co shall provide the Region with all information and documentation to measure and calculate the Fleet Functionality Performance Factor and the Maintenance and Inspection Performance Factor. Project Co shall collect all information related to Fleet

Functionality Performance Factor and the Maintenance and Inspection Performance Factor using automated data collection processes and software as part of its maintenance tracking systems (MIS) provided by Project Co.

(iii) The summation of all of the factors used to determine the Monthly Maintenance Performance Factor, for any month shall not exceed 1.0.

(c) Fleet Functionality Performance Factor (FFPF)

(i) This performance factor shall be calculated based upon the number of cars assigned to each specific train for a specific train trip, as per Scheduled Service Plan for the month and the actual number of functional cars per train that actually operated in revenue service. Inbound and outbound service to and from the same LRT Stop designated in the Scheduled Service Plan performed by the same train shall be considered as two separate and distinct train trips for the purposes of determining this performance factor.

(ii) The intent of the Fleet Functionality Performance Factor calculation is to address quality issues pertaining to poorly performing cars but cars whose performance may not impact scheduled train service. Note that if a train is taken out of service due to a car related failure, then the impact of that car failure is addressed in the Scheduled Service Performance Factor. However, if a train remains in service but is providing a lower quality of service or slower service due to a car related problem included in the Fleet Functionality Table, then both the Scheduled Service Performance Factor and the Fleet Functionality Performance Factor will include this situation in their calculations of the respective performance factors.

(iii) The Fleet Functionality Performance Factor (FFPF) is determined by the following formula.

(iv) FFPF = (Actual Functional Fleet in Train Service Points/Scheduled Functional Fleet in Train Service Points).

(v) Where:

A. Scheduled Functional Fleet in Train Service Points is the summation of the actual number of rail cars (one point per rail car) per train trip required for the scheduled service for a specific month. The number of rail cars assigned to that train trip shall be as per the Scheduled Service Plan. Any train that was not operated as per the Schedule Service Plan is not included in this calculation. A “train” is defined as described a train in the Scheduled Service Performance Factor.

B. Actual Functional Fleet in Train Service Points are the summation of the number of functional rail cars per train (one point per functional rail car) that provided revenue service for a specific month.”. The number of trains shall be the same number of trains used to calculate the Scheduled Functional Fleet in Train Service Points. A “rail car” or vehicle is defined for the purposes of this calculation as the entire articulated rail car.

(d) Fleet Functionality Criteria

(i) The table below entitled “Fleet Functionality Criteria” provides the initial criteria and actions which determine if a rail car is deemed fully functional. The Region reserves the

right to add or delete items in this table if the Region, in its sole judgment, has determined that an adjustment to these items is needed to properly assess whether a vehicle is fit for revenue service. If a vehicle exhibits any of the problems detailed in this table, or as amended by the Region, and is still part of a train providing passenger service, then this car is considered as less than a fully functional car and is included in the calculation of the Functional Fleet in Train Service Points. All rail cars shall be inspected daily before entering revenue service. If any of these conditions are identified prior to entering revenue service, then that rail car shall not be placed into revenue service. If Project Co places a less than fully functional rail car in service, this action will be considered in the calculation of the Functional Fleet in Train Service Points in addition to requirements cited in Schedule 20. In addition, Exhibit 3.4-1 provides the minimum response to these conditions if they occur after the rail car has been placed into service.

