

Customer Delivery Point Performance Standards Amendment

1.0 Introduction

In accordance with Section 2.5 of the Transmission System Code, Hydro One Networks Inc. (Networks) filed its Customer Delivery Point Performance Standards (CDPPS) with the Ontario Energy Board (OEB) in May 2002. Customer feedback received since this filing indicates a concern about Networks maintaining the existing performance levels for customers that are currently within the CDPPS. In other words, while addressing performance “outliers,” the concern was that Networks might allow the historical delivery point performance to deteriorate.

In response to this feedback, Networks is amending the already submitted CDPPS to address these customer concerns with an additional performance standard criterion. The amendment reflects Networks’ commitment to customers of meeting their electrical service expectations by driving the planning, maintaining and operating of transmission assets to reduce the risk of power interruptions.

The additional performance standard criterion will be used to maintain the historical customer delivery point (DP) reliability performance. It will identify the transmission customer delivery points with deteriorating trends in reliability performance and be used by Networks to initiate technical and financial evaluations with affected customers in accordance with Section 2.5 of the Transmission System Code.

Customer/Stakeholder feedback was solicited and their input incorporated prior to finalizing the delivery point performance standards for submission to the OEB.

2.0 Amendment to Maintain Historical DP Performance

Additional Performance Standard Criterion

The additional performance standard criterion will be used to maintain the historical reliability performance levels at each customer DP. It will identify customer delivery points with deteriorating trends in reliability performance notwithstanding the fact that they are satisfactory performers when compared to the performance of comparable delivery points. Specifically, a performance baseline trigger for the frequency and duration of forced (momentary and sustained) interruptions¹ is to be set at each delivery point, based on that delivery point’s fixed 1994-2003 historical average performance, plus one standard deviation (1σ).

Performance that is worse than the baseline (for either frequency or duration) in two consecutive years will be a candidate for remedial action. Networks 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.

These performance standards will apply to all transmission load customers, and not only “outliers” covered by the previously filed standards. The performance baselines are to include forced outages resulting from force majeure events, but exclude events which have excessive impact on the transmission system that in Networks’ assessment, strongly skew the historical trend of the measure e.g. 1998 ice storm and 2003 blackout.

¹ *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 Networks’ customers are recorded but not charged against Networks reliability performance for the customer initiating the interruption, but are charged against Networks reliability performance for other interrupted customers.*

Hydro One Networks

Customer Delivery Point Performance Standards Amendment

New or recent load customers with fewer than 10 years of historical performance data are to be excluded from this analysis until a minimum of 5 years of data is available to establish a baseline. The baselines for these delivery points will be updated each year until 10 years of performance data is available to fix/set the baselines.

Remedial Costs

Networks is committed to maintaining customers' historical level of delivery point performance. As such, Networks will cover the remedial costs, including appropriate asset sustainment costs, on-going maintenance and asset replacement to restore/sustain the inherent reliability performance of the existing assets to what was designed originally. Networks remedial work will not include capital reliability improvements that significantly enhance the reliability of supply inherent in the original system design or configuration of supply.

3.0 Revised Customer Delivery Point Performance Standards

Networks' revised Customer Delivery Point Performance Standards that integrate the amendment to maintain customers' historical delivery point performance and the original standards filed in May 2002 are attached as Appendix 1. These revised standards supersede the original Customer Delivery Point Performance Standards that were filed with the OEB in May 2002.

Appendix 1

Hydro One Networks

Revised

Customer Delivery Point Performance Standards

September 2004

Customer Delivery Point Performance Standards

September 2004



Hydro One Networks Inc.

Customer Delivery Point Performance Standards

In accordance with Section 2.5 of the Transmission System Code, Hydro One Networks Inc. (Networks) is required to develop performance standards at the customer delivery point level, consistent with system wide standards, that reflect:

- typical transmission-system configurations that take into account the historical development of the transmission system at the customer delivery point level;
- historical performance at the customer delivery point level;
- acceptable bands of performance at the customer delivery point level for the transmission system configurations; geographic area, load, and capacity levels; and
- defined triggers that would initiate technical and financial evaluations by the transmitter and its customers regarding performance standards at the customer delivery point level, exemptions from such standards, and study triggers and results.

Customer/Stakeholder feedback was solicited and their input incorporated prior to finalizing these delivery point performance standards for submission to the OEB.

The Customer Delivery Point Performance Standards (CDPPS) and triggers that are proposed for Networks' transmission system consist of two components that (1) relate the reliability of supply to the size of load being served; and (2) maintain customers' individual historical delivery point performance. The CDPPS and triggers for each component are provided below.

1. Performance Standards Based on Size of Load Being Served

The 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 load) are provided in Table 1 below.

Performance Measure	Delivery Point Performance Standards (Based on a Delivery Point's Total Average Station Load)							
	0-15 MW		15-40 MW		40-80 MW		>80 MW	
	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

Table 1: Networks' Delivery Point Performance Standards Based on Load Size

These delivery point (DP) performance standards are based on rigorous statistical analysis of the historical (1991-2000) performance as measured by the frequency and duration of outages that covers the impact of all momentary and sustained interruptions¹ caused by forced outages, excluding force majeure events that are deemed appropriate to be excluded (e.g. 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 Networks).

The minimum standards of performance are to be used as triggers by Networks to initiate technical and financial evaluations with affected customers. These bands are to:

- accommodate normal year-to-year delivery point performance variations;
- limit the number of delivery points that are to be considered "performance outliers" to a manageable/affordable level;
- deliver a level of reliability that is commensurate with customer value i.e. the larger the load, the greater the level of reliability provided; and
- direct/focus efforts for reliability improvements at the "worst" performing delivery points.

¹ *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 Networks' customers are recorded but not charged against Networks reliability performance for the customer initiating the interruption, but are charged against Networks reliability performance for other interrupted customers.*

The proposed minimum performance standards correspond to a performance bandwidth designed to capture about 90% of all delivery point performance and leave about 10% of the delivery points to be classified as performance “outliers.”

These performance standards will apply to all existing transmission load customers (including customers that have signed a connection cost recovery agreement prior to market opening). 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.

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, Networks will initiate technical and financial evaluations to determine the root cause of unreliability and remedial action required to improve reliability.

Remedial Costs to Address Performance “Outliers”

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, Networks’ level of incremental investment for improving the performance of an “outlier” will be limited to the present value of three years worth of transformation and/or transmission line connection revenue² associated with that delivery point. Any funding shortfalls for improving delivery point reliability performance 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 customers will be responsible for all the costs associated with any new/modified facilities required on facilities (lines and stations) they own. The financial contribution requirements and cost sharing arrangement are to be detailed in a connection cost recovery agreement to be signed with the affected customers, before any work to improve delivery point outlier performance begins.

2. Performance Standards to Maintain Historical DP Performance

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 notwithstanding the fact that they are satisfactory performers when compared to the performance of comparable delivery points. Specifically, a performance baseline trigger for the frequency and duration of forced (momentary and sustained) interruptions¹ is to be set at each delivery point, based on that delivery point’s fixed 1994-2003 historical average performance, plus one standard deviation (1σ).

DP performance that is worse than the baseline (for either frequency or duration) in two consecutive years will be a candidate for remedial action. Networks will respond by initiating technical and financial evaluations with affected customers to determine the root cause of the

² 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.

unreliability and remedial measures required to restore the historical reliability of DP performance.

These performance standards will apply to all transmission load customers. The performance baselines are to include forced outages resulting from force majeure events, but exclude events which have excessive impact on the transmission system that in Networks' assessment, strongly skew the historical trend of the measure e.g. 1998 ice storm and 2003 blackout. However, new or recent load customers with fewer than 10 years of historical performance data are to be excluded until a minimum of 5 years of data is available to establish a baseline. The baselines for these delivery points will be updated each year until 10 years of performance data is available to fix/set the baselines.

Remedial Costs to Maintain Historical DP Performance

Networks is committed to maintaining customers' historical level of delivery point performance. As such, Networks will cover the remedial costs, including appropriate asset sustainment costs, on-going maintenance and asset replacement to restore/sustain the inherent reliability performance of the existing assets to what was designed originally. Networks remedial work will not include capital reliability improvements that significantly enhance the reliability of supply inherent in the original system design or configuration of supply.

3. Implementation

The Customer Delivery Point Performance Standards define triggers for Networks to initiate technical and financial evaluations with affected customers. Each year Networks reviews reliability performance with its customers. For customer delivery points that are identified as performance outliers in either Standard 1 or 2 above, Networks 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. The timing/schedule will consider customer impacts, nature of the remedial measures, equipment deliveries, Networks resource capabilities, other investment priorities, and outage/resource availability.

In addition to addressing these delivery point performance standards, Networks is committed to maintaining transmission system-wide reliability levels and to meeting any system-wide service quality indicators approved by the OEB.