



October 21, 2009

Loss Factor Stakeholder Team

Re: Draft Loss Factors for 2010

The AESO has completed its preliminary calculation of 2010 loss factors and the draft results are attached. The analysis includes the application of the 2010 Generic Stacking Order (GSO) results published earlier this summer to the 2010 loss factor Base Cases published on October 14 2009 on the AESO web site. The draft loss factors are determined by applying our methodology to this information. The AESO is hosting a meeting on the 2010 draft loss factors on October 27, 2009 from 9:30-11:30 at the Metropolitan Center. The AESO will be posting the final 2010 loss factors on or before November 06, 2009.

In order to provide perspective on the draft values, the AESO offers the following:

Load treatment:

- As in previous years, in the 2010 loss factor calculation, only transmission loads were *unassigned*¹. Consistent with our methodology, these loads were not included in the loss factor calculation. Therefore the loss factors are based on generation less the behind the fence load levels at all relevant Generation Buses while maintaining the appropriate GSO level at the MPID bus.
- The load used in the base cases is consistent with the latest AESO long term load forecast (fc2009).

Overall results:

- The Rainbow area has less credit or more charges than in the 2009 Loss Factors. These results are primarily due to the addition of a 240 kV line between Brintnell-Wesley Creek. In addition the flow out of Rainbow area has increased. The Rainbow area loss factors are historically sensitive to load and generation changes. A small deviation in the Rainbow Area net flow can result in a swing in the loss factors on the generators. The loss factor sensitivity in the area is consistent with previous years' findings.
- The South area receives less credit/ more charges compared to 2009. Higher generation and new generation projects have resulted in these changes to loss factors in 2010.
- The Lake Wabamun area loss factors are lower relative to the 2009 loss factors. The changes are primarily due to lower generation and higher load in the area.
- Sheerness and Battle River generation are higher and area loads are lower in most of the 2010 base cases and resulting in higher loss factors.
- The Fort McMurray area loss factors are lower [in general] in 2010 due to the new 240 kV Brintnell-Wesley Creek line even with higher generation dispatches occurring in the

¹ Please check Section 2.2 of [Loss Factor Calculation Methodology - Effective January 01, 2009](http://www.aeso.ca/downloads/Loss_Factor_Calculation_Methodology_-_Effective_January_01_2009.pdf) (http://www.aeso.ca/downloads/Loss_Factor_Calculation_Methodology_-_Effective_January_01_2009.pdf)

area. The higher dispatches have resulted in higher net flow out of the area in the cases but the additional transmission path to Edmonton helps to lower the losses.

- The AESO has included more rigorous voltage thresholds in the base case development than in previous years. Please refer to the loss factor web site for details.

Inter-Tie Losses

- Import loss factors in 2010 reflect the implementation of the 2007 Transmission Regulation.
- The settlement tie line losses are shown in Table 1

Table 1 - Tie Line Losses

Tie	Transaction Type	Loss Factor (%)	Average Loss Charge (%)	Settlement LF (%)
BC	Import	0.19	0.90	1.09
	Export	-	0.95	0.95
SK	Import	1.78	2.50	4.28
	Export	-	2.30	2.30
MATL	Import	1.26	-	1.26
	Export	-	-	-

Shift Factor:

- The preliminary shift factor for 2010 has been determined at 1.05%. The 2009 shift factor was 0.82%, representing a difference of 0.23%.

Weighting Factor:

- The AESO has applied unequal weighting factor to the raw loss factors based on historical load levels. Table 2 shows the seasonal weighting factors.

Table 2 – Seasonal Weighting Factors

	Winter		Spring		Summer		Fall	
	Duraion (Hr)	Weight	Duraion (Hr)	Weight	Duraion (Hr)	Weight	Duraion (Hr)	Weight
High	150	6.9%	50	2.3%	100	4.5%	75	3.4%
Medium	1075	49.8%	1350	61.2%	1225	55.5%	1275	58.4%
Low	935	43.3%	807	36.6%	883	40.0%	835	38.2%

Generally, the 2010 loss factors reflect changes in the AIES as would be expected through normal generation, load and transmission changes and large generator maintenance schedules.

