



CONNECTION ASSESSMENT & APPROVAL PROCESS

PRELIMINARY ASSESSMENT REPORT:

*For the Proposed Belle River East DS
by Hydro One Networks Inc.*

CAA ID No. 2002-072

***Consistent Information Set Department, and
Long Term Forecasts & Assessments Department***

FINAL Version

Date: 2nd September 2003

Disclaimer

This report has been prepared solely for the purpose of assessing whether the connection applicant's proposed connection with the IMO-controlled grid would have an adverse impact on the reliability of the integrated power system and whether the IMO should issue a notice of approval or disapproval of the proposed connection under Chapter 4, section 6 of the Market Rules.

Approval of the proposed connection is based on information provided to the IMO by the connection applicant and the transmitter(s) at the time the assessment was carried out. The IMO assumes no responsibility for the accuracy or completeness of such information, including the results of studies carried out by the transmitter(s) at the request of the IMO. Furthermore, the connection approval is subject to further consideration due to changes to this information, or to additional information that may become available after the approval has been granted. Approval of the proposed connection means that there are no significant reliability issues or concerns that would prevent connection of the proposed facility to the IMO-controlled grid. However, connection approval does not ensure that a project will meet all connection requirements. In addition, further issues or concerns may be identified by the transmitter(s) during the detailed design phase that may require changes to equipment characteristics and/or configuration to ensure compliance with physical or equipment limitations, or with the Transmission System Code, before connection can be made.

This report has not been prepared for any other purpose and should not be used or relied upon by any person for another purpose. This report has been prepared solely for use by the connection applicant and the IMO in accordance with Chapter 4, section 6 of the Market Rules. The IMO assumes no responsibility to any third party for any use, which it makes of this report. Any liability which the IMO may have to the connection applicant in respect of this report is governed by Chapter 1, section 13 of the Market Rules. In the event that the IMO provides a draft of this report to the connection applicant, you must be aware that the IMO may revise drafts of this report at any time in its sole discretion without notice to you. Although the IMO will use its best efforts to advise you of any such changes, it is the responsibility of the connection applicant to ensure that it is using the most recent version of this report.

Executive Summary

This Preliminary Assessment has investigated, in isolation of any other proposed developments, the impact of the proposed new 115/27.6kV ‘Belle River East’ DS on the IMO-controlled grid. It has been concluded that the proposal would not have any significant adverse system impact on the IMO-controlled grid and that a System Impact Assessment would not be necessary.

The Proposal

Two distribution feeders emanating from Lauzon TS, a Hydro One Networks Inc. facility in Essex County, are experiencing overloading problems. The loading at another Hydro One Networks Inc. station, Tilbury West DS, has also reached its station capacity. Hydro One Networks Inc. is proposing to build a new 115/27.6kV distribution station that includes a 3-phase 15/20/25MVA 115/27.6kV transformer and two 27.6kV feeder positions. The local load that is presently supplied from Lauzon TS and Tilbury West DS will then be transferred to these two feeders. The new distribution station, which will have sufficient capacity to meet future load growth in the area, will be located near the Town of Belle River and will be connected to the 115kV transmission circuit K6Z from Lauzon TS near Belle River Junction.

Compliance with the Market Rules

The proposed plan will be in compliance with the Market Rules, if the proponent fulfills the connection requirements outlined in Section 4.0 of this report.

However, it should be noted that although the proposed 138kV 1,200A 25kA circuit switcher would be adequate for the fault level at ‘Belle River East’ DS, the Transmission System Code requires that all new 115kV equipment be capable of interrupting a maximum fault level of 50kA. Should any future development in the area by a third party increase the maximum fault level at the ‘Belle River East’ DS beyond the 25kA rating of the circuit switcher. The proponent would be responsible for the subsequent replacement of the circuit switcher at the ‘Belle River East’ DS.

Impact of the New Facilities on the IMO-controlled Grid

The proposed plan is intended to relieve the expected overloading of existing facilities at Lauzon TS and Tilbury West DS. This assessment has concluded that the proposed project will not materially affect the reliability of the IMO-controlled grid.

However, it should be noted that the Windsor area is also experiencing voltage performance problems. Although the new ‘Belle River East’ DS will address the thermal overloading problems, it will not provide any relief to the on-going voltage decline problem. The addition of ‘Belle River East’ DS could result in post contingency voltages that would require load rejection at Kingsville TS to be initiated. It is therefore recommended that Hydro One Networks Inc. considers the installation of an under-voltage load rejection scheme at the new station to complement the existing system at Kingsville TS.

IMO’s Requirements for Connection

The proponent shall fulfill the following connection requirements:

1. Ensure that the power factor of the load supplied from the new ‘Belle River East’ DS is maintained within the range of 0.9 lagging to 0.9 leading as measured at the defined metering point.
2. Provide the necessary on-line monitoring facilities as specified by the IMO.
3. Complete the IMO Facility Registration Process including metering registration before placing the proposed ‘Belle River East’ DS in-service.

Customer Impact Assessment

Hydro One Networks Inc., the transmitter, has notified the IMO that a formal Customer Impact Assessment will not be required for this project.

Notification of Approval

It is recommended that a Notification of Approval be issued for the connection of the new ‘Belle River East’ DS to the IMO-controlled grid, subject to the proponent meeting the connection requirements outlined in Section 4.0 of this report.

1.0 Description of Proposal

The steady load growth in Essex County over the last few years has resulted in the overloading of two distribution feeders from Lauzon TS and the loading at Tilbury West DS reaching station capacity. Hydro One Networks Inc., the *Connection Applicant*, is proposing to build a new distribution station near the Town of Belle River to alleviate the problem and to meet forecast load growth in the area.

The proposed new distribution station, designated as ‘Belle River East’ DS, will consist of a 3-phase 15/20/25MVA 115/27.6kV transformer and two 27.6kV feeder positions. The new ‘Belle River East’ DS will be connected to the 115kV transmission circuit K6Z from Lauzon TS near Belle River Junction via a 138kV 1,200A circuit switcher. Figure 1 shows the electrical arrangement at the new ‘Belle River East’ DS and its connection to circuit K6Z.

