



**Great Lakes Power Limited –
Transmission**

**Customer Delivery Point
Performance Standards
(CDPPS)**

December 2007

1. Introduction

A transmitter shall develop performance standards that apply at the customer delivery point level and that: (Code section 4.5)

- (a) reflect typical transmission system configurations that take into account the historical development of the transmitter's transmission system at the customer delivery point level;
- (b) reflect historical performance at the customer delivery point level;
- (c) are, where applicable, consistent with the comparable performance standards applicable to all delivery points throughout the transmitter's transmission system;
- (d) establish acceptable bands of performance at the customer delivery point level for transmission system configurations, geographic area, load, and capacity levels;
- (e) establish appropriate triggering events to be used to initiate technical and economic evaluations by the transmitter and its customers regarding performance standards at the customer delivery point level, as well as the circumstances in which any such triggering event will not require the initiation of a technical or economic evaluation;
- (f) establish the steps to be taken based on the results of any evaluation that has been so triggered, as well as the circumstances in which such steps need not be taken; and
- (g) establish any circumstances in which the performance standards will not apply.

GLPL CDPP Standards will include two components:

- 1) Relate the reliability of supply to the size of load being served at the delivery point where the triggers are taken from Hydro One Networks Inc. (Hydro One) CDPPS document using Hydro One's statistics (refer to section 2) to identify GLPL Delivery Point (DP) performance "outliers".
- 2) Once data is available, maintain a customer's individual historical delivery point performance based on a minimum of five years of DP data to establish baseline triggers to identify GLPL DP performance "inliers".

The performance standards and triggers for identifying "outliers" are provided in section 3 and for identifying "inliers" are provided in section 4.

GLPL shall report to the Ontario Energy Board (the “Board”) no later than the end of the first quarter of 2010 on the results of its assessment of its minimum performance standards and on whether it intends to propose any material changes for review and approval by the Board.¹

2. Performance Standards Based on Size of Load Being Served

GLPL will use Hydro One’s Customer Delivery Point Performance Standards and triggers based on the size of load being served (as measured in megawatts by a delivery point’s total average station load²) are provided in Table 1 below.

Table 1: Delivery Point Performance Standards Based on Load Size

Performance Measures	Delivery Point Performance Standards (Based on a Delivery Point’s Total Average Station Load)							
	0 to 15MW		>15 to 40MW		>40 to 80MW		>80MW	
	Standard (Average Performance)	Minimum Standard of Performance	Standard (Average Performance)	Minimum Standard of Performance	Standard (Average Performance)	Minimum Standard of Performance	Standard (Average Performance)	Minimum Standard of Performance
DP Frequency of Interruptions (Outages/yr)	4.1	9.0	1.1	3.5	0.5	1.5	0.3	1.0
DP Interruption Duration (min/yr)	89	360	22	140	11	55	5	25

The above Hydro One DP performance standards are based on historical (1991-2000) performance, as measured by the frequency and duration of outages of all momentary and sustained interruptions³ caused by forced outages, excluding outages resulting from extraordinary events that have had “excessive” impact on the transmission system and that, in Hydro One’s assessment, strongly skew the historical performance. Included in this category of excluded events are the 1998 Ice Storm, 2003 Blackout, tornadoes, earthquakes, other acts of God and any other significant event having “excessive” impact on performance that is beyond the reasonable control of, and not a result of the fault or negligence of Hydro One.

¹ Board Decision and Order EB-2006-0201 dated June 6, 2007 section 4 page 8

² The load size groups are to be based on the total station gross load, where Average Gross Load (MW) = (Total Energy Delivered in the Station (MWh) + Total Energy Generated at the Station Site (MWh))/8760 hours.

³ Momentary interruption is any forced interruption to a delivery point lasting less than 1 minute and a sustained interruption is any interruption to a delivery point lasting 1 minute or longer. A delivery point is interrupted whenever its requisite supply is interrupted as a result of a forced outage of one or more Networks’ components causing load loss. Interruptions caused by GLPL’s customers are recorded but not charged against GLPL reliability performance for the customer initiating the interruption, but are charged against GLPL reliability performance for other interrupted customers.

3. Performance Standards to Identify Performance “Outliers”

The Hydro One minimum standard of performance will be used as triggers by GLPL to initiate technical and financial evaluations with affected customers. GLPL is committed to compare GLPL delivery point performance against the Hydro One delivery point performance standards in 2009, when GLPL has five (5) years of data. Further to the Board’s direction referenced in section 1 above, GLPL will review its decision to commit to the Hydro One standards.

At least until that time, the Hydro One minimum standard of performance will apply to all existing GLPL transmission load customers. For new or expanding customer loads, the delivery point performance requirements will be specified and paid for by the customer based on their connection needs and negotiated as part of the connection cost recovery agreement (CCRA).

When the three year rolling average of delivery point performance falls below the minimum standard of performance (i.e. performance “outlier”) or when delivery point customers indicate that analysis is required, GLPL will initiate technical and financial evaluations to determine the root cause of unreliability and if any remedial action is required to improve reliability.

4. Performance Standards to Identify Performance “Inliers”

The performance standard to maintain the historical reliability performance levels at each customer DP will identify customer delivery points with deteriorating trends in reliability performance (i.e. performance “inliers”) notwithstanding the fact that they are satisfactory performers as outlined in section 3. Specifically, a performance baseline trigger for the frequency and duration of forced (momentary and sustained) interruptions is to be set at each delivery point, based on that delivery point’s fixed 10 year 2004 to 2013 average performance, plus one standard deviation (1σ). The performance baseline triggers are to include forced outages resulting from force majeure events, but exclude events which have excessive impact on the transmission system that in GLPL’s assessment, strongly skew the historical trend of the measure e.g. tornadoes, earthquakes, other acts of God and any other significant event having “excessive” impact on performance that is beyond the reasonable control of, and not a result of the fault or negligence of GLPL.

Until GLPL has 10 years of data, GLPL will treat existing customers and new/modified customers by excluding them from identification as an “inlier” until a minimum of 5 years of data is available to establish the baseline triggers. The baseline triggers for these delivery points will be updated each year until 10 years of performance data is available. DP performance that is worse than either baseline trigger (frequency or duration) in two consecutive years will be a candidate for remedial action. GLPL will respond by initiating technical and financial evaluations with affected customers to determine the root cause of the unreliability and remedial measures required to restore the historical reliability of DP performance.

Further to the Board's direction referenced in section 1 above, GLPL will analyze the data after 5 years of data is available for existing customers and will review its decision to commit to the "inlier" standard.

As a result of insufficient statistical data during the 2007 to 2009 period, deteriorating performance will be monitored but no delivery point will be classified as an "inlier". During this period, GLPL shall meet annually with each existing customer to review DP performance and to initiate remedial action when the root cause is within GLPL's control⁴.

5. Remedial Costs to Address Performance "Outliers and Inliers"

As specified by the Code, GLPL will not attribute the costs associated with network investment to any customer. Any variance from that approach requires a determination of the Board further to a request by any party, including GLPL.⁵

GLPL does not charge customers for the cost of the initial technical and financial evaluation. The cost to prepare the final estimate is the only portion of the technical and financial evaluation that is included as part of the cost of the remedial work.⁶

GLPL will cover the remedial costs, including appropriate asset maintenance costs which include on-going maintenance and asset replacement to restore/sustain the inherent reliability performance of the existing assets to what was designed originally. These expenditures are made on an ongoing basis consistent with "good utility practices", irrespective of actual delivery point performance or of whether a delivery point is a performance "outlier or inlier". No customer financial/capital contribution is required for these normal maintenance expenditures.⁷

To encourage proceeding with only those reliability performance improvements that are technically and economically practical and to limit the subsidization of reliability improvement costs by other pool customers, GLPL's level of incremental investment for improving the performance of an "outlier or inlier", beyond what was the original design, will be limited to the present value of three years worth of transformation and/or transmission line connection revenue⁸ associated with that delivery point. Any funding shortfalls for improving delivery point reliability performance, beyond what was the original design, will be made up by affected delivery point customers in the form of a financial/capital contribution. Cost responsibility for these investments is to be consistent with the new Market Rules and the Transmission System Code. Affected delivery point

⁴ Board Decision and Order EB-2006-0201 dated June 6, 2007 section 4 page 7

⁵ Board Decision and Order RP-1999-0057 and EB-2002-0404 dated July 25, 2005 section 2.3.9 page 19

⁶ Board Decision and Order RP-1999-0057 and EB-2002-0404 dated July 25, 2005 section 2.3.9 page 19

⁷ Board Decision and Order RP-1999-0057 and EB-2002-0404 dated July 25, 2005 section 2.3.9 page 20

⁸ In the special case where a delivery point pays only network tariffs, transmission line connection tariffs are to be used as proxy in the revenue calculation.

customers will be responsible for all the costs associated with any new/modified facilities required on facilities (lines and stations) they own. The financial/capital contribution requirement is to be detailed in a Connection Cost Recovery Agreement (CCRA) to be signed with the affected customers, before any work to improve delivery point “outlier or inlier” performance begins.

Where specific GLPL transmission facilities are serving two or more customers in common with performance “outlier or inlier” performance, GLPL will approach all affected customers to determine their willingness to contribute jointly.⁹

Where a customer contribution is required to improve or expand the transmission system to correct performance “outlier or inlier” performance, the customer will be given the right to undertake contestable work consistent with those applicable to new customer connections in the Code.¹⁰

When GLPL completes work to restore delivery point performance to standard, it will continue to monitor the delivery point the year after the work is completed. If future performance suggests that the standard has not been met, then GLPL will review the work that has taken place and will identify corrective action, possibly with the financial participation of the customer. GLPL will not as a practice wait another 3 years and start a new technical and financial evaluation. GLPL will review and identify customer delivery point performance annually, regardless of the investment history.¹¹

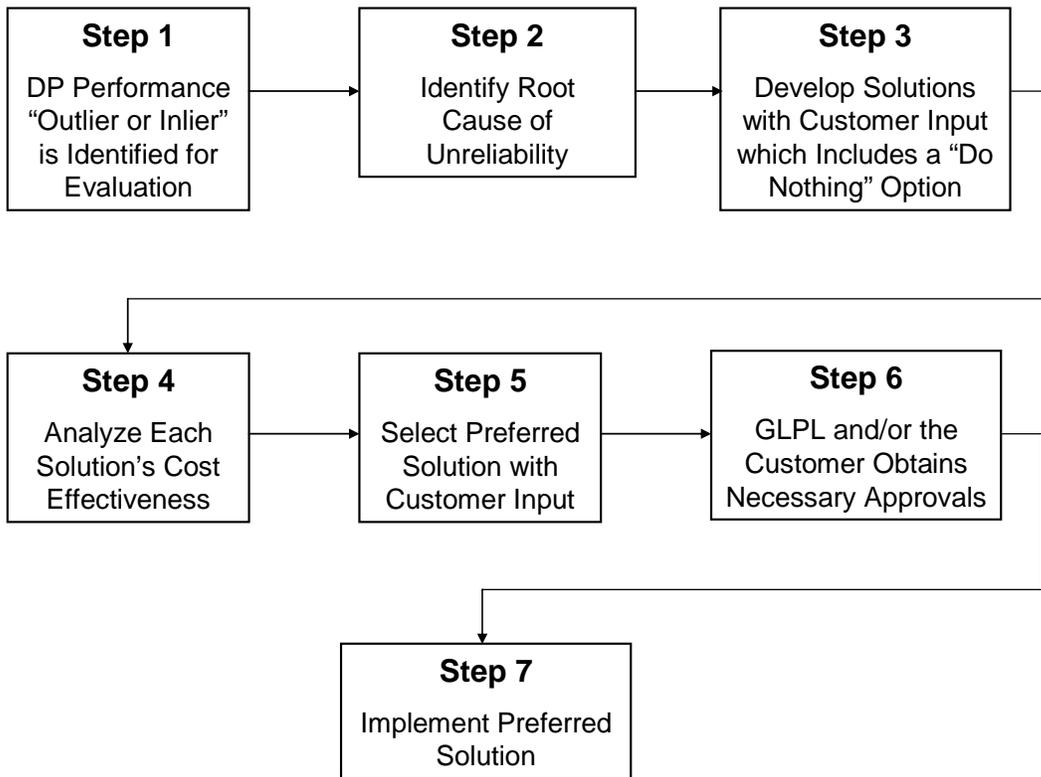
6. Implementation Process to Address Performance “Outliers and Inliers”

The Customer Delivery Point Performance Standards define triggers for GLPL to initiate technical and financial evaluations with affected customers. Each year GLPL reviews reliability performance with its customers based on forced outage statistics which are compiled in January of each year once the previous year’s data has been reviewed. For customer delivery points that are identified as performance “outliers or inliers” identified as per section 3 or 4 above, GLPL will negotiate timing, solution, cost sharing arrangement, and any other related matters with each customer wanting to proceed with the delivery point reliability performance improvements based on the process outlined below.

⁹ Board Decision and Order RP-1999-0057 and EB-2002-0404 dated July 25, 2005 section 2.3.12 page 22

¹⁰ Board Decision and Order RP-1999-0057 and EB-2002-0404 dated July 25, 2005 section 2.3.13 page 23

¹¹ Board Decision and Order RP-1999-0057 and EB-2002-0404 dated July 25, 2005 section 2.3.19 page 19



Step 1 - DP Performance “Outlier or Inlier” is Identified for Evaluation

GLPL compiles the DP data for each year by the end of January including identifying any “outliers or inliers” that may require a technical and financial evaluation. GLPL will inform each customer of the results where it’s DP is an “outlier and/or inlier” and determines with the customer if GLPL will proceed with a technical and financial evaluation. The timing of starting the process for each customer will be discussed with the customer and will be base on prioritizing the “outliers and inliers”.

Step 2 - Identify Root Cause of Unreliability

(Timeline: 1 to 2 months)

GLPL will analyze the available data and obtain additional data as necessary to determine if there is a root cause for the unreliability or whether there are several factors.

Step 3 – Develop Solutions with Customer Input which includes a “Do Nothing” Option (Timeline: 1 month)

The data from Step 2 will be discussed with the customer and possible options (including a “do nothing” option) will be developed focused on improving the reliability of the delivery point.

Step 4 - Analyze Each Solution’s Cost Effectiveness
(Timeline: 1 month)

Estimated costs of implementing each option are prepared and cost/benefit analysis is undertaken to determine the most cost effective solution. Any cost sharing with the customer is identified for each option.

Step 5 - Select Preferred Solution with Customer Input
(Timeline: 1 to 2 months)

Based on the results of Step 4, the selection of the preferred solution will be discussed with the customer. With respect to any cost sharing the customer will have to agree to pay its share if GLPL proceeds to implement that option as the selected option.

Step 6 – GLPL and/or the Customer Obtain Necessary Approvals
(Timeline: 2 months)

GLPL will then obtain internal approval to proceed with the preferred solution. For “outliers or inliers”, where the customer must make a financial/capital contribution, the customer will obtain internal approval to pay the required contribution.

Step 7 – Implement Preferred Solution
(Timeline: To be Determined)

The timing/schedule for the preferred solution will consider customer impacts, nature of the remedial measures, equipment deliveries, GLPL resource capabilities, other investment priorities, and outage/resource availability. Where a customer has the obligation to pay a financial/capital contribution the customer and GLPL will execute a Connection Cost Recovery Agreement (CCRA) prior to commencement of work on the preferred solution.

Note: Timelines are based on dealing with one customer regarding one “outlier or inlier”. If more than one customer is involved in dealing with a DP performance issue then the timelines will likely be longer because of the increased complexity of dealing with more than one customer.