Please provide any comments on the draft 2010 loss factors in writing to lossfactor@aeso.ca by October 30, 2009.

Yours truly,

Robert Baker, P.Eng.
Operations Forecasting, AESO

cc:
Jeff Nish
Doyle Sullivan
Ashikur Bhuyia



2010 Alberta Loss Factors - 2009-10-22, Draft

MP-ID*	Facility Name	PSS/E Bus	Normalized and Compressed Loss Factor (%)	Loss Factor Asset	Difference % in Loss Factor to System Average
0000034911	ALTAGAS PARKLAND	4235	0.11	Gen	-4.31
0000016301	Amoco Empress (163S)	262	0.52	DOS	-3.90
0000079301	ANG Cochrane (793S)	191	3.44	DOS	-0.98
NX01	BALZAC	290	0.06	Gen	-4.36
BAR	BARRIER	216	-1.17	Gen	-5.59
BR3	BATTLE RIVER #3	1491	5.13	Gen	0.71
BR4	BATTLE RIVER #4	1491	5.13	Gen	0.71
BR5	BATTLE RIVER #5	1469	4.35	Gen	-0.07
BCRK	BEAR CREEK G1	10142	-1.90	Gen	-6.32
BCR2	BEAR CREEK G2	10142	-1.90	Gen	-6.32
BPW	BEARSPAW	183	-0.74	Gen	-5.16
BLYR	BELLY RIVER IPP	447	0.00	Gen	-4.42
BIG	BIGHORN	103	2.00	Gen	-2.42
BTR1	BLUE TRAIL WIND FARM	328	1.81	Gen	-2.61
BRA	BRAZEAU	56153	1.94	Gen	-2.48
GOC1	BRIDGE CREEK	19145	0.00	Gen	-4.42
0000045411	BUCK LAKE	80	2.86	Gen	-1.56
TC01	CARSELAND	5251	0.03	Gen	-4.39
CAS	CASCADE	175	-1.88	Gen	-6.30
CR1	CASTLE RIVER	234	2.51	Gen	-1.91
EC01	CAVAILIER	247	-0.18	Gen	-4.60
CHIN	CHIN CHUTE	406	0.00	Gen	-4.42
CMH1	CITY OF MEDICINE HAT	680	0.36	Gen	-4.06
ENC1	CLOVER BAR 1	516	4.16	Gen	-0.26
ENC2	CLOVER BAR 2	516	4.16	Gen	-0.26
ENC3	CLOVER BAR 3	516	4.16	Gen	-0.26
CNR5	CNRL HORIZON	1263	6.61	Gen	2.19
CRE1	COWLEY EXPANSION 1	264	4.49	Gen	0.07
CRE2	COWLEY EXPANSION 2	264	4.49	Gen	0.07
CRE3	COWLEY NORTH	264	4.49	Gen	0.07
PKNE	COWLEY RIDGE WIND POWER PHASE1	264	4.49	Gen	0.07
CRWD	COWLEY RIDGE WIND POWER PHASE2	264	4.49	Gen	0.07
Project692_1_SUP	DAPP POWER WESTLOCK EXPANSION	99921	4.28	Gen	-0.14
DAI1	DIASHOWA	1088	-0.38	Gen	-4.80
DKSN	DICKSON DAM 1	4006	0.00	Gen	-4.42
DOWGEN15M	DOW GTG	61	4.01	Gen	-0.41
DV1	DRAYTON VALLEY PL IPP	4332	0.00	Gen	-4.42
DRW1	DRYWOOD 1	4226	1.74	Gen	-2.68
CES1	ENMAX CALGARY ENERGY CENTRE CTG	187	0.13	Gen	-4.29
CES2	ENMAX CALGARY ENERGY CENTRE STG	187	0.13	Gen	-4.29
FNG1	FORT NELSON	1016	9.85	Gen	5.43
EC04	FOSTER CREEK G1	1301	6.33	Gen	1.91
0000001511	FT MACLEOD	4237	0.94	Gen	-3.48
GN1	GENESEE 1	525	5.33	Gen	0.91
GN2	GENESEE 2	525	5.33	Gen	0.91
GN3	GENESEE 3	525	5.33	Gen	0.91
GHO	GHOST	180	-1.13	Gen	-5.55
0000022911	GLENWOOD	4245	1.38	Gen	-3.04
GPEC	GRANDE PRAIRIE ECOPOWER CENTRE	1101	-2.10	Gen	-6.52
Project723_1_SUP	GREENGATE HALKIRK WIND PROJECT	1435	5.64	Gen	1.22
HSR	HORSESHOE	171	-1.09	Gen	-5.51
HRM	HR MILNER	1147	1.49	Gen	-2.93
INT	INTERLAKES	376	-0.30	Gen	-4.72
KAN	KANANASKIS	193	-1.02	Gen	-5.44
KH1	KEEPHILLS #1	420	5.36	Gen	0.94
KH2	KEEPHILLS #2	420	5.36	Gen	0.94
Project_500_1	KEEPHILLS #3	610	4.10	Gen	-0.32
KHW1	KETTLES HILL WIND ENERGY PHASE 2	402	2.57	Gen	-1.85
IOR1	MAHKESES COLD LAKE	56789	6.63	Gen	2.21
AKE1	McBRIDE	901	1.91	Gen	-2.51
MKRC	McKAY RIVER	1274	6.07	Gen	1.65
MEG1	MEG ENERGY	405	5.33	Gen	0.91
MKR1	MUSKEG	1236	6.44	Gen	2.02
NX02	NEXEN OPTI	1241	5.62	Gen	1.20
NPP1	NORTHERN PRAIRIE POWER PROJECT	1120	-4.37	Gen	-8.79
NPC1	NORTHSTONE ELMWORTH	19134	-4.39	Gen	-8.81
NOVAGEN15M	NOVA JOFFRE	383	1.41	Gen	-3.01
Project519_1_SUP	OLD MAN RIVER WIND FARM	543	2.81	Gen	-1.61
OMRH	OLDMAN	230	2.05	Gen	-2.37
WEY1	P&G WEYERHAUSER	1141	-1.62	Gen	-6.04
Project513_1_SUP	PEACE BUTTE WIND FARM	294	2.40	Gen	-2.02
0000039611	PINCHER CREEK	4224	2.48	Gen	-1.94
POC	POCATERRA	214	-0.77	Gen	-5.19