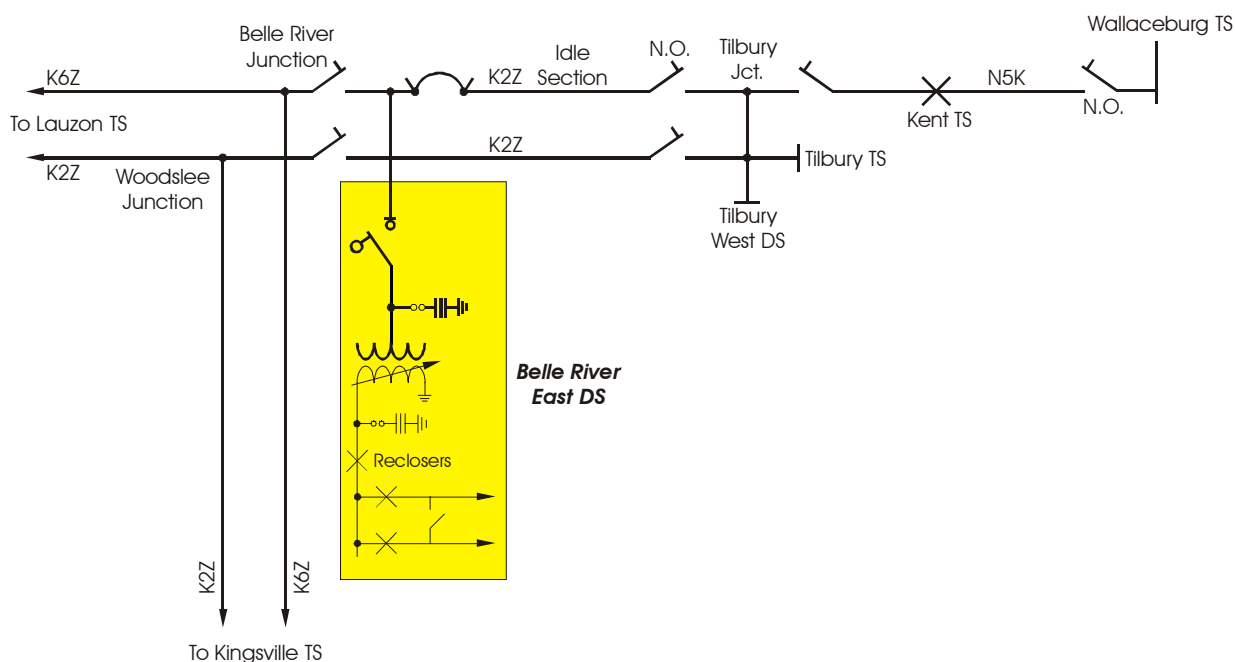


Figure 1: New ‘Belle River East’ DS

The loads supplied from the new distribution station will be the existing loads transferred from Lauzon TS and Tilbury West DS. Initially 15MVA of load will be transferred from Lauzon TS, with plans to transfer an additional 5MVA from Tilbury West DS within 5 years. It is proposed to install a second transformer of the same rating at the station when total demand, which is forecast to reach 35MVA by 2015, exceeds the capacity of the initial installation. However, the Connection Applicant is presently seeking approval for the installation of only a single transformer at the new distribution station.

The scheduled in-service date for the new station is Q2-2004.

Technical specifications of the high voltage components are as follows:

❖ *Transformer*

Configuration:	3-Phase
Temperature Rise:	65°C
Thermal Rating:	15/20/25MVA
Connection:	H – Delta; L – Wye grounded
Rated Voltage:	H – 115kV; L – 29.5kV
Positive Sequence Impedance:	8.5% @ 25 MVA
On-load Tap (LV):	± 15% in 24 steps

❖ *Circuit Switcher*

Voltage Rating	138kV
Continuous Current Rating:	1200A
Short Circuit Rating:	25kA

2.0 Assessment

This Preliminary Assessment has investigated the impact of the proposed new 115/27.6kV distribution station on the IMO-controlled grid and is based on information included in the connection assessment application. Results presented in this report are only valid for the data provided by the connection applicant. If subsequent equipment testing indicates that the specifications for new facilities are significantly different from the values provided, then additional studies might be required to re-assess the impact on the IMO-controlled grid.

It should also be noted that although the new distribution station is to be designed to accommodate a second transformer, the *Connection Applicant* is seeking approval to connect a new distribution station that includes only a single transformer. This Preliminary Assessment has therefore only investigated the impact of the single transformer arrangement on the IMO-controlled grid. The *Connection Applicant* must submit a separate connection application for approval for the installation of the second transformer.

2.1 Compliance with the Market Rules

References:

Market Rules: Chapters 4 and 5

Appendix 4.1:	IMO-Controlled Grid Performance Standards
Appendix 4.3:	Requirements of Connected Wholesale Customers and Distributors Connected to the IMO-Controlled Grid
Appendix 4.17:	IMO Monitoring Requirements – Connected Wholesale Customers and Distributors
Appendix 4.22:	IMO Monitoring Requirements – Distributors and Connected Wholesale Customers Performance Standards

2.1.1 Connection Equipment Ratings **(Market Rules: Chapter 4 Section 3.0 and Appendices 4.1 & 4.3)**

This assessment focuses only on the high voltage facilities that connect to the IMO-controlled grid. Low voltage facilities are not expected to have adverse impact on the IMO-controlled grid and will not be assessed.

All 115kV equipment connected to the IMO-controlled grid must be capable of operating continuously within the normal operating voltage range of 113kV and 127kV.

The proposed new station will include one 15/20/25MVA 115-29.5kV transformer that is capable of sustaining an overload of 174% of its forced cooling rating for two hours every twenty four hours. The secondary winding of the transformer will be equipped with an under load tap changer that provides an operating range of $\pm 15\%$ of rated voltage in 24 steps. The new transformer would be fully capable of operating continuously within the range of 113kV to 127kV.

The transformer will be connected to the IMO-controlled grid via a 138kV 1,200A (about 239MVA at 115kV) 25kA S&C Model 2010 circuit switcher. The maximum fault level at ‘Belle River East’ DS is expected to be less than 20kA. The proposed 138kV circuit switcher would be adequate for the proposed 15/20/25MVA transformer and the expected 115kV fault level at the station.