EXHIBIT 3.4-1 Fleet Functionality Criteria

Item	Pre Service Launch into Service	Failure Occurs when Train is already in service	
		Criteria for Single Car Train	Criteria for Multi Car Train
Any equipment failure which may impact safety	No	Unload passengers at the next LRT Stop and remove train from service	Remove passengers from rail car, lock out rail car and remove train from service at end of round trip if possible to continue service.
Car Door (50% of door on any side fails)	No	Remove train at end of round trip	Lock out car door and remove train at end of round trip
Car Door (Over 50% of doors on any side fails)	No	Unload passengers at the next LRT Stop and remove train from service	Remove passengers and lock out rail car door and remove train at end of round trip
PAI Failure	No	If both fail on one car, remove car at end of round trip	If both fail on one car, lock out car and remove train at end of round trip
Brakes (1 out of 3 trucks fails)	No	Unload passengers at the next LRT Stop and remove train from service	Reduce Speed to safe level and remove train from service at the end of its trip.
Battery charge below acceptable limit for emergency ops.	No	Remove train at end of round trip	Remove train/car at end of round trip
Battery Monitor Failed	No	Remove train at end of round trip	Remove train/car at end of round trip

EXHIBIT 3.4-1 Fleet Functionality Criteria

Item	Pre Service Launch into Service	Failure Occurs when Train is already in service	
		Criteria for Single Car Train	Criteria for Multi Car Train
Battery Temperature alarm (High Temperature	No	Remove train at end of round trip	Remove train/car at end of round trip
Loss of pressure in load leveling systems	No	Supervise Unloading and loading of passengers at the remaining LRT Stops and remove train from service at terminal LRT Stop.	Remove passengers from rail car, lock out rail car and remove train from service at end of round trip
Wheels – flat spots exceed in-service requirements as per the vehicle supplier or 25 mm in length whichever is more restrictive	No	Upon discovery, remove train at end of round trip	Upon discovery, remove train/car at end of round trip
AC System (total failure)	If T> 23.9°C No If T<= 23.9°C Yes	If forecasted T> 23.9°C Remove train at end of round trip	If forecasted T> 23.9°C Remove train/car at end of round trip
AC System (Partial failure)	If T> 29.4°C No If T<= 29.4°C Yes	If forecasted T> 29.4°C Remove train at end of round trip	If forecasted T> 29.4°C Remove train/car at end of round trip
Heating System	If T <=12.8°C No If T> 12.8°C Yes	If forecasted T <= 12.8°C Remove train at end of round trip	If forecasted T <= 12.8°C Remove train/car at end of round trip

EXHIBIT 3.4-1 Fleet Functionality Criteria

Item	Pre Service Launch into Service	Failure Occurs when Train is already in service	
		Criteria for Single Car Train	Criteria for Multi Car Train
Auxiliary Power Unit	No	Unload passengers at the next LRT Stop and remove train from service	Remove passengers from rail car, lock out car and remove train at end of round trip
Pantograph and/or fuse assembly (partial failure)	No	Remove train at end of round trip (applicable to two car trains)	Remove train/car at end of round trip (applicable to two car trains)
Cracked windows – minor	No	Apply temporary repair, supervise condition of crack repair and remove train at fleet reduction	Apply temporary repair, supervise condition of crack repair, and remove train/car at fleet reduction
Annoying Noises (wheels, fans or other sources exceeding APTA standards for interior car noise or 75 dBA)	No	Apply temporary repair or other remedial action and remove train at end of round trip	Apply temporary repair or other remedial action and remove train/car at end of round trip
Broken or major crack in windows (not minor)	No	Remove train immediately	Remove passengers from rail car, lock out car and remove train at end of round trip
Interior lights (more than 25% failed)	No	Remove at fleet reduction	Remove at fleet reduction
Exterior Lights excluding headlights (more than 25% failed)	No	Remove train at fleet reduction	Remove at fleet reduction
Exterior Headlights at either end of the train (Partial failure)	No	Reduce speed if appropriate and remove at end of round trip	Reduce speed if appropriate and remove at end of round trip
Torn Seats, excessive dirt or strong odors	No	Apply temporary repair or other remedial action and remove train at end of round trip	Apply temporary repair or other remedial action and remove train/car at end of round trip

EXHIBIT 3.4-1 Fleet Functionality Criteria

Item	Pre Service Launch into Service	Failure Occurs when Train is already in service	
		Criteria for Single Car Train	Criteria for Multi Car Train
Stanchions or handrails (loose or broken)	No	Apply temporary repair or other remedial action and remove train immediately	Remove passengers from rail car, lock out car and remove train at end of round trip
Equipment and Equipment Covers – not secure	No	If possible, secure in situ, if not, remove train immediately	If possible, secure in situ, if not, remove train/car immediately
Graffiti External	No	N/A in service	N/A in service
Interior panels and equipment covers – not secured	No	If possible secure in situ, if not, remove train at end of round trip	If possible secure in situ, if not, lock out car and remove train/car at end of round trip
Graffiti Internal	No	If possible clean, if not remove train at fleet reduction	If possible clean, if not remove train/car at fleet reduction
PIDS Failure	No	Remove train at fleet reduction	Remove train/car at fleet reduction
Public Address	No	Remove train at fleet reduction	Remove at fleet reduction
Any other condition which reduces passenger safety.	No	Remove train immediately unless a reasonable mitigation is possible.	If safe to continue, remove passengers from rail car, lock out car and remove train/car at end of round trip
Any Class B fault condition identified by BTS	No	Remove train immediately unless a reasonable mitigation is possible	Remove train immediately unless a reasonable mitigation is possible
Any Class C fault condition identified by BTS	No	Apply temporary repair or other remedial action and remove train at end of round trip	Apply temporary repair or other remedial action and remove train at end of round trip

(ii) With prior approval from the Region, Project Co may add an additional rail car to a train for trouble shooting technical problems or addressing operational problems. If a train includes more rail cars than required by the Scheduled Service Plan and that train experiences some car related problems that would normally result in a reduction in Functional Fleet in Train Service Points, the reduction in Functional Fleet in Train Service Points is avoided as long as that train has the minimum number of fully

functional cars specified in the Scheduled Service Plan. If Project Co adds an additional rail car to a train beyond the number of fully functional cars specified in the Scheduled Service Plan, Project Co will not receive credit for the additional rail car in the calculation of the Actual Functional Fleet in Train Service Points

(e) Maintenance and Inspection Performance Factor (MIPF)

(i) This performance factor shall be calculated based upon the performance of Project Co with respect to maintaining and inspecting the System.

(ii) Project Co shall submit to the Region as support to the monthly application for payment, all data and in a format as reasonably requested by the Region. This data will establish Project Co's level of compliance with LRT Stops, trackway, roadway, and systems and vehicle maintenance and inspection requirements.

(iii) The Maintenance and Inspection Performance Factor (MIPF) shall be calculated as follows:

A. MIPF =[(PMCA) + (V(insp) + STP(insp) + TW(insp))/3]/2.

(iv) Where:

A. PMCA is the sum of all preventive maintenance activities and corrective actions activities actually completed during the calendar month divided by the total number of all of the preventive maintenance activities and corrective actions activities scheduled for completion during the calendar month. This includes all PM's and CA's for rail car, systems related facilities and infrastructure related preventive maintenance activities. PMCA can vary from 0.0 to 1.0

B. V(insp) is the sum of all of the vehicle inspections actually performed during the calendar month divided by the sum of all of the vehicle inspections scheduled for completion during the calendar month. V(insp) can vary from 0.0 to 1.0.

C. STP(insp) is the sum of all of LRT Stop and other building inspections actually performed during the calendar month divided by the sum of all of the LRT Stop and other building inspections scheduled for completion during the calendar month. STP(insp) can vary from 0.0 to 1.0.

D. TW(insp) is the sum of the entire trackway, wayside systems, OMSF, and roadway and other infrastructure or system inspections actually performed during the calendar month divided by the sum of all of the inspections scheduled for completion during for the calendar month. TW(insp) can vary from 0.0 to 1.0.

(f) Calculation of the Monthly Maintenance Payment Factor (MMPF)

(i) The MMPF is calculated by the formula below with all values for FFPF and MIPF rounded to four decimal places prior to performing the calculation for MMPF. A value such as .00005 is rounded up to .0001 and all values less than .00005 are truncated from the FFPF and MIPF. The calculated value for the MMPF shall also be rounded to four places to become the final value for the MMPF.

MMPF = (0.7*FFPF) + (0.3* MIPF)

Example 1 = If the FFPF = .9985, and MIPF = .9920

Then MMPF = 0.6990 + 0.2976 = .9966

Example 2 = If the FFPF = .9800, and MIPF = .9300

Then MMPF = .6860 + .2790 = .9650

(g) Exclusions and Grace Periods

(i) See Schedule 20 and Section 42 of the Project Agreement for exclusionary events and grace periods.

3.5 Automatic Capturing of Data

(a) "Project Co will be responsible for providing all of the input data in the most useful form for each of the MOPF and MMPF formulas in an efficient and automated manner so as to produce accurate and reliable performance measures." Only data collected and processed by the approved automatic data collection system can be used in the calculation of the MOPF and the MMPF. For greater clarity, any train departures and arrivals times not captured by the automatic data capture system shall be included in the calculation of the MOPF as if those times complied with Rule 8 for ADT and Rule 7 for ADT and any maintenance and inspection activities used for the determination of the FFPF and MIPF which are not captured or entered into the automatic data capture system shall be included in the MMPF as activities not performed.

3.6 System Service Availability Levels for Substantial Completion Certificate

(a) As a prerequisite to the issuance of the Substantial Completion Certificate for the System, the DSSPF, computed in accordance with this Article, shall average at least 0.9200 for a period of 5 consecutive weekdays of demonstration train service during the System Demonstration.

3.7 System Service Availability / Corrective Action

(a) After the issuance of the Substantial Completion Certificate, if a minimum SSPF of 0.8950 is not met for any calendar month, or performance records indicate it will not be met, Project Co shall promptly undertake design reviews and a review of the operations and maintenance procedures.

3.8 Availability of other System and Facility Elements not Captured by the Availability Index

(a) For all equipment such as Communications, SCADA, and Facilities which is not likely to impact System Availability, Project Co shall submit an Equipment Availability Estimate for approval, establishing reliability and the time-to-restore standards. The approved time to restore standards will be used by Project Co and the Region to evaluate the reliability of these facility and system elements, and the efficiency of Project Co's organization in restoring them to service.

(b) If the reliability or time-to-restore performance for any element is consistently below, or is significantly below the approved standards, Project Co shall develop a corrective action plan. The corrective action plan shall be provided within 30 days from the time it is clear that the requirements are not met. This plan will clearly identify how Project Co will correct the problem and the schedule to implement the solution. The plan must be approved by the Region. For all these elements, Project Co shall submit monthly reports of actual reliability and time-to-restore performance.

3.9 Performance Review Panel

(a) An availability review panel shall be formed consisting of Project Co representatives and Region representatives and outside experts as mutually agreed to on an as needed basis. The Region will chair the panel. The panel will be responsible for reviewing daily and monthly System Performance and System Availability calculations to verify that calculations are done in accordance with the approved System Assurance Monitoring Plan and the other requirements of this Article. In the event that there is a disagreement about the implementation of the requirements of this Article, outside transit experts shall be consulted to assist in resolving the disagreement.

3.10 Augmented Baseline Service Plans

(a) The Baseline Service Plans provided by the Region indicate the departure and arrival times for the LRT Stops at Fairview Mall and Conestoga Mall. After Project Co has completed its simulation work and as part of the Phase 1 submission, Project Co shall provide an augmented Baseline Service Plan which includes the arrival times for each LRT Stop along the Route. In addition, during the Operations Term, Project Co shall include in its monthly report the actual arrival times at the LRT Stops at Grand River Hospital, King/Allen, Cedar, and Mill Street and any deviation from the Scheduled Service Plan.