MP-ID*	Facility Name	PSS/E Bus	Normalized and Compressed Loss Factor (%)	Loss Factor Asset	Difference % in Loss Factor to System Average
PH1	POPLAR HILL	1118	-4.77	Gen	-9.19
PR1	PRIMROSE	1302	5.18	Gen	0.76
RB1	RAINBOW 1	1031	5.36	Gen	0.94
RB2	RAINBOW 2	1032	5.39	Gen	0.97
RB3	RAINBOW 3	1033	5.50	Gen	1.08
RL1	RAINBOW 4	1035	5.76	Gen	1.34
RB5	RAINBOW 5	1037	5.32	Gen	0.90
RYMD	RAYMOND RESERVOIR	413	0.00	Gen	-4.42
TC02	REDWATER	50	3.95	Gen	-0.47
RUN	RUNDLE	56197	-1.31	Gen	-5.73
SH1	SHEERNESS #1	1484	4.03	Gen	-0.39
SH2	SHEERNESS #2	1484	4.03	Gen	-0.39
SHCG	SHELL CAROLINE	3370	-0.71	Gen	-5.13
SCTG	SHELL SCOTFORD	43	3.75	Gen	-0.67
GWW1	SODERGLEN	358	2.30	Gen	-2.12
SPR	SPRAY	310	-1.37	Gen	-5.79
0000038511	SPRING COULEE	4246	0.91	Gen	-3.51
STMY	ST MARY IPP	3448	0.00	Gen	-4.42
0000006711	STIRLING	4280	-0.06	Gen	-4.48
ST1	STURGEON 1	1166	0.17	Gen	-4.25
ST2	STURGEON 2	1166	0.17	Gen	-4.25
IEW1	SUMMERVIEW 1	336	3.34	Gen	-1.08
Project 393_2	SUMMERVIEW 2	336	3.34	Gen	-1.08
CRS1	SUMMIT CROSSFIELD ENERGY CