

RAPPORTS AU NPCC

L'obligation pour Hydro-Québec TransÉnergie de transmettre annuellement à la Régie de l'énergie, en vertu de la décision D-2002-175, une copie des rapports publics qu'elle aura fournis au *Northeast Power Coordinating Council* («*NPCC*») s'applique aux rapports qu'elle sait au départ être de ceux qui seront assurément rendus publics ou mis d'une quelconque façon à la disposition du public, par exemple en les déposant dans un centre de documentation accessible à tous. Aucun tel rapport n'a été déposé par Hydro-Québec TransÉnergie ni requis par le NPCC en 2006.

Tout autre rapport ou donnée déposé par Hydro-Québec TransÉnergie au NPCC n'est accessible qu'aux instances du NPCC (conseil, comités, groupes de travail, etc.) ou aux membres ayant signé le «*Membership Agreement*» du NPCC, qui exige qu'ils respectent la confidentialité des informations requise par ces instances.

D'ailleurs, la Régie de l'énergie est elle-même membre du NPCC, à titre de «membre d'intérêt public» («*Public-Interest Membership*»), soit, entre autres, les organismes de réglementation ayant juridiction sur les «membres réguliers» («*Full Membership*»), soit les entités participant au marché d'électricité interconnecté du nord-est de l'Amérique du Nord, dont Hydro-Québec TransÉnergie fait partie. À ce titre, la Régie de l'énergie, tout en ayant l'obligation de respecter toute confidentialité requise, a le droit d'assister à toutes les réunions des membres réguliers et a accès aux procès-verbaux, rapports et données qui sont déposés par les membres réguliers, par exemple les déclarations de conformité en vertu du *NPCC Reliability Compliance and Enforcement Program*.

Par ailleurs, le Transporteur présente ci-après la liste des événements rapportables au NPCC et les rapports qu'il lui a transmis en 2006.

LISTE DES ÉVÉNEMENTS RAPPORTABLES DE 2006 POUR LESQUELS TRANSÉNERGIE A FOURNI UN RAPPORT ATR AU NPCC

Date et heure			MW perdus		Événement	T récupération		Fréquence	C-11	% Récup.		Cause	Caté- gories
Mois	Jour	Heure	Production	Charge		ACE (T-4)	ACE=0			%charge/ 0,1 Hz	%APC <1000 (code 1)		
Février	13	16:15:53		644	Perte de livraison vers ISO-NE lors du décl. du pôle 2 Radisson/ Nicolet, Sandy Pond	s/o	01:28	60,36 Hz	1,08%	100%	-	Filtre défectueux du côté américain.	-
Mai	25	01:12:00	622		L7027 hors charge (rejet 2 gr. à la centrale Churchill Falls)	s/o	03:45	59,26 Hz	1,22%	100%	-	Incident d'expl. lors du retrait L7031, L7027 est devenue hors charge parce que B2 était temporairement coupée à Arnaud	2
Juillet	12	08:30:48	795		Décl. L3153 Radisson-centrale LG1 (7 groupes)	01:32	01:46	59,39 Hz	3,30%	100%	-	Fonctionnement intempestif de la protection de défaillance du D300-9 à la centrale LG1	3
	14	13:59:00	900		Rejet A4, A5 à la centrale Churchill Falls lors de la m.h.t. de L7032 Montagnais-Arnaud	s/o	02:20	59,31 Hz	2,38%	100%	-	Mauvais fonctionnement de l'automatisme RPTC à Churchill Falls (consigne forcée à 0, mais pas enregistrée par l'URP B)	3
	16	06:39:36	1163		Décl. L3172, L3173 Nikamo-Tilly, L3168-L3169 Laforge 2-Nikamo, L3166-3167 Brisay-Laforge 1 (groupes de LA1, LA2, Brisay)	04:14	04:15	59,00 Hz	1,32%	-	100%	L3172- 3173 par la foudre + L3168, L3169, L3166, L3167 par l'automatisme MHTO	1
	16	14:00:30	850		Décl. L3168-L3169 Laforge 2-Nikamo, L3166-3167 Brisay-Laforge 1, L3171 Laforge 1-Nikamo (groupes de LA1, LA2, Brisay)	s/o	02:35	59,36 Hz	2,69%	100%	-	L3168-L3169 par la foudre + L3166, 3167, L3171 par l'automatisme MHTO	1
	20	09:41:55		675	Décl. L2355 perte charge client industriel ABI	s/o	01:44	60,42 Hz	2,88%	100%	-	Incident d'expl. lors de travaux sur le XC11 au poste Bécancour	2
Août	01	09:56:39	995		Décl. L3153 Radisson-centrale LG1 (9 groupes)	04:25	04:56	59,32 Hz	3,63%	100%	-	Foudre	1
	05	14:43:29		692	Décl. Pôle 2 RMCC pendant des essais en configuration hybride 4-9, perte de livraison vers ISO-NE	01:55	01:38	60,48 Hz	8,48%	-	100%	La méthode utilisée à Sandy Pond pour simuler un défaut n'était pas adéquate	-
	05	16:05:57		1334	Décl. Pôles 1 et 2 RMCC pendant des essais en configuration hybride 4-9, perte de livraison vers ISO-NE	s/o	03:04	60,90 Hz	2,89%	-	100%	La méthode utilisée à Nicolet pour simuler un défaut n'était pas adéquate	-
	06	18:05:00	550		Décl. L3153 Radisson-centrale LG1 (A1, A2, A5, A8, A11)	s/o	02:39	59,60 Hz	2,24%	100%	-	Foudre	1
	15	14:18:06	635		Décl. A2 à la centrale Gentilly-2	s/o	02:53	59,61 Hz	3,66%	100%	-	Incident d'expl. technicien travaillant dans le panneau de commande du transformateur T2	2

LISTE DES ÉVÉNEMENTS RAPPORTABLES DE 2006 POUR LESQUELS TRANSÉNERGIE A FOURNI UN RAPPORT ATR AU NPCC

Temps			MW perdus		Événement	T récupération		Fréquence	C-11	% Récup.		Cause	Caté- gories
Mois	Jour	Heure	Production	Charge		ACE (T-4)	ACE=0			%charge/0,1 Hz	%APC <1000 (code 1)		
Sept.	08	18:09:09	547		Décl. T8, A15, A16 centrale LG2	01:21	01:50	59,56 Hz	2,79%	100%	-	Fausse alarme de température d'enroulement, erreur dans la mesure de la température	3
	20	16:17:36	507		Arrêt de la centrale du producteur privé TCE	01:07	01:08	59,62 Hz	4,40%	100%	-	Arrêt de la centrale pour résoudre un problème électrique sur un équipement	-
Déc.	17	14:53:12	1212		Décl. L3163, L3162 Radisson-centrale LG2A (A21, A22, A24, A26)	03:32	03:40	59,19 Hz	2,43%	-	100%	Amorçage à la terre dans la cuve principale du D300-26	3
	17	21:00:57	930	1363	Décl. Pôles 1 et 2 Radisson-Sandy Pond et rejet de production 3 gr. centrale LG2A, perte de livraison vers ISO-NE	01:59	01:23	60,27 Hz	3,67%	-	100%	Surcharge du filtre F5 due à un incident d'expl.: le CPR (consigne puissance réactive) était demeuré à "manuel" depuis les essais sur le D300-81, le 16 déc.	2
	20	10:21:09	582		Décl. L3031 Micoua-centrale Manic 5 (A51, A52, A54)	01:30	01:31	59,65 Hz	2,16%	100%	-	Défectuosité du régulateur de vitesse du A53 à la centrale Manic 5	3

ACE : Area Control Error

s/o : sans objet car le ACE à T-4 est positif

APC: Average Percent Recovery

Catégories: 1 causes naturelles (météo); 2 incident d'exploitation/autre intervention humaine;
3 bris d'appareillage/défaut logiciel; - réseau voisin/producteur privé

Report No. TQ2006_02_13_16_RMCC Date (MMDDYY): 02-13-06 Time (HHMMSS): 16:15:53

QUÉBEC

Origin: Loss of export to ISONE at Radisson substation.

Cause: Tripping of P2 between Radisson, Nicolet and Sandy Pond substations caused by a faulty filter on the american side.

Generation Loss: _____ MW Percent of Loss to First Contingency: 64,4 %
 Load Loss: 644 MW export Maximum Interchange Deviation: 672 MW

Time to return ACE to initial (T-4) value: _____ minutes
 Time to return ACE to zero: 01:28 minutes

Runback? (Y/N) N
 Included in DCS? (Y/N) Y
 Reviewed by Area? (Y/N) N
 Reviewed by CO-1? (Y/N) N

Freq. (@T-4) 60,0200 Freq. (after) 59,9768 Freq. Dev. -0,0433

Comments: _____

See Comment File: _____ See Graph File(s): _____

INTERCHANGE TABLE

T = Time of Disturbance

Time	F	Sched	Actual	ACE	Time	F	Sched	Actual	ACE
T-60 sec					T+32 sec	60,1063	1900	1293	450
T-56 sec	59,9817	562	671	843	T+36 sec	60,1030	1900	1299	604
T-52 sec	60,0103	1900	1893	38	T+40 sec	60,0923	1900	1287	584
T-48 sec	60,0130	1900	1897	71	T+44 sec	60,0800	1900	1304	519
T-44 sec	60,0153	1900	1896	78	T+48 sec	60,0670	1900	1292	436
T-40 sec	60,0173	1900	1883	97	T+52 sec	60,0563	1900	1295	364
T-36 sec	60,0140	1900	1895	99	T+56 sec	60,0457	1900	1294	306
T-32 sec	60,0113	1900	1895	76	T+60 sec	60,0380	1900	1291	291
T-28 sec	60,0073	1900	1887	61	T+2 min	59,9410	1900	1270	-322
T-24 sec	60,0020	1900	1884	34	T+3 min	60,0130	1900	1262	71
T-20 sec	60,0060	1900	1882	16	T+4 min	60,0090	1900	1274	52
T-16 sec	60,0107	1900	1888	48	T+5 min	60,0020	1900	1271	2
T-12 sec	60,0130	1900	1891	65	T+6 min	60,0040	1900	1257	29
T-08 sec	60,0120	1900	1893	73	T+7 min	59,9780	1900	1259	-149
T-04 sec	60,0140	1900	1886	69	T+8 min	60,0100	1900	1251	69
T=0 sec	60,0210	1900	1377	88	T+9 min	60,0050	1900	1260	6
T+04 sec	60,0810	1900	1214	129	T+10 min	59,9810	1900	1252	-147
T+08 sec	60,4427	1900	1288	549	T+11 min	59,9990	1900	1255	-23
T+12 sec	60,2510	1900	1302	2001	T+12 min	59,9940	1900	1256	-33
T+16 sec	60,1177	1900	1314	1255	T+13 min	59,9160	1900	1257	-228
T+20 sec	60,0593	1900	1317	486	T+14 min	60,0160	1900	1267	111
T+24 sec	60,0640	1900	1302	398	T+15 min	59,9810	1900	1243	-176
T+28 sec	60,0760	1900	1299	357					

Report No. ATR_HQTE_2006_05_25_01_L7027 Date (MMDDYY) 05-25-06 Time (HHMMSS): 01:12:00

QUÉBEC

Origin: Generation rejection at Churchill Falls GS (units 2 and 11).

Cause: One 735-kV line (7027) became off-load during the withdrawal of a 735-kV line (7031) because a bus bar was temporarily disconnected at Arnaud Substation, due to an incident (human error).

Generation Loss: 622 MW Percent of Loss to First Contingency: 62,2 %
 Load Loss: _____ MW export Maximum Interchange Deviation: 158 MW

Time to return ACE to initial (T-4) value: _____ minutes
 Time to return ACE to zero: 03:45 minutes

Runback? (Y/N) N
 Included in DCS? (Y/N) Y
 Reviewed by Area? (Y/N) N
 Reviewed by CO-1? (Y/N) N

Freq. (@T-4) 59,9900 Freq. (after) 60,0035 Freq. Dev. 0,0135

Comments: _____

See Comment File: _____ See Graph File(s): _____

INTERCHANGE TABLE

T = Time of Disturbance

Time	F	Sched	Actual	ACE	Time	F	Sched	Actual	ACE
T-60 sec					T+32 sec	59,69	-3738	-3911	-696
T-56 sec	60,06	-1124	-1232	-2501	T+36 sec	59,74	-3738	-3914	-571
T-52 sec	60,01	-3738	-3822	27	T+40 sec	59,76	-3738	-3918	-518
T-48 sec	60,00	-3738	-3827	31	T+44 sec	59,77	-3738	-3924	-486
T-44 sec	59,99	-3738	-3825	1	T+48 sec	59,75	-3738	-3915	-484
T-40 sec	59,99	-3738	-3824	-26	T+52 sec	59,76	-3738	-3922	-507
T-36 sec	60,00	-3738	-3828	-26	T+56 sec	59,76	-3738	-3919	-486
T-32 sec	60,00	-3738	-3837	4	T+60 sec	59,77	-3738	-3914	-490
T-28 sec	59,99	-3738	-3835	-5	T+2 min	59,94	-3738	-3828	-112
T-24 sec	59,98	-3738	-3818	-22	T+3 min	59,98	-3738	-3815	-50
T-20 sec	59,98	-3738	-3819	-55	T+4 min	60,03	-3738	-3803	16
T-16 sec	60,00	-3738	-3830	-42	T+5 min	60,03	-3738	-3779	79
T-12 sec	60,02	-3738	-3833	7	T+6 min	60,04	-3738	-3781	91
T-08 sec	60,02	-3738	-3839	44	T+7 min	60,06	-3738	-3770	140
T-04 sec	60,01	-3738	-3833	40	T+8 min	60,05	-3738	-3771	112
T=0 sec	60,01	-3738	-3834	11	T+9 min	60,05	-3738	-3764	94
T+04 sec	60,00	-3738	-3859	20	T+10 min	59,98	-3738	-3793	-54
T+08 sec	59,96	-3738	-3930	-2	T+11 min	60,00	-3738	-3797	-12
T+12 sec	59,27	-3738	-3991	-929	T+12 min	59,98	-3738	-3787	-49
T+16 sec	59,30	-3738	-3886	-1687	T+13 min	59,96	-3738	-3806	-106
T+20 sec	59,53	-3738	-3934	-1402	T+14 min	60,00	-3738	-3800	-10
T+24 sec	59,58	-3738	-3929	-968	T+15 min	60,08	-3738	-3754	186
T+28 sec	59,64	-3738	-3913	-819					

Report No. ATR_HQTE_2006_07_12_08_L3153_LG1

Date: 07-12-06 Time: 08:30:48

QUÉBEC

Origin: Generation loss of 795 MW at La Grande-1 GS (7 units).

Cause: Tripping of a 315-kV line (3153) due to a faulty operation of the protection of a 315-kV circuit breaker (D300-9) at La Grande-1 Substation.

