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April 29, 2009

Ms. Erica M. Hamilton  
Commission Secretary  
British Columbia Utilities Commission  
Sixth Floor – 900 Howe Street  
Vancouver, BC V6Z 2N3

Dear Ms. Hamilton:

**RE: British Columbia Utilities Commission (BCUC)  
British Columbia Hydro and Power Authority (BC Hydro)  
F2005/F2006 Revenue Requirements Application (F05/F06 RRA)  
Updated Annual Response to BCUC Directive No. 26 - Reliability Indices**

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BC Hydro is writing to the BCUC to provide its annual updated response to Directive No. 26, (with respect to certain reliability indices) contained in the BCUC's Decision of October 29, 2004 regarding BC Hydro's F05/F06 RRA.

BC Hydro submitted its initial compliance filing for Directive No. 26 in September 2005, and subsequently updated the available reliability indices in May 2006 as part of the F2007/F2008 Revenue Requirements Application. BC Hydro filed annual updates of these indices in May 2007 and May 2008.

This filing provides reliability indices for distribution performance through F2008 and generation performance through calendar year 2008.

### **Directive No. 26**

"The Commission Panel expects BC Hydro and BCTC to present their reliability indices (SAIFI, SAIDI, CAIDI, ASAI, SARI, MAIFI, generation forced outages, availability, and generation outage rates) both combined and disaggregated (where applicable) on an annual basis with comparisons to CEA averages."

### **Distribution Performance**

The most recent annual Canadian Electricity Association (CEA) report includes the 2008 Annual Service Continuity Report on Distribution System Performance in Electrical Utilities. The comparative information for BC Hydro both overall and disaggregated for the distribution system is provided in Attachment 1.



## **Generation Performance**

The most recent annual CEA report on generation performance is the 2006 Generation Equipment Status Annual Report. CEA data on generation performance for the 2007 and 2008 calendar years are not yet available. The CEA generation data (2006 and earlier) along with BC Hydro's reliability indices through calendar year 2008 are presented in tabular and graphical form in Attachment 2. The CEA Generation Equipment Status Annual Report includes only internal outages (i.e., generation-caused outages) and therefore, for comparison purposes, the BC Hydro generation reliability data is reported herein in the same manner.

## **System Performance**

Please note the SARI performance measure is not currently used for the BC Hydro portion of system performance, and BCTC files its reliability indices independently with the BCUC.

For further information, please contact Guy Leroux at 604-623-3696.

Yours sincerely,



Joanna Sofield  
Chief Regulatory Officer

Enclosures (2)

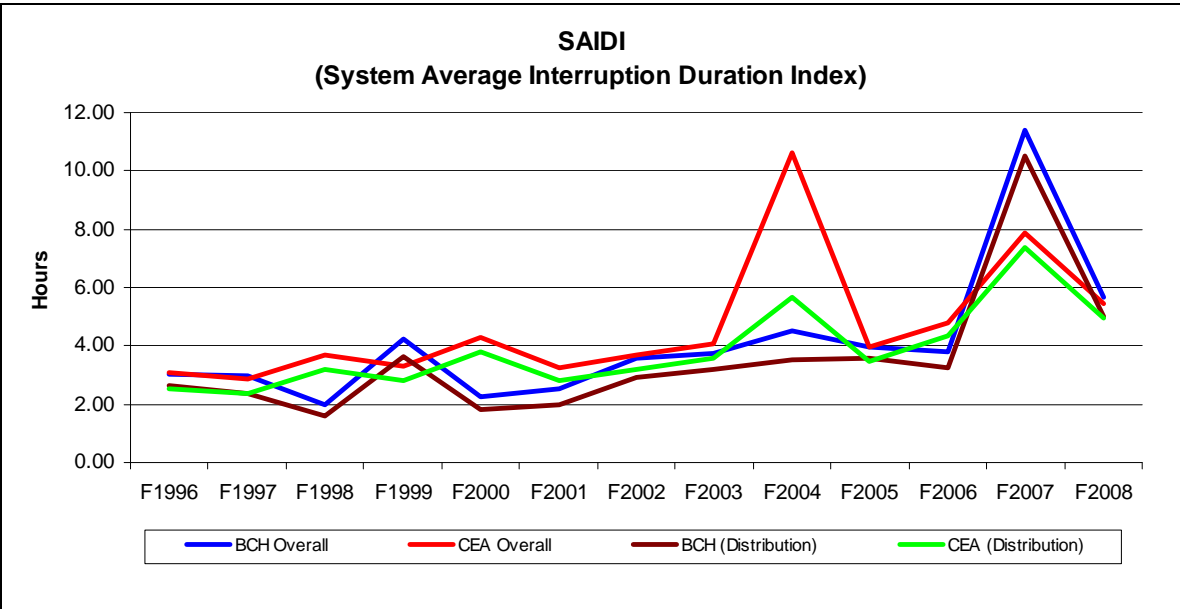
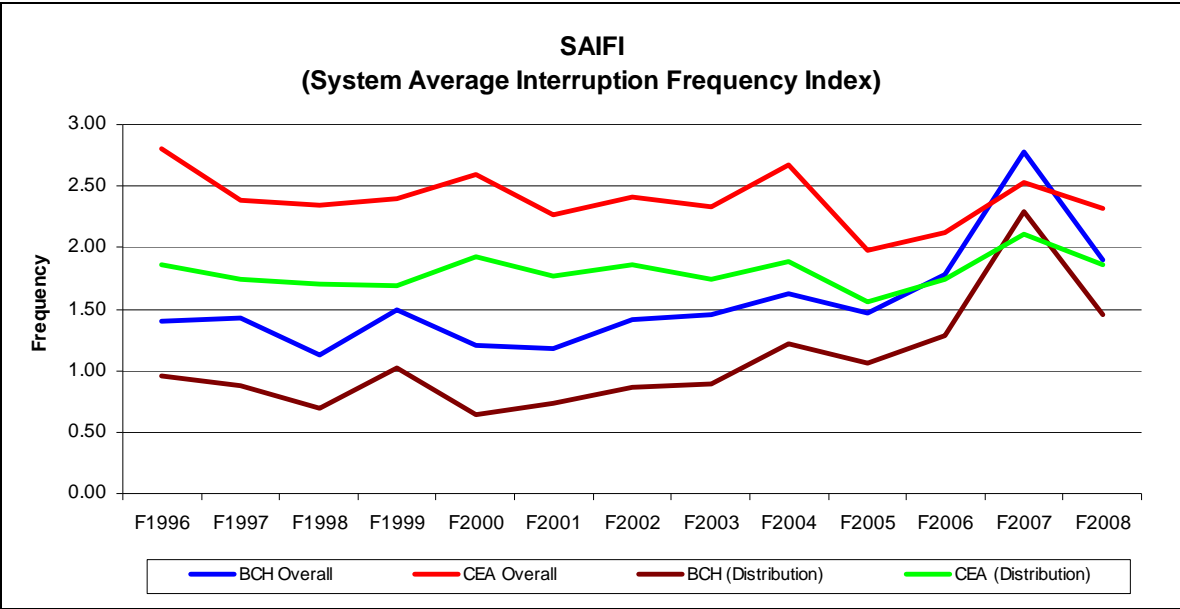
## **Attachment 1**

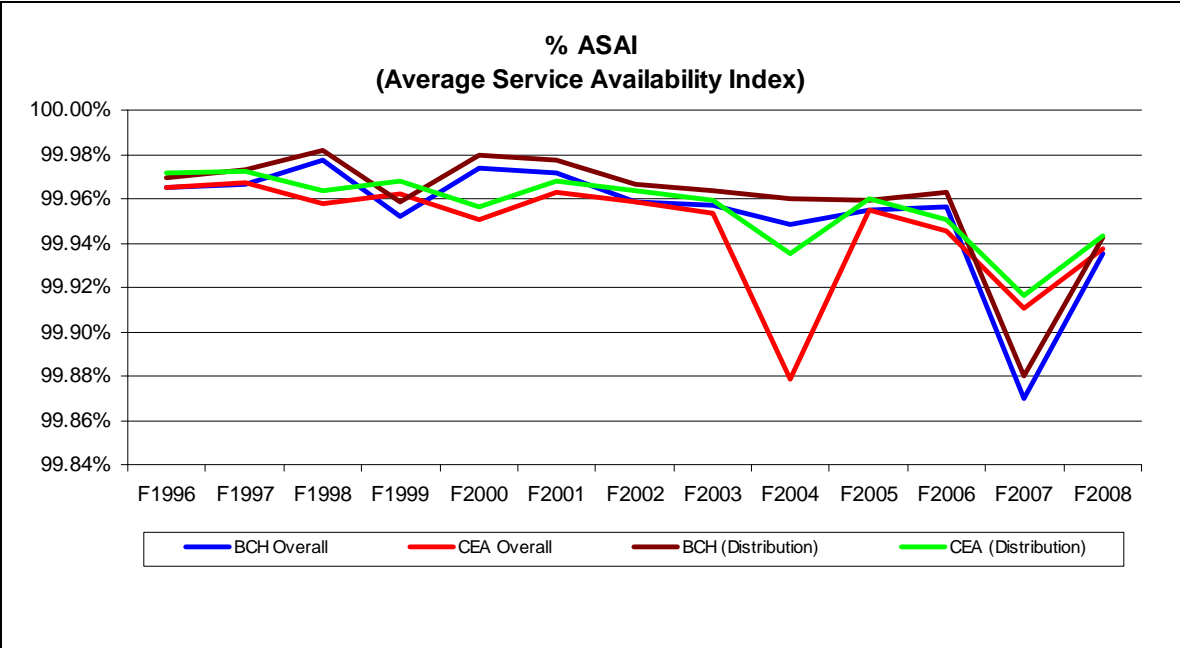
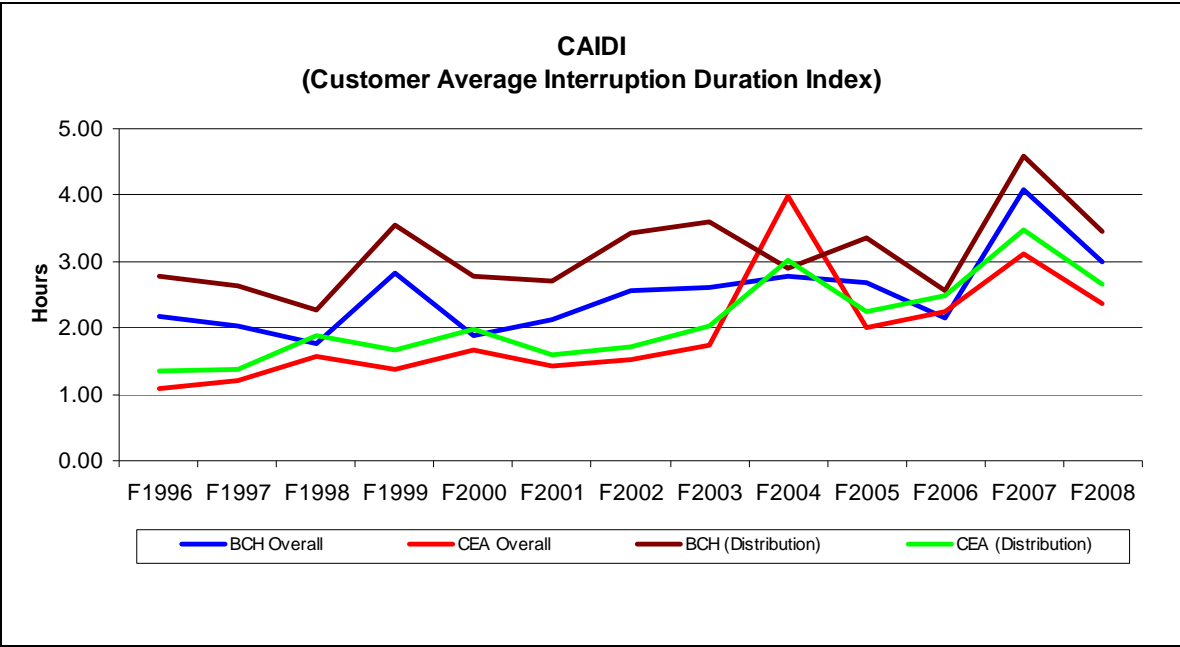
**Table 1 Reliability Indices – BC Hydro Overall and CEA Overall**

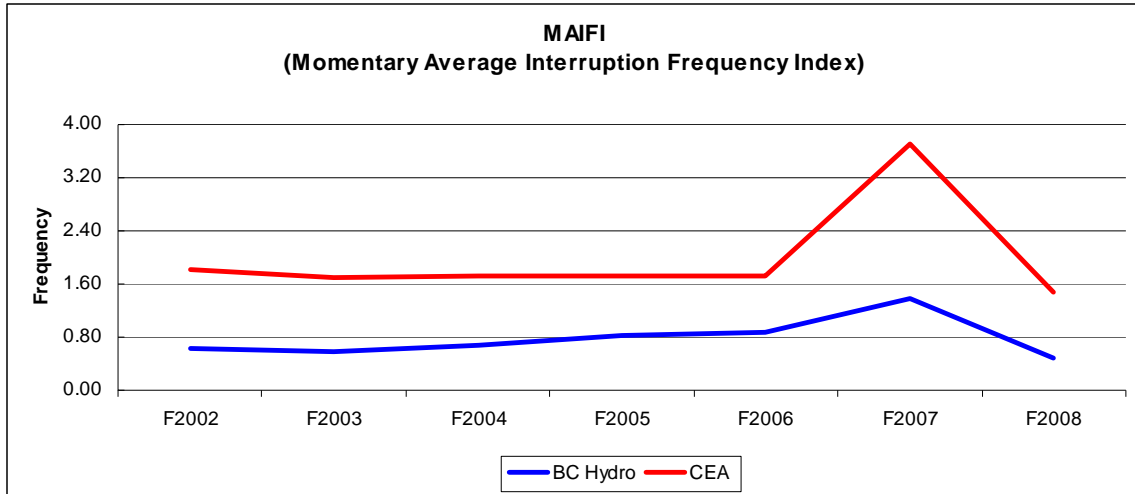
Year	BC Hydro Overall				CEA Overall			
	SAIFI	SAIDI	CAIDI	ASAI (%)	SAIFI	SAIDI	CAIDI	ASAI (%)
F1997	1.43	2.95	2.03	99.966	2.39	2.86	1.20	99.967
F1998	1.13	2.00	1.76	99.977	2.35	3.70	1.57	99.958
F1999	1.50	4.23	2.82	99.952	2.40	3.32	1.38	99.962
F2000	1.21	2.28	1.88	99.974	2.59	4.31	1.67	99.951
F2001	1.18	2.51	2.13	99.971	2.26	3.23	1.43	99.963
F2002	1.41	3.60	2.55	99.959	2.41	3.67	1.52	99.958
F2003	1.45	3.77	2.60	99.957	2.33	4.06	1.74	99.954
F2004	1.63	4.51	2.77	99.949	2.67	10.65	3.99	99.878
F2005	1.47	3.96	2.69	99.955	1.98	3.95	2.00	99.955
F2006	1.78	3.82	2.15	99.956	2.13	4.80	2.26	99.945
F2006	1.78	3.82	2.15	99.956	2.13	4.80	2.26	99.945
F2007	2.78	11.40	4.09	99.870	2.53	7.85	3.11	99.910
F2008	1.90	5.68	2.99	99.935	2.32	5.47	2.36	99.938

**Table 2 Reliability Indices – BC Hydro (Distribution) and CEA (Distribution)**

Year	BC Hydro (Distribution)				CEA (Distribution)			
	SAIFI	SAIDI	CAIDI	ASAI (%)	SAIFI	SAIDI	CAIDI	ASAI (%)
F1997	0.88	2.35	2.64	99.973	1.74	2.39	1.38	99.973
F1998	0.70	1.60	2.28	99.982	1.70	3.21	1.87	99.963
F1999	1.02	3.61	3.54	99.959	1.69	2.82	1.67	99.968
F2000	0.65	1.80	2.78	99.979	1.93	3.80	1.97	99.957
F2001	0.73	1.98	2.72	99.977	1.77	2.83	1.60	99.968
F2002	0.86	2.94	3.43	99.966	1.86	3.19	1.71	99.964
F2003	0.89	3.18	3.59	99.964	1.74	3.55	2.03	99.960
F2004	1.21	3.50	2.89	99.960	1.89	5.69	3.01	99.935
F2005	1.06	3.57	3.35	99.959	1.56	3.49	2.24	99.960
F2006	1.25	3.27	2.61	99.963	1.74	4.33	2.49	99.951
F2007	2.29	10.49	4.58	99.880	2.11	7.35	3.49	99.916
F2008	1.45	5.01	3.44	99.943	1.86	4.94	2.66	99.944







Note: The customer momentary interruptions and the resulting MAIFI may not apply to the utility's total customer population in the CEA comparison. Momentary outages are any interruptions on the feeders of less than one minute duration, caused by disturbance on the distribution, substation or transmission system.

## **Attachment 2**

## Generation Reliability Indices

	BC Hydro Hydroelectric Units				CEA Hydroelectric Units			
	Availability Factor	Forced Outage Count ** (Including starting failures) (Internal)	Forced Outage Factor ** (Including starting failures) (Internal)	Failure Rate **	Availability Factor	Forced Outage Count ** (Including starting failures) (Internal)	Forced Outage Factor ** (Including starting failures) (Internal)	Failure Rate **
1999	92.19	2.68	1.37	2.64	91.87	3.56	1.60	2.64
2000	91.43	3.64	1.34	3.52	90.60	3.33	1.42	2.34
2001	89.75	3.83	1.16	3.78	91.25	3.09	1.18	2.26
2002	88.89	3.31	1.07	3.39	91.71	3.05	1.51	2.36
2003	89.31	3.19	1.31	3.13	91.39	3.21	1.34	2.37
2004	88.91	2.47	2.03	2.66	91.21	3.06	1.48	2.39
2005	89.85	2.87	1.54	2.54	90.17	3.18	1.62	2.33
2006	89.30	2.01	1.04	1.86	90.23	2.84	1.79	2.14
2007	86.39	2.08	2.42	1.89				
2008	85.35	2.33	5.70	2.50				

### Definitions (per the Canadian Electricity Association)

**Availability Factor:**  $\frac{\text{Operating Time} + \text{Available-But-Not-Operating Time}}{\text{In-Commercial-Service Time}}$

**Forced Outage Count:** Average Number of Forced Outages per Unit per Year [(including Starting Failures) (Internal)]

**Forced Outage Factor:**  $\frac{\text{Forced Outage Time [(including Starting Failures) (Internal)]}}{\text{In-Commercial-Service Time}}$

**Failure Rate:**  $\frac{\text{Forced Outage Count [(excluding Starting Failures) (Internal)]}}{[\text{Operating Time} \times \text{In-Commercial-Service Time}]}$

In-Commercial-Service Time represents the number of hours in the measurement period that the units were considered part of the active fleet.

\*\* Measure excludes outages with causes that were external to Generation, such as Transmission System forced outages.