Although the 138kV 1,200A 25kA circuit switcher would be adequate for the fault level at ‘Belle River East’ DS, it should be noted that the Transmission System Code requires that all new 115kV equipment be capable of interrupting a maximum fault level of 50kA. Should any future development in the area by a third party increase the maximum fault level at the ‘Belle River East’ DS beyond the 25kA rating of the circuit switcher. The proponent would be responsible for the subsequent replacement of the circuit switcher at the “Belle River East’ DS.

2.1.2 Power Factor **(Market Rules: Chapter 4 Section 3.0 & Appendix 4.3)**

Connected wholesale customers connected to the IMO-controlled grid shall operate at a power factor within the range of 0.9 lagging to 0.9 leading as measured at the defined metering point.

The *Connection Applicant* indicates that the loads supplied from ‘Belle River East’ DS will comprise of rural and residential loads. Furthermore, 27.6kV shunt capacitors are available along the feeders for power factor correction. The power factor at ‘Belle River East’ DS is expected to be better than 0.9 lagging and would therefore be in compliance with the Market Rules.

The connection assessment application shows that there is no plan to install low voltage shunt capacitor banks for power factor correction at the new station. If, in the future, the power factor at the ‘Belle River East’ DS should deteriorate and were to be consistently outside the specified range, the connection applicant shall undertake to install power factor correction facilities at the station.

2.1.3 Under-Frequency Load Shedding **(Market Rules: Chapter 5 Section 10.4, Chapter 4 Section 3.0 & Appendix 4.3)**

As part of the demand control actions that are required to ensure system security under emergency operating conditions, the Market Rules stipulate that distributors, in conjunction with the relevant transmitter, shall make arrangements to enable automatic under-frequency load shedding (UFLS) of at least 30% of its total peak customer demand.

The *Connection Applicant* indicates that there is no plan to install any UFLS facility at ‘Belle River East’ DS. However, the *Connection Applicant* already has UFLS facilities throughout the region to cover about 43% of the total regional load. The IMO has therefore decided that UFLS is not required at ‘Belle River East’ DS at this time. The IMO periodically reviews the UFLS requirements of the system and will inform the *Connection Applicant* if in the future it were deemed necessary to have UFLS at ‘Belle River East’ DS.

2.1.4 Voltage Reduction Requirements **(Market Rules: Chapter 5 Section 10.3, Chapter 4 Section 3.0 & Appendix 4.3)**

As part of the demand control actions, the Market Rules further stipulate that distributors connected to the IMO-controlled grid with directly connected load facilities of aggregated rating above 20MVA and with the capability to regulate distribution voltages under load, shall provide the capability to reduce distribution voltages by 3% and 5% within 5 minutes of receiving direction from the IMO.

The transformer at the ‘Belle River East’ DS is equipped with an under-load tap changer, which under normal operating conditions will operate automatically to maintain the 27.6kV bus voltage. Remote manual control of the under-load tap changer is also available via SCADA.

The ‘Belle River East’ DS thus has the capability to reduce the secondary voltage at the new ‘Belle River East’ DS by 3% and 5% within 5 minutes of receiving direction from the IMO to do so.

2.1.5 On-line Monitoring Requirements **(Market Rules Chapter 4 Section 7.5 and Appendices 4.17 & 4.22)**

In order to facilitate the operations of the IMO-controlled grid, certain information including active and reactive power demands, status of circuit switcher, etc shall be provided to the IMO on a continual basis.

General monitoring requirements and minimum performance standards are outlined in the Market Rules Appendices 4.17 and 4.22.

The connection applicant shall obtain the exact monitoring requirements for the new ‘Belle River East’ DS via the IMO Facility Registration process.

2.2 Impact of ‘Belle River East’ DS on the IMO-controlled Grid

The new station is to be used solely for load supply, with no embedded generation connected. The following assessment therefore concentrates on investigating the impact of the new facilities on the IMO-controlled grid in regard to fault level, thermal loading of the local 115kV transmission system, and the voltage profile in the area.

2.2.1 Short Circuit Assessment

There is no known plan to connect any embedded generation, large synchronous, or induction motors to the new station. The new station would, therefore, not expect to have any significant impact on the existing fault level in the area.

2.2.2 Local Thermal Loading Considerations

Thermal overloading of the 115kV system in the Windsor area is an existing problem. The Windsor Area Overload Protection scheme is armed at all times to avoid thermal overloading of 115kV facilities in the Windsor area.

The new ‘Belle River East’ DS is intended to relieve overloading at the existing stations, Lauzon TS and Tilbury West DS, and would not increase the loading on the existing system. Furthermore, overloading of the Windsor 115kV system is an existing problem and irrespective of ‘Belle River East’ DS will continue to be a problem until the Windsor system can be enhanced.

‘Belle River East’ DS is to be incorporated on to the radial circuit K6Z supplying Kingsville TS at Belle River Junction and will have a direct impact on the loading of K6Z. The summer ratings of K6Z are listed in Table 1.

From	To	Conductor	Max. Op. Temp. °C	Continuous ¹ (A/MVA ⁴)	Emergency ² (A/MVA ⁴)	15-min. LTR ³ (A/MVA ⁴)
Lauzon TS	Belle River Jct	795.0 kcmil	127	850/169	1,090/217	1210/241
Belle River Jct	Junction Point	336.4 kcmil	150	490/98	630/125	740/147
Junction Point	Kingsville TS	795.0 kcmil	150	850/169	1,090/217	1400/279
Notes:						
<ol style="list-style-type: none"> 1. Based on 93°C operating temperature, 30°C ambient temperature, and 0-4k/h wind. 2. Based on 127°C operating temperature, 30°C ambient temperature, and 0-4k/h wind. 3. Based on a pre-load current equal to the continuous rating at the conductor maximum operating temperature, for 30°C ambient temperature, and a 0-4k/h wind. 4. Based on 115kV 						

Table 1: Summer Ratings of Circuit K6Z

Circuit K6Z together with circuit K2Z supplies Kingsville TS. Circuit K6Z supplies transformers T2 and T4 at Kingsville TS while circuit K2Z supplies transformers T1 and T3. With all elements in-service, the Lauzon TS to Belle River Junction section of circuit K6Z must be capable of supplying ‘Belle River East’ DS and transformers T2 and T4 at Kingsville TS. Transformers T2 and T4 each have a continuous rating of 41.7MVA, while the rating of the single transformer at ‘Belle River East’ DS is 25MVA. The Lauzon TS to Belle River Junction section of circuit K6Z has a summer continuous rating of 169MVA and would therefore be capable of supplying ‘Belle River East’ DS and the two transformers (T2 and T4) at Kingsville TS.

But with circuit K2Z out of service, the Lauzon TS to Belle River Junction section of circuit K6Z would be required to supply both ‘Belle River East’ DS and Kingsville TS. The 10-day limited time rating of Kingsville TS is 165MVA (based on the loss of one of the four transformers). With an emergency rating of 217MVA, the Lauzon TS to Belle River Junction section of circuit K6Z would be adequate to supply both Kingsville TS and ‘Belle River East’ DS under limited time emergency conditions.

The limiting section of circuit K6Z is the Belle River Junction to Junction Point portion of the tap to Kingsville TS. The rating of the circuit is less than the station capacity of Kingsville TS. The 2002 summer peak load at Kingsville TS was about 135MVA. Under peak load conditions, this section of the line could be overloaded if circuit K2Z were out of service. This section will have to be upgraded to supply the entire load at Kingsville TS under outage conditions.

2.2.3 Voltage Profile Assessment

Post-contingency voltage performance in the Windsor area is an on-going problem. Two load rejection (L/R) schemes are available at Lauzon TS and Kingsville TS to address the problem.

The L/R scheme at Lauzon TS is a connectivity based system that will trip circuits K2Z and K6Z, and isolate all of the load associated with them, should the 230kV to 115kV connection at Lauzon TS be severed.

The scheme at Kingsville TS is a voltage dependent system that will reject selected feeders at Kingsville TS if the K2Z and K6Z supply voltages at Kingsville TS are maintained below 104kV for a certain duration.

The addition of ‘Belle River East’ DS will not have any impact on the L/R scheme at Lauzon TS which addresses separation of the 230kV and 115kV systems. However, the addition of the new distribution station is expected to affect the voltage performance at Kingsville TS and the voltage dependent L/R scheme at Kingsville TS could therefore operate more often. It is therefore recommended that:

Hydro One Networks Inc. considers including an under-voltage rejection scheme at ‘Belle River East’ DS to add diversity and flexibility to the overall load rejection scheme in the area.

Load flow studies have been carried out to examine the effect of ‘Belle River East’ DS on the voltage performance at the stations supplied from circuits K2Z and K6Z. The forecast 2004 summer peak load conditions form the basis of these studies. All generation resources in the Windsor area, including the approved generation facilities that are under development and will be in-service in 2004, are assumed to be operating at their respective maximum output level.

Case LF1 represents the existing system and forms the basis for comparison. Case LF2 represents the system after the incorporation of ‘Belle River East’ DS. The following contingency conditions were studied:

- ❖ Loss of K2Z resulting in the loss of loads at Tilbury TS and Tilbury West DS due to the present radial supply configuration of these two stations
- ❖ Loss of the double circuit 230kV transmission line C21J (Chatham to Keith) and C23Z (Chatham to Lauzon)

The results of the load flow studies are summarized in Table 2.

Base	Contingency	115 kV Bus Voltage/Voltage Decline													
		'Belle River East' DS				Kingsville TS				Tilbury/Tilbury West					
		Pre-Tap ¹		Post-Tap ²		Pre-Tap ¹		Post-Tap ²		Pre-Tap ¹		Post-Tap ²			
		kV	%	kV	%	kV	%	kV	%	kV	%	kV	%		
LF1	None	Not Applicable				K2Z Bus: 113.8 K6Z Bus: 113.1				113.3					
	K2Z					K6Z Bus: 108.0		5.10	K6Z Bus: 106.0		6.28	Out of Service			
	C21/23Z					K2Z Bus: 110.3 K6Z Bus: 109.6		3.08 3.69	K2Z Bus: 107.5 K6Z Bus: 106.8		5.54 5.57	109.7	3.18	107.0	5.56
LF2	None	117.9				K2Z Bus: 114.2 K6Z Bus: 113.2				114.2					
	K2Z	116.8	0.93	116.0	1.61	K6Z Bus: 107.7		4.86	K6Z Bus: 105.6		6.71	Out of Service			
	C21/23Z	114.2	3.14	112.2	4.83	K2Z Bus: 110.6 K6Z Bus: 109.6		2.30 3.18	K2Z Bus: 108.0 K6Z Bus: 107.0		5.43 5.48	110.5	3.24	108.0	5.43
Notes:															
1. Pre-tap: Before under-load tap changer action															
2. Post-tap: After under-load tap changer action															

Table 2: Voltage Changes at Local 115kV Stations

The results of the studies show that the impact of ‘Belle River East’ DS on the voltage profile of the Kingsville TS/Tilbury TS/Tilbury West DS area is very minor. With ‘Belle River East’ DS in-service, the worst contingency would be the loss of circuit K2Z, as circuit K6Z would have to carry Kingsville TS as well as the additional load at ‘Belle River East’ DS. Although, with ‘Belle River East’ DS in-service, the post-contingency voltage decline at Kingsville TS would be worse than the case without the new distribution station, the voltage declines at those stations connected to K2Z and K6Z would be within acceptable limits and above the threshold at which L/R at Kingsville TS would be initiated.

As discussed earlier, post-contingency voltage performance in the area is an on-going concern and L/R schemes have to be implemented to avoid wide spread excessive voltage decline in the Windsor area. The new distribution station is only intended to alleviate the feeder overloading problem at Lauzon TS and overloading at Tilbury West DS. It does not address the excessive voltage decline problem. As the area demand increases, the voltage performance level in the area will deteriorate further until system improvements are implemented.

However, the *Connection Applicant* has received approval to install a 230/115kV auto-transformer at Kent TS in the summer of 2004 and to supply Tilbury TS and Tilbury West DS radially from Kent TS. The transfer of Tilbury TS and Tilbury West DS over to Kent TS would improve the situation at Kingsville TS and at ‘Belle River East’ DS for the all-elements in-service condition and for the loss of 230kV to 115kV connection at Lauzon TS. However, it would have no impact on the response to a K2Z contingency.

Additional load flow studies, which represent the system with Kent TS 230/115kV auto-transformer in-service, were carried out. The results of these studies are summarized in Table 3.

Contingency	<i>115 kV Bus Voltage/Voltage Decline with the 230/115kV auto-transformer at Kent TS in-service</i>											
	<i>‘Belle River East’ DS</i>				<i>Kingsville TS</i>				<i>Tilbury/Tilbury West</i>			
	Pre Tap ¹		Post Tap ²		Pre Tap ¹		Post Tap ²		Pre Tap ¹		Post Tap ²	
	kV	%	kV	%	kV	%	kV	%	kV	%	kV	%
None	118.9				H2Z Bus: 116.2 K6Z Bus: 114.6				118.3			
K2Z	116.8	1.77	116	2.44	K6Z Bus: 107.7	6.02	K6Z Bus: 105.6	7.85	118.2	0.08	118.0	0.25
C21/23Z	115.4	2.94	114.1	4.04	H2Z Bus: 112.8 K6Z Bus: 111.2	2.93 2.97	H2Z Bus: 111.2 K6Z Bus: 109.6	4.30 4.36	118.7	0.34	118.4	0.08
Notes:												
1. Pre-tap: Before under load tap changer action												
2. Post-tap: After under load tap changer action												

Table 3: Voltage Changes at Local 115kV System with Kent TS Auto-transformer I/S

The pre-contingency voltages in the area improve with the Kent TS 230/115kV auto-transformer in-service and the transfer of Tilbury TS and Tilbury West DS to Kent TS. With the exception of the K2Z contingency, the post-contingency voltage declines at Kingsville TS and ‘Belle River East’ DS would improve.

With ‘Belle River East’ DS in-service, for the K2Z contingency the remaining circuit K6Z would have to carry both Kingsville TS and ‘Belle River East’ DS. Unfortunately, with an improvement of pre-contingency voltage, the post-contingency voltage decline at Kingsville TS in percentage for a K2Z contingency would be worse than the case without the new facilities at Kent TS. However, the declines would be within acceptable limits.

3.0 Conclusions

If the proponent fulfills the connection requirements outlined in Section 4.0 of this report, the proposed ‘Belle River East’ DS would be in compliance with the Market Rules and would have no material adverse impact on the IMO-controlled grid.

The proposed ‘Belle River East’ DS will relieve the distribution feeder overloading problem at Lauzon TS and transformer loading problem at Tilbury West DS. But it does not address the on-going voltage performance problem in the area. When the 230/115kV auto-transformer is placed in-service at Kent TS in 2004 and both Tilbury TS and Tilbury West DS are transferred to Kent TS. The voltage performance in the area will improve slightly.

This Preliminary Assessment does show that during peak load periods the line section from Belle River Junction to Kingsville TS of circuit K6Z could be overloaded. Although this circuit overloading problem does not affect the ‘Belle River East’ DS application, Hydro One Network Inc. nevertheless should address this problem quickly.

4.0 IMO’s Requirements for Connection

The *Connection Applicant* shall:

1. Ensure that the power factor of the load supplied from the new ‘Belle River East’ DS is maintained within the range of 0.9 lagging to 0.9 leading as measured at the defined metering point.
2. Provide the on-line monitoring facilities as required. Monitoring requirements can be obtained via the IMO Facility Registration Process.
3. Complete the IMO Facility Registration Process including metering registration before placing the proposed ‘Belle River East’ DS in-service.

5.0 Customer Impact Assessment

Since the proposed project will have no impact on local customers or their facilities, Hydro One Networks Inc., the transmitter, has notified the IMO that a formal Customer Impact Assessment will not be required for this project.

6.0 Recommendation

Since all of the analysis required to determine the potential impact that this Project would be expected to have on the IMO-controlled grid has been completed in this assessment, a separate System Impact Assessment will therefore not be required.

It is therefore recommended that, subject to the applicant meeting all of the connection requirements outlined in Section 4.0 of this Report, that a Notification of Approval be issued for this proposal.