Generation Loss: 795 MW Percent of Loss to First Contingency: 79,5 %
 Load Loss: _____ MW export Maximum Interchange Deviation: 101 MW

Time to return ACE to initial (T-4) value: 01:32 minutes
 Time to return ACE to zero: 01:46 minutes

Runback? (Y/N) N
 Included in DCS? (Y/N) Y
 Reviewed by Area? (Y/N) N
 Reviewed by CO-1? (Y/N) N

Freq. (@T-4) Freq. (after) Freq. Dev.
59,9753 60,0138 0,0384

Comments: _____

See Comment File: _____ See Graph File(s): _____

INTERCHANGE TABLE

T = Time of Disturbance

Time	F	Sched	Actual	ACE	Time	F	Sched	Actual	ACE
T-60 sec					T+32 sec	59,8477	1184	1027	-543
T-56 sec	59,9913	1184	1075	-51	T+36 sec	59,8460	1184	1018	-604
T-52 sec	59,9960	1184	1075	-33	T+40 sec	59,8473	1184	1021	-611
T-48 sec	60,0040	1184	1076	-8	T+44 sec	59,8603	1184	1016	-600
T-44 sec	60,0067	1184	1077	21	T+48 sec	59,8820	1184	1020	-517
T-40 sec	60,0067	1184	1084	27	T+52 sec	59,9100	1184	1020	-450
T-36 sec	60,0120	1184	1081	27	T+56 sec	59,9280	1184	1025	-325
T-32 sec	60,0167	1184	1084	55	T+60 sec	59,9180	1184	1024	-324
T-28 sec	60,0140	1184	1090	65	T+2 min	60,0310	1184	1082	99
T-24 sec	60,0110	1184	1090	51	T+3 min	60,0130	1184	1102	68
T-20 sec	60,0130	1184	1090	46	T+4 min	59,9850	1184	1096	-83
T-16 sec	60,0110	1184	1089	55	T+5 min	59,9800	1184	1083	-91
T-12 sec	59,9960	1184	1089	35	T+6 min	59,9540	1184	1071	-238
T-08 sec	59,9777	1184	1089	-38	T+7 min	59,9880	1184	1079	-60
T-04 sec	59,9743	1184	1087	-98	T+8 min	59,9910	1184	1083	-51
T=0 sec	59,9840	1184	1082	-101	T+9 min	59,9570	1184	1085	-140
T+04 sec	59,7787	1184	988	-50	T+10 min	60,0230	1184	1100	118
T+08 sec	59,2167	1184	987	-1078	T+11 min	59,9820	1184	1106	-46
T+12 sec	59,5620	1184	1003	-2319	T+12 min	60,0020	1184	1098	9
T+16 sec	59,7740	1184	998	-1532	T+13 min	60,0120	1184	1106	48
T+20 sec	59,8743	1184	986	-685	T+14 min	60,0240	1184	1104	97
T+24 sec	59,8600	1184	1007	-597	T+15 min	60,0220	1184	1109	66
T+28 sec	59,8613	1184	1024	-539					

Report No. ATR_HQTE_2006_07_14_13_Churchill

Date: 07-14-06 Time: 13:59:00

QUÉBEC

Origin: Generation rejection of 900 MW at Churchill Falls GS (units 4 and 5).

Cause: Incorrect operation of the Churchill Falls Generation Rejection SPS.

Generation Loss: 900 MW Percent of Loss to First Contingency: 90 %
 Load Loss: _____ MW Maximum Interchange Deviation: 168 MW

Time to return ACE to initial (T-4) value: _____ minutes
 Time to return ACE to zero: 02:20 minutes

Runback? (Y/N) N
 Included in DCS? (Y/N) Y
 Reviewed by Area? (Y/N) N
 Reviewed by CO-1? (Y/N) N

Freq. (@T-4) Freq. (after) Freq. Dev.
60,0087 60,0193 0,0106

Comments: Normally, generation rejection setpoints are set to 0 before a voluntary line outage. One of the redundant generation rejection units at Churchill did not register correctly the 0 setpoint and tripped 2 units when one of the lines between Arnaud and Montagnais was taken out for voltage control.

See Comment File: _____ See Graph File(s): _____

INTERCHANGE TABLE

T = Time of Disturbance

Time	F	Sched	Actual	ACE	Time	F	Sched	Actual	ACE
T-60 sec					T+32 sec	59,8153	4516	4240	-932
T-56 sec	60,0123	4516	4363	61	T+36 sec	59,8260	4516	4243	-807
T-52 sec	60,0083	4516	4356	54	T+40 sec	59,8233	4516	4234	-783
T-48 sec	60,0010	4516	4355	33	T+44 sec	59,8223	4516	4235	-801
T-44 sec	59,9813	4516	4352	-20	T+48 sec	59,8440	4516	4236	-774
T-40 sec	59,9773	4516	4353	-104	T+52 sec	59,8547	4516	4239	-687
T-36 sec	59,9890	4516	4345	-97	T+56 sec	59,8537	4516	4246	-643
T-32 sec	60,0037	4516	4345	-32	T+60 sec	59,8480	4516	4237	-665
T-28 sec	60,0077	4516	4342	25	T+2 min	59,9890	4240	4246	-76
T-24 sec	60,0100	4516	4343	38	T+3 min	60,0330	4240	4258	157
T-20 sec	60,0103	4516	4337	45	T+4 min	60,0180	4240	4248	95
T-16 sec	60,0110	4516	4339	51	T+5 min	60,0160	4240	4224	85
T-12 sec	60,0140	4516	4342	52	T+6 min	60,0420	4240	4220	223
T-08 sec	60,0150	4516	4336	67	T+7 min	60,0380	4240	4213	175
T-04 sec	60,0143	4516	4332	72	T+8 min	60,0400	4240	4222	235
T=0 sec	60,0060	4516	4319	64	T+9 min	60,0320	4240	4224	192
T+04 sec	59,7047	4516	4178	17	T+10 min	60,0250	4240	4187	113
T+08 sec	59,1183	4516	4164	-1685	T+11 min	59,9900	4240	4169	-27
T+12 sec	59,5030	4516	4229	-2948	T+12 min	60,0310	4240	4170	119
T+16 sec	59,6990	4516	4216	-2022	T+13 min	60,0270	4240	4186	154
T+20 sec	59,7900	4516	4221	-1143	T+14 min	60,0330	4240	4158	84
T+24 sec	59,7770	4516	4234	-1056	T+15 min	59,9870	4240	4142	-49
T+28 sec	59,7903	4516	4238,419	-997,909					

Report No. ATR_HQTE_2006_07_16_06_LA1_LA2_Brisay

Date: 07-16-06

Time: 06:39:36

QUÉBEC

Origin: Generation loss of 1163 MW at Laforge-1, Laforge-2, and Brisay GS.

Cause: Tripping of two parallel 315-kV lines (3172 and 3173) between Tilly and Nikamo Substations due to lightning.

Generation Loss: 1163 MW Percent of Loss to First Contingency: 116,3 %
 Load Loss: _____ MW Maximum Interchange Deviation: 398 MW

Time to return ACE to initial (T-4) value: 04:14 minutes
 Time to return ACE to zero: 04:15 minutes

Runback? (Y/N) N
 Included in DCS? (Y/N) N
 Reviewed by Area? (Y/N) N
 Reviewed by CO-1? (Y/N) N

Freq. (@T-4) Freq. (after) Freq. Dev.
59,9887 59,9880 -0,0007

Comments: MHTO SPS operated for an orderly tripping of 315-kV lines 3168-3169 at Laforge-2 Substation and 3166 -3167 at Brisay Substation.

See Comment File: _____

See Graph File(s): _____

INTERCHANGE TABLE

T = Time of Disturbance

Time	F	Sched	Actual	ACE	Time	F	Sched	Actual	ACE
T-60 sec					T+32 sec	59,58	-1520	-1701	-1022
T-56 sec	59,9937	-1520	-1544	-51	T+36 sec	59,61	-1520	-1700	-973
T-52 sec	59,99	-1520	-1550	-15	T+40 sec	59,66	-1520	-1695	-904
T-48 sec	59,99	-1520	-1546	-40	T+44 sec	59,71	-1520	-1706	-769
T-44 sec	60,00	-1520	-1548	-33	T+48 sec	59,69	-1520	-1690	-705
T-40 sec	60,01	-1520	-1547	-1	T+52 sec	59,70	-1520	-1678	-743
T-36 sec	60,00	-1520	-1547	23	T+56 sec	59,77	-1520	-1671	-692
T-32 sec	59,99	-1520	-1546	-3	T+60 sec	59,79	-1520	-1674	-611
T-28 sec	59,99	-1520	-1542	-20	T+2 min	59,85	-1520	-1642	-335
T-24 sec	59,98	-1520	-1546	-26	T+3 min	59,91	-1520	-1610	-227
T-20 sec	59,98	-1520	-1547	-44	T+4 min	59,98	-1520	-1577	-72
T-16 sec	59,99	-1520	-1551	-39	T+5 min	60,10	-1520	-1517	212
T-12 sec	59,99	-1520	-1552	-36	T+6 min	60,13	-1520	-1503	317
T-08 sec	60,00	-1520	-1546	-20	T+7 min	60,05	-1520	-1490	92
T-04 sec	59,99	-1520	-1551	-7	T+8 min	60,00	-1520	-1506	14
T=0 sec	59,99	-1520	-1608	-27	T+9 min	60,01	-1520	-1510	46
T+04 sec	59,33	-1520	-1949	-29	T+10 min	60,07	-1520	-1489	199
T+08 sec	58,73	-1520	-1840	-1970	T+11 min	60,01	-1520	-1489	5
T+12 sec	59,25	-1520	-1739	-2199	T+12 min	59,99	-1520	-1390	-30
T+16 sec	59,46	-1520	-1719	-1648	T+13 min	60,00	-1520	-1308	4
T+20 sec	59,48	-1520	-1734	-1154	T+14 min	59,97	-1520	-1213	-106
T+24 sec	59,50	-1520	-1695	-1276	T+15 min	59,99	-1520	-1180	-13
T+28 sec	59,55			-1146					

Report No. ATR_HQTE_2006_07_16_14_LA1_LA2_Brisay

Date: 07-16-06 Time: 14:00:30

QUÉBEC

Origin: Generation loss of 870 MW at Laforge-1, Laforge-2, and Brisay GS.

Cause: Tripping of two parallel 315 kV lines (3168-3169) between Nikamo and Laforge-2 Substations due to lightning.

Generation Loss: 850 MW Percent of Loss to First Contingency: 85 %
 Load Loss: _____ MW Maximum Interchange Deviation: 100 MW

Time to return ACE to initial (T-4) value: _____ minutes
 Time to return ACE to zero: 02:35 minutes

Runback? (Y/N) _____ N
 Included in DCS? (Y/N) _____ Y
 Reviewed by Area? (Y/N) _____ N
 Reviewed by CO-1? (Y/N) _____ N

Freq. (@T-4) Freq. (after) Freq. Dev.
60,0060 60,0238 0,0178

Comments: MHTO SPS operated for an orderly tripping of 315-kV lines 3166-3167 at Brisay Substation and 3171 at Laforge-1 Substation.

See Comment File: _____

See Graph File(s): _____

INTERCHANGE TABLE

Time of Disturbance

Time	F	Sched	Actual	ACE
T-60 sec				
T-56 sec	59,9940	3721	3686	-32
T-52 sec	59,9933	3721	3684	-30
T-48 sec	59,9950	3721	3681	-26
T-44 sec	59,9960	3721	3683	-25
T-40 sec	60,0107	3721	3683	-5
T-36 sec	60,0200	3721	3681	67
T-32 sec	60,0147	3721	3683	79
T-28 sec	60,0140	3798	3691	63
T-24 sec	60,0080	3837	3689	59
T-20 sec	60,0053	3837	3693	28
T-16 sec	60,0100	3837	3691	28
T-12 sec	60,0048	3837	3692	46
T-08 sec	60,0127	3837	3695	49
T-04 sec	60,0113	3837	3699	57
T=0 sec	60,0040	3837	3692	42
T+04 sec	59,7213	3837	3598	8
T+08 sec	59,1737	3837	3627	-1445
T+12 sec	59,5870	3837	3618	-2438
T+16 sec	59,7963	3837	3614	-1467
T+20 sec	59,8723	3837	3631	-628
T+24 sec	59,8430	3837	3652	-640
T+28 sec	59,8257	3837	3663	-656

Time	F	Sched	Actual	ACE
T+32 sec	59,8183	3837	3658	-742
T+36 sec	59,8350	3837	3675	-709
T+40 sec	59,8430	3837	3676	-675
T+44 sec	59,8593	3837	3684	-640
T+48 sec	59,8640	3837	3679	-583
T+52 sec	59,8800	3837	3693	-555
T+56 sec	59,9010	3837	3700	-482
T+60 sec	59,8880	3837	3689	-452
T+2 min	59,9820	3837	3757	-90
T+3 min	60,0050	3837	3794	64
T+4 min	60,0070	3837	3812	48
T+5 min	60,0240	3837	3812	136
T+6 min	60,0010	3837	3808	1
T+7 min	60,0010	3837	3809	-19
T+8 min	59,9800	3837	3808	-58
T+9 min	60,0250	3837	3806	109
T+10 min	60,0530	3837	3829	198
T+11 min	60,0140	3837	3828	141
T+12 min	60,0410	3837	3812	134
T+13 min	60,0290	3837	3811	98
T+14 min	59,9980	3837	3807	-46
T+15 min	60,0000	3837	3812	-7

Report No. ATR_HQTE_2006_07_20_09_L2355

Date: 07-20-06 Time: 09:41:55

QUÉBEC

Origin: Load loss of 675 MW at Bécancour Substation (Aluminium Bécancour industrial customer).

Cause: Tripping of a 230-kV line (2355) due to a technician working on a 230-kV circuit breaker.

Generation Loss: _____ MW
Load Loss: 675 MW

Percent of Loss to First Contingency: 67,5 %
Maximum Interchange Deviation: 99 MW

Time to return ACE to initial (T-4) value: _____ minutes
Time to return ACE to zero: 01:44 minutes

Runback? (Y/N) N
Included in DCS? (Y/N) Y
Reviewed by Area? (Y/N) N
Reviewed by CO-1? (Y/N) N

Freq. (@T-4) 60,0060 Freq. (after) 59,9968 Freq. Dev. -0,0092

Comments: _____

See Comment File: _____ See Graph File(s): _____

INTERCHANGE TABLE

T = Time of Disturbance

Time	F	Sched	Actual	ACE	Time	F	Sched	Actual	ACE
T-60 sec					T+32 sec	60,0977	2762	2824	349
T-56 sec					T+36 sec	60,1380	2762	2830	500
T-52 sec	60,0010	1836	1859	1040	T+40 sec	60,1673	2762	2820	657
T-48 sec	60,0090	2762	2761	61	T+44 sec	60,1400	2762	2845	782
T-44 sec	60,0140	2762	2758	42	T+48 sec	60,0670	2762	2834	442
T-40 sec	60,0180	2762	2759	77	T+52 sec	60,0603	2762	2827	255
T-36 sec	60,0250	2762	2762	76	T+56 sec	60,0820	2762	2820	262
T-32 sec	60,0347	2762	2759	128	T+60 sec	60,0840	2762	2821	333
T-28 sec	60,0260	2762	2759	149	T+2 min	59,9880	2762	2779	-122
T-24 sec	60,0030	2762	2759	103	T+3 min	60,0860	2762	2772	107
T-20 sec	59,9707	2762	2760	-34	T+4 min	60,0340	2762	2822	100
T-16 sec	59,9840	2762	2756	-133	T+5 min	59,9800	2762	2820	-78
T-12 sec	60,0040	2762	2753	-42	T+6 min	60,0220	2762	2814	93
T-08 sec	60,0090	2762	2759	24	T+7 min	59,9770	2762	2814	-87
T-04 sec	60,0103	2762	2758	43	T+8 min	59,9790	2762	2811	-67
T=0 sec	60,0050	2762	2756	45	T+9 min	60,0070	2762	2827	2
T+04 sec	60,0117	2762	2763	13	T+10 min	59,9810	2762	2823	-85
T+08 sec	60,0233	2762	2761	58	T+11 min	60,0280	2762	2822	94
T+12 sec	60,3790	2762	2793	741	T+12 min	59,9860	2762	2830	-79
T+16 sec	60,3817	2762	2840	2016	T+13 min	59,9900	2762	2838	-40
T+20 sec	60,1693	2762	2857	1710	T+14 min	59,9900	2762	2845	-73
T+24 sec	60,1100	2762	2844	716	T+15 min	60,0370	2762	2808	-43
T+28 sec	59,5540	2762	2834,322	415,722					

Report No. ATR_HQTE_2006_08_01_09_3153_LG1

Date: 08-01-06 Time: 09:56:39

QUÉBEC

Origin: Generation loss of 995 MW at La Grande-1 GS (9 units).

Cause: Tripping of a 315-kV line (3153) between Radisson and La Grande-1 Substations due to lightning.

Generation Loss: 995 MW Percent of Loss to First Contingency: 99,5 %
 Load Loss: _____ MW export Maximum Interchange Deviation: 96 MW

Time to return ACE to initial (T-4) value: 04:25 minutes
 Time to return ACE to zero: 04:56 minutes

Runback? (Y/N) N
 Included in DCS? (Y/N) Y
 Reviewed by Area? (Y/N) N
 Reviewed by CO-1? (Y/N) N

Freq. (@T-4) Freq. (after) Freq. Dev.
59,9753 60,0138 0,0384

Comments: L3152 was out for maintenance.

See Comment File: _____ See Graph File(s): _____

INTERCHANGE TABLE

T = Time of Disturbance

Time	F	Sched	Actual	ACE	Time	F	Sched	Actual	ACE
T-60 sec					T+32 sec	59,8407	3832	3853	-683
T-56 sec					T+36 sec	59,8370	3832	3865	-695
T-52 sec	60,0417	3832	3939	231	T+40 sec	59,8223	3832	3870	-743
T-48 sec	60,0240	3832	3944	172	T+44 sec	59,8410	3832	3850	-810
T-44 sec	60,0213	3832	3945	104	T+48 sec	59,8600	3832	3853	-641
T-40 sec	60,0240	3832	3946	98	T+52 sec	59,8413	3832	3857	-620
T-36 sec	60,0270	3832	3943	114	T+56 sec	59,8343	3832	3870	-734
T-32 sec	60,0310	3832	3950	128	T+60 sec	59,8430	3832	3862	-719
T-28 sec	60,0283	3832	3942	145	T+2 min	59,8570	3832	3845	-623
T-24 sec	60,0120	3832	3938	118	T+3 min	59,9150	3832	3864	-384
T-20 sec	59,9983	3832	3941	35	T+4 min	59,9930	4051	3911	-46
T-16 sec	59,9957	3832	3937	-12	T+5 min	59,9880	4051	3940	3
T-12 sec	60,0000	3832	3934	-23	T+6 min	59,9930	4051	4010	27
T-08 sec	59,9967	3832	3934	-2	T+7 min	60,0200	4051	4030	152
T-04 sec	59,9893	3832	3931	-25	T+8 min	60,0230	4051	4073	71
T=0 sec	59,9910	3832	3929	-53	T+9 min	60,0220	4051	4109	62
T+04 sec	59,9937	3832	3921	-35	T+10 min	60,0170	4051	4103	56
T+08 sec	59,8430	3832	3881	-23	T+11 min	60,0230	4051	4119	148
T+12 sec	59,3340	3832	3836	-2345	T+12 min	60,0420	4051	4136	196
T+16 sec	59,5153	3832	3850	-3192	T+13 min	60,0060	4051	4123	2
T+20 sec	59,7667	3832	3841	-1968	T+14 min	60,0240	4051	4131	124
T+24 sec	59,8260	3832	3842	-1014	T+15 min	60,0370	4051	4132	161
T+28 sec	59,8433	3832	3845	-702					

Report No. ATR HQTE 2006 08 05 14 RMCC

Date: 08-05-06 Time: 14:43:27

QUÉBEC

Origin: Loss of export of 692 MW to ISO-NE.

Cause: Tripping of one terminal #2 of RMCC during tests on hybrid mode 4-9, when a transient fault was simulated on Line 2 at Sandy Pond Terminal.

Generation Loss: _____ MW Percent of Loss to First Contingency: 69,2 %
 Load Loss: 692 MW Maximum Interchange Deviation: 659 MW

Time to return ACE to initial (T-4) value: 01:55 minutes
 Time to return ACE to zero: 01:38 minutes

Runback? (Y/N) N
 Included in DCS? (Y/N) Y
 Reviewed by Area? (Y/N) N
 Reviewed by CO-1? (Y/N) N

Freq. (@T-4) Freq. (after) Freq. Dev.
59,9800 59,9930 0,0130

Comments: This test resulted in the loss of terminal #2 of RMCC while nothing should have occurred.
The method used at Sandy Pond Terminal to simulate the fault seems to be the problem.

See Comment File: _____ See Graph File(s): _____

INTERCHANGE TABLE

T = Time of Disturbance

Time	F	Sched	Actual	ACE	Time	F	Sched	Actual	ACE
T-60 sec					T+32 sec	60,1637	2004	1489	615
T-56 sec	59,9967	2004	2077	-30	T+36 sec	60,1200	2004	1494	557
T-52 sec	60,0073	2004	2078	-7	T+40 sec	60,0973	2004	1492	430
T-48 sec	60,0160	2004	2083	42	T+44 sec	60,0830	2004	1492	353
T-44 sec	59,9983	2004	2081	38	T+48 sec	60,0700	2004	1486	308
T-40 sec	60,0010	2004	2078	-6	T+52 sec	60,0567	2004	1478	257
T-36 sec	59,9980	2004	2078	6	T+56 sec	60,0317	2004	1473	205
T-32 sec	60,0037	2004	2079	-5	T+60 sec	60,0280	2004	1472	165
T-28 sec	60,0137	2004	2083	27	T+2 min	59,9660	2004	1412	-99
T-24 sec	60,0050	2004	2077	56	T+3 min	60,0190	2004	1425	80
T-20 sec	59,9903	2004	2076	5	T+4 min	59,9890	2004	1432	22
T-16 sec	59,9750	2004	2079	-51	T+5 min	59,9510	2004	1421	-121
T-12 sec	59,9720	2004	2076	-110	T+6 min	60,0150	2004	1498	55
T-08 sec	59,9800	2004	2075	-98	T+7 min	59,9780	2004	1505	-117
T-04 sec	59,9813	2004	2078	-77	T+8 min	59,9850	2004	1558	-1
T=0 sec	59,9980	2004	1419	-68	T+9 min	59,9950	2004	1626	-31
T+04 sec	60,0887	2004	1478	11	T+10 min	59,9970	2004	1658	5
T+08 sec	60,5543	2004	1460	432	T+11 min	59,9700	2004	1693	-143
T+12 sec	60,3310	2004	1527	1813	T+12 min	59,9800	2004	1747	-91
T+16 sec	60,0910	2004	1521	1093	T+13 min	60,0090	2004	1803	-17
T+20 sec	60,0243	2004	1503	120	T+14 min	59,9790	2004	1840	-41
T+24 sec	60,1160	2004	1493	318	T+15 min	60,0040	2004	1898	69
T+28 sec	60,1507	2004	1482,192	490,9433					

Report No. ATR HQTE 2006 08 05 16 RMCC
QUÉBEC

Date: 08-05-06 Time: 16:05:57

Origin: Loss of export of 1334 MW to ISO-NE.

Cause: Tripping of terminals #1 and #2 of RMCC during tests on hybrid mode 4-9, when a permanent fault on the metallic return was simulated at Nicolet Terminal.

Generation Loss: _____ MW Percent of Loss to First Contingency: 133,4 %
 Load Loss: 1334 MW Maximum Interchange Deviation: 1 770 MW

Time to return ACE to initial (T-4) value: _____ minutes
 Time to return ACE to zero: 03:04 minutes

Runback? (Y/N) _____ N
 Included in DCS? (Y/N) _____ N
 Reviewed by Area? (Y/N) _____ N
 Reviewed by CO-1? (Y/N) _____ N

Freq. (@T-4) Freq. (after) Freq. Dev.
60,0000 59,9880 -0,0120

Comments: This test resulted in the loss of the whole RMCC while a power transfer from Radisson to Nicolet terminals without any transfer loss was expected.
The method used at Nicolet terminal to simulate the fault seems to be the problem.

See Comment File: _____

See Graph File(s): _____

INTERCHANGE TABLE

T = Time of Disturbance

Time	F	Sched	Actual	ACE	Time	F	Sched	Actual	ACE
T-60 sec					T+32 sec	60,30	1854	838	1156
T-56 sec	59,9950	1854	2077	-5	T+36 sec	60,24	1854	851	964
T-52 sec	60,00	1854	2073	-12	T+40 sec	60,25	1854	846	859
T-48 sec	60,00	1854	2073	-7	T+44 sec	60,26	1854	849	933
T-44 sec	59,98	1854	2068	-29	T+48 sec	60,20	1854	844	889
T-40 sec	59,97	1854	2069	-85	T+52 sec	60,16	1854	840	710
T-36 sec	59,98	1854	2071	-105	T+56 sec	60,16	1854	831	572
T-32 sec	59,99	1854	2068	-77	T+60 sec	60,18	1854	831	628
T-28 sec	60,00	1854	2066	-17	T+2 min	60,06	1854	786	196
T-24 sec	60,01	1854	2066	4	T+3 min	60,00	1854	715	7
T-20 sec	60,01	1854	2066	19	T+4 min	59,98	1854	674	-95
T-16 sec	60,01	1854	2068	24	T+5 min	59,98	1854	682	-71
T-12 sec	60,01	1854	2069	36	T+6 min	59,97	1854	664	-112
T-08 sec	60,01	1854	2059	25	T+7 min	60,00	1854	667	-39
T-04 sec	60,00	1854	2059	16	T+8 min	59,98	1854	660	-62
T=0 sec	60,01	1854	2076	20	T+9 min	60,00	1854	662	-9
T+04 sec	60,02	1854	289	43	T+10 min	59,98	1854	665	-61
T+08 sec	60,64	1854	899	69	T+11 min	59,98	1854	649	-67
T+12 sec	60,80	1854	930	3087	T+12 min	60,00	1854	650	30
T+16 sec	60,40	1854	925	2954	T+13 min	59,95	1854	686	-160
T+20 sec	60,11	1854	916	1114	T+14 min	60,01	1854	759	74
T+24 sec	60,25	1854	850	802	T+15 min	60,00	1854	755	-4
T+28 sec	60,30	1854	841	971					

Report No. ATR HQTE 2006 08 06 18 3153 LG1
QUÉBEC

Date: 08-06-06 Time: 18:05:00

Origin: Generation loss of 550 MW at La Grande-1 GS (units 1, 2, 5, 8 and 11).

Cause: Tripping of one 315-kV lines (3153) between Radisson and La Grande-1 Substations due to lightning.

Generation Loss: 550 MW Percent of Loss to First Contingency: 55 %
 Load Loss: _____ MW Maximum Interchange Deviation: 90 MW

Time to return ACE to initial (T-4) value: _____ minutes
 Time to return ACE to zero: 02:39 minutes

Runback? (Y/N) N
 Included in DCS? (Y/N) Y
 Reviewed by Area? (Y/N) N
 Reviewed by CO-1? (Y/N) N

Freq. (@T-4) 60,0200 Freq. (after) 60,0238 Freq. Dev. 0,0037

Comments: _____

See Comment File: _____ See Graph File(s): _____

INTERCHANGE TABLE

Time of Disturbance

Time	F	Sched	Actual	ACE
T-60 sec				
T-56 sec	60,0363	1080	1362	135
T-52 sec	60,0350	1080	1359	136
T-48 sec	60,0220	1080	1351	135
T-44 sec	59,9997	1080	1336	58
T-40 sec	59,9997	1080	1332	-11
T-36 sec	60,0090	1080	1326	8
T-32 sec	59,9990	1080	1315	26
T-28 sec	59,9937	1080	1310	-16
T-24 sec	60,0080	1080	1304	-23
T-20 sec	60,0210	1080	1299	47
T-16 sec	60,0243	1080	1289	80
T-12 sec	60,0048	1080	1286	99
T-08 sec	60,0313	1080	1285	127
T-04 sec	60,0240	1080	1270	116
T=0 sec	59,9910	1080	1254	81
T+04 sec	59,6723	1080	1192	-74
T+08 sec	59,5137	1080	1211	-1536
T+12 sec	59,8160	1080	1197	-1202
T+16 sec	59,9387	1080	1180	-522
T+20 sec	59,9530	1080	1202	-114
T+24 sec	59,8810	1080	1191	-290
T+28 sec	59,8437	1080	1192	-499

Time	F	Sched	Actual	ACE
T+32 sec	59,8513	1080	1188	-627
T+36 sec	59,9060	1080	1188	-468
T+40 sec	59,9407	1080	1188	-314
T+44 sec	59,9687	1080	1211	-192
T+48 sec	59,9580	1080	1210	-142
T+52 sec	59,9500	1080	1215	-165
T+56 sec	59,9587	1080	1221	-197
T+60 sec	59,9760	1080	1222	-166
T+2 min	60,0990	1080	1281	349
T+3 min	59,9610	1080	1230	-186
T+4 min	60,0090	1080	1241	-29
T+5 min	60,0230	1080	1244	58
T+6 min	60,0240	1080	1250	73
T+7 min	60,0450	1080	1245	116
T+8 min	60,0150	1080	1245	84
T+9 min	60,0380	1080	1246	110
T+10 min	60,0130	1080	1245	99
T+11 min	60,0130	1080	1241	32
T+12 min	59,9980	1080	1245	10
T+13 min	60,0010	1080	1238	53
T+14 min	59,9760	1080	1237	-119
T+15 min	59,9890	1080	1229	-60

Report No. ATR HQTE 2006 08 15 14 Gentilly
QUÉBEC

Date: 08-15-06 Time: 14:18:06

Origin: Generation loss of 635 MW at Gentilly-2 GS (unit 2).

Cause: Tripping of unit 2 when a technician working in the control panel of the transformer initiated the gas protection.

Generation Loss: 635 MW
 Load Loss: MW

Percent of Loss to First Contingency: 63,5 %
 Maximum Interchange Deviation: 94 MW

Time to return ACE to initial (T-4) value: minutes
 Time to return ACE to zero: 02:53 minutes

Runback? (Y/N) N
 Included in DCS? (Y/N) Y
 Reviewed by Area? (Y/N) N
 Reviewed by CO-1? (Y/N) N

Freq. (@T-4) 60,0047 Freq. (after) 60,0120 Freq. Dev. 0,0073

Comments: _____

See Comment File: _____ See Graph File(s): _____

INTERCHANGE TABLE

T = Time of Disturbance

Time	F	Sched	Actual	ACE	Time	F	Sched	Actual	ACE
T-60 sec					T+32 sec	59,8703	2339	2467	-397
T-56 sec	60,0010	2339	2560	0	T+36 sec	59,8730	2339	2469	-560
T-52 sec	60,0030	2339	2554	-2	T+40 sec	59,8823	2339	2476	-570
T-48 sec	60,0080	2339	2554	21	T+44 sec	59,9083	2339	2477	-520
T-44 sec	60,0083	2339	2545	36	T+48 sec	59,9530	2339	2481	-345
T-40 sec	60,0057	2339	2541	35	T+52 sec	59,9850	2339	2474	-168
T-36 sec	59,9940	2339	2549	21	T+56 sec	59,9837	2339	2485	-30
T-32 sec	59,9840	2339	2543	-42	T+60 sec	59,9750	2339	2478	-85
T-28 sec	59,9887	2339	2539	-71	T+2 min	59,9420	2339	2503	-285
T-24 sec	59,9930	2339	2533	-39	T+3 min	60,0040	2339	2524	37
T-20 sec	59,9987	2339	2537	-30	T+4 min	59,9080	2339	2512	-359
T-16 sec	60,0140	2339	2536	16	T+5 min	59,9880	2339	2524	-85
T-12 sec	60,0100	2339	2529	78	T+6 min	60,0110	2339	2523	27
T-08 sec	60,0060	2339	2535	37	T+7 min	60,0070	2339	2534	16
T-04 sec	60,0047	2339	2527	33	T+8 min	59,9910	2339	2542	-54
T=0 sec	59,9860	2339	2499	15	T+9 min	60,0260	2339	2536	107
T+04 sec	59,7327	2339	2433	-89	T+10 min	60,0130	2339	2526	55
T+08 sec	59,5077	2339	2480	-1484	T+11 min	60,0200	2339	2543	85
T+12 sec	59,8100	2339	2470	-1449	T+12 min	60,0420	2339	2535	182
T+16 sec	59,9593	2339	2472	-654	T+13 min	60,0060	2339	2527	22
T+20 sec	60,0053	2339	2475	-11	T+14 min	60,0080	2339	2546	63
T+24 sec	59,9640	2339	2477	-91	T+15 min	59,9920	2339	2543	-28
T+28 sec	60,2970	2339	2478,269	-186,68					

Report No. ATR_HQTE_2006_09_08_18_LG2

Date: 09-08-06 Time: 18:09:03

QUÉBEC

Origin: Generation loss of 547 MW at La Grance-2 GS (units #15 and #16).

Cause: Tripping of one 735/13,8kV Transformer (T8) on a high temperature alarm due to a faulty temperature detector.

Generation Loss: 547 MW Percent of Loss to First Contingency: 54,7 %
 Load Loss: _____ MW Maximum Interchange Deviation: 58 MW

Time to return ACE to initial (T-4) value: 01:21 minutes
 Time to return ACE to zero: 01:50 minutes

Runback? (Y/N) N
 Included in DCS? (Y/N) Y
 Reviewed by Area? (Y/N) N
 Reviewed by CO-1? (Y/N) N

Freq. (@T-4) 59,9400 Freq. (after) 59,9930 Freq. Dev. 0,0530

Comments: _____

See Comment File: _____ See Graph File(s): _____

INTERCHANGE TABLE

T = Time of Disturbance

Time	F	Sched	Actual	ACE	Time	F	Sched	Actual	ACE
T-60 sec					T+32 sec	59,8883	266	139	-264
T-56 sec					T+36 sec	59,8460	266	131	-498
T-52 sec	60,0303	266	186	49	T+40 sec	59,8420	266	135	-621
T-48 sec	60,0420	266	178	145	T+44 sec	59,8697	266	131	-609
T-44 sec	59,9873	266	184	119	T+48 sec	59,8880	266	128	-466
T-40 sec	59,9380	266	184	-122	T+52 sec	59,8867	266	124	-417
T-36 sec	59,9400	266	187	-278	T+56 sec	59,8870	266	131	-438
T-32 sec	59,9613	266	181	-219	T+60 sec	59,8860	266	131	-432
T-28 sec	59,9760	266	178	-138	T+2 min	60,0170	266	168	87
T-24 sec	59,9810	266	179	-86	T+3 min	60,0220	266	187	120
T-20 sec	59,9820	266	175	-72	T+4 min	59,9870	266	172	-84
T-16 sec	59,9753	266	174	-80	T+5 min	59,9980	266	163	-93
T-12 sec	59,9520	266	169	-103	T+6 min	59,9690	266	177	-102
T-08 sec	59,9370	266	162	-213	T+7 min	60,0310	266	188	93
T-04 sec	59,9443	266	171	-248	T+8 min	59,9950	266	185	20
T=0 sec	59,9530	266	170	-211	T+9 min	60,0460	266	183	78
T+04 sec	59,8743	266	158	-170	T+10 min	59,9870	266	184	-6
T+08 sec	59,4740	266	169	-554	T+11 min	60,0120	266	181	43
T+12 sec	59,6840	266	144	-1639	T+12 min	60,0170	266	192	84
T+16 sec	59,8653	266	132	-1065	T+13 min	59,9910	266	202	-73
T+20 sec	59,9533	266	113	-341	T+14 min	59,9730	266	207	-52
T+24 sec	59,9410	266	132	-268	T+15 min	60,0330	266	218	93
T+28 sec	59,9330	266	136,3367	-211,929					

Report No. ATR_HQTE_2006_09_20_16_TCE

Date: 09-20-06 Time: 16:17:36

QUÉBEC

Origin: Generation loss at TransCanada Energy GS (units #1 and #2).

Cause: Forced outage due to an electrical problem.

Generation Loss: 507 MW Percent of Loss to First Contingency: 50,7 %
 Load Loss: _____ MW Maximum Interchange Deviation: 479 MW

Time to return ACE to initial (T-4) value: 01:07 minutes
 Time to return ACE to zero: 01:08 minutes
 Runback? (Y/N) N
 Included in DCS? (Y/N) Y
 Freq. (@T-4) 59,9800 Freq. (after) 59,9880 Freq. Dev. 0,0080
 Reviewed by Area? (Y/N) N
 Reviewed by CO-1? (Y/N) N

Comments: _____

See Comment File: _____ See Graph File(s): _____

INTERCHANGE TABLE

T = Time of Disturbance

Time	F	Sched	Actual	ACE	Time	F	Sched	Actual	ACE
T-60 sec					T+32 sec	59,87	-297	199	-347
T-56 sec					T+36 sec	59,88	-297	197	-445
T-52 sec	59,99	-297	-281	-50	T+40 sec	59,89	-297	194	-434
T-48 sec	60,00	-297	-282	-23	T+44 sec	59,90	-297	188	-414
T-44 sec	60,00	-297	-279	-14	T+48 sec	59,93	-297	198	-344
T-40 sec	60,00	-297	-274	-14	T+52 sec	59,97	-297	200	-221
T-36 sec	60,01	-297	-274	1	T+56 sec	60,01	-297	204	-53
T-32 sec	60,02	-297	-278	55	T+60 sec	60,00	-297	198	-37
T-28 sec	60,02	-297	-279	83	T+2 min	60,09	-297	252	284
T-24 sec	60,02	-297	-278	68	T+3 min	59,95	-297	230	-178
T-20 sec	60,01	-297	-270	60	T+4 min	59,99	-297	236	-7
T-16 sec	60,00	-297	-274	34	T+5 min	60,02	-297	242	37
T-12 sec	59,98	-297	-278	-42	T+6 min	59,99	-297	239	-60
T-08 sec	59,98	-297	-275	-85	T+7 min	60,00	-297	242	2
T-04 sec	59,98	-297	-276	-81	T+8 min	60,01	-297	240	47
T=0 sec	59,98	-297	-281	-59	T+9 min	60,03	-297	237	114
T+04 sec	59,82	-297	-92	-72	T+10 min	60,02	-297	233	83
T+08 sec	59,58	-297	129	-803	T+11 min	60,00	-297	231	-9
T+12 sec	59,73	-297	198	-1350	T+12 min	60,00	-297	229	21
T+16 sec	59,90	-297	185	-868	T+13 min	60,00	-297	232	12
T+20 sec	59,99	-297	177	-202	T+14 min	59,97	-297	228	-89
T+24 sec	59,95	-297	198	-144	T+15 min	60,03	-297	241	126
T+28 sec	59,92		198	-185					

Report No. ATR_HQTE_2006_12_17_14_3163_LG2A

Date: 12-17-06 Time: 14:53:12

QUÉBEC

Origin: Generation loss of 1212 MW at La Grande-2A GS (units 21, 22, 24 and 26).

Cause: Tripping of two 315-kV lines (3163 and 3162) between Radisson and LG2A Substations caused by a sparkover between earth and the main tank liner of circuit-breaker D300-26.

Generation Loss: 1212 MW Percent of Loss to First Contingency: 121,2 %
 Load Loss: _____ MW export Maximum Interchange Deviation: 179 MW

Time to return ACE to initial (T-4) value: 03:32 minutes Runback? (Y/N) N
 Time to return ACE to zero: 03:40 minutes Included in DCS? (Y/N) N

Freq. (@T-4) Freq. (after) Freq. Dev. Reviewed by Area? (Y/N) N
59,9900 60,0138 0,0237 Reviewed by CO-1? (Y/N) N

Comments: Line 3162 was tripped by the busbar protection.

See Comment File: _____ See Graph File(s): _____

INTERCHANGE TABLE

T = Time of Disturbance

Time	F	Sched	Actual	ACE	Time	F	Sched	Actual	ACE
T-60 sec					T+32 sec	59,7727	603	573	-852
T-56 sec					T+36 sec	59,7490	603	584	-996
T-52 sec	59,9967	603	632	-19	T+40 sec	59,7423	603	584	-1065
T-48 sec	59,9910	603	628	-19	T+44 sec	59,7507	603	585	-1085
T-44 sec	59,9900	603	628	-45	T+48 sec	59,7590	603	585	-1035
T-40 sec	59,9953	603	626	-41	T+52 sec	59,7737	603	583	-998
T-36 sec	59,9950	603	622	-15	T+56 sec	59,7800	603	583	-928
T-32 sec	59,9920	603	625	-26	T+60 sec	59,7730	603	581	-936
T-28 sec	59,9893	603	623	-41	T+2 min	59,7980	603	598	-860
T-24 sec	59,9840	603	624	-51	T+3 min	59,9140	603	617	-400
T-20 sec	59,9833	603	623	-74	T+4 min	60,0670	603	650	206
T-16 sec	59,9907	603	618	-67	T+5 min	60,0760	603	687	331
T-12 sec	59,9920	603	618	-30	T+6 min	59,9850	603	648	-61
T-08 sec	59,9840	603	621	-46	T+7 min	60,0320	533	601	98
T-04 sec	59,9873	603	622	-76	T+8 min	60,0370	533	588	202
T=0 sec	59,9900	603	608	-46	T+9 min	60,0180	533	577	76
T+04 sec	59,4887	603	443	-43	T+10 min	60,0380	533	578	237
T+08 sec	59,2200	603	478	-2658	T+11 min	60,0070	533	621	118
T+12 sec	59,3900	603	576	-3155	T+12 min	60,0250	533	588	91
T+16 sec	59,5887	603	577	-2343	T+13 min	60,0480	533	581	206
T+20 sec	59,7240	603	566	-1509	T+14 min	60,0380	533	583	237
T+24 sec	59,7580	603	566	-1185	T+15 min	60,0420	533	582	234
T+28 sec	59,7887	603	570	-952					

Report No. ATR_HQTE_2006_12_17_21_P1_P2

Date: 12-17-06 Time: 21:00:57

QUÉBEC

Origin: Loss of export of 1363 MW to ISONE on HVDC network (RMCC) and generation rejection of 930 MW at LG 2A GS (units 21, 22 and 23).

Cause: Tripping of Poles 1 and 2 Radisson-Sandy Pond caused by an overload on filter F5.

Generation Loss: 930 MW Percent of Loss to First Contingency: 136,3 %
 Load Loss: 1363 MW Maximum Interchange Deviation: 1 751 MW

Time to return ACE to initial (T-4) value: 01:59 minutes
 Time to return ACE to zero: 01:23 minutes

Runback? (Y/N) N
 Included in DCS? (Y/N) N
 Reviewed by Area? (Y/N) N
 Reviewed by CO-1? (Y/N) N

Freq. (@T-4) Freq. (after) Freq. Dev.
59,9800 59,9930 0,0130

Comments: The CPR (reactive-power set point) was left on manual mode after tests made the day before.

See Comment File: _____ See Graph File(s): _____

INTERCHANGE TABLE

T = Time of Disturbance

Time	F	Sched	Actual	ACE	Time	F	Sched	Actual	ACE
T-60 sec					T+32 sec	60,1000	698	-501	391
T-56 sec					T+36 sec	60,0700	698	-509	406
T-52 sec	60,0100	698	778	59	T+40 sec	60,0700	698	-511	263
T-48 sec	60,0100	698	774	58	T+44 sec	60,0533	698	-511	299
T-44 sec	59,9900	698	776	23	T+48 sec	60,0400	698	-517	246
T-40 sec	59,9900	698	780	-47	T+52 sec	60,0400	698	-522	129
T-36 sec	59,9900	698	780	-24	T+56 sec	60,0400	698	-521	158
T-32 sec	59,9767	698	775	-60	T+60 sec	60,0000	698	-530	81
T-28 sec	59,9500	698	774	-132	T+2 min	59,9800	698	-574	-132
T-24 sec	59,9500	698	773	-241	T+3 min	60,0300	698	-585	107
T-20 sec	59,9800	698	771	-194	T+4 min	60,0300	698	-651	125
T-16 sec	59,9800	698	766	-100	T+5 min	60,0200	698	-656	40
T-12 sec	59,9800	698	764	-103	T+6 min	60,0100	698	-646	111
T-08 sec	59,9800	698	764	-114	T+7 min	60,0000	698	-652	-6
T-04 sec	59,9800	698	768	-135	T+8 min	60,0100	698	-649	17
T=0 sec	59,9800	698	770	-105	T+9 min	60,0400	698	-669	148
T+04 sec	59,9800	698	-983	-105	T+10 min	60,0100	698	-669	27
T+08 sec	60,2500	698	-545	1036	T+11 min	60,0100	698	-672	-24
T+12 sec	60,2500	698	-523	579	T+12 min	60,0100	698	-673	-6
T+16 sec	60,1167	698	-505	1067	T+13 min	60,0100	698	-658	54
T+20 sec	60,1500	698	-510	945	T+14 min	60,0100	698	-667	37
T+24 sec	60,1000	698	-494	484	T+15 min	59,9800	698	-675	-88
T+28 sec	60,1000	698	-503	361					

Report No. ATR_HQTE_2006_12_20_10_Manic-5

Date: 12-20-06 Time: 10:21:09

QUÉBEC

Origin: Generation loss of 582 MW at Manic-5 GS (units 51, 52, 53 and 54).

Cause: Tripping of one 315-kV line (3031) at Micoua Substation caused by a trouble on the speed governor of unit 53 at Manic-5 GS.

Generation Loss: 582 MW Percent of Loss to First Contingency: 58,2 %
 Load Loss: _____ MW Maximum Interchange Deviation: 61 MW

Time to return ACE to initial (T-4) value: 01:30 minutes
 Time to return ACE to zero: 01:31 minutes
 Runback? (Y/N) N
 Included in DCS? (Y/N) Y
 Freq. (@T-4) Freq. (after) Freq. Dev. Reviewed by Area? (Y/N) N
59,9800 59,9880 0,0080 Reviewed by CO-1? (Y/N) N

Comments: Manic-5 GS circuit-breakers must be closed at all times due to a constructional defect.
Until they are repaired, a fault at Manic-5 GS must be eliminated by tripping a line at Micoua substation

See Comment File: _____

See Graph File(s): _____

INTERCHANGE TABLE

T = Time of Disturbance

Time	F	Sched	Actual	ACE	Time	F	Sched	Actual	ACE
T-60 sec					T+32 sec	59,88	1666	1665	-659
T-56 sec					T+36 sec	59,89	1666	1667	-673
T-52 sec	60,02	1666	1697	94	T+40 sec	59,91	1666	1672	-617
T-48 sec	60,02	1666	1698	119	T+44 sec	59,92	1666	1672	-496
T-44 sec	60,02	1666	1714	131	T+48 sec	59,93	1666	1676	-437
T-40 sec	60,02	1666	1708	119	T+52 sec	59,94	1666	1678	-379
T-36 sec	60,03	1666	1696	149	T+56 sec	59,95	1666	1674	-356
T-32 sec	60,04	1666	1703	192	T+60 sec	59,95	1666	1680	-324
T-28 sec	60,03	1666	1704	209	T+2 min	60,06	1666	1710	311
T-24 sec	60,03	1666	1710	185	T+3 min	59,98	1666	1710	-83
T-20 sec	60,02	1666	1706	150	T+4 min	59,97	1666	1696	-170
T-16 sec	60,02	1666	1705	117	T+5 min	60,01	1666	1706	89
T-12 sec	60,01	1666	1701	73	T+6 min	59,99	1666	1698	-90
T-08 sec	60,00	1666	1702	27	T+7 min	60,00	1666	1707	-21
T-04 sec	59,99	1666	1699	-6	T+8 min	60,01	1666	1707	75
T=0 sec	59,96	1666	1686	-79	T+9 min	60,00	1666	1708	13
T+04 sec	59,72	1666	1638	-247	T+10 min	60,02	1666	1705	61
T+08 sec	59,66	1666	1653	-1942	T+11 min	59,99	1666	1705	-57
T+12 sec	59,78	1666	1669	-1717	T+12 min	60,00	1666	1698	-18
T+16 sec	59,86	1666	1653	-1076	T+13 min	60,00	1666	1706	-4
T+20 sec	59,90	1666	1662	-652	T+14 min	59,99	1666	1707	-44
T+24 sec	59,89	1666	1658	-627	T+15 min	60,01	1666	1693	124
T+28 sec	59,88	1666	1667	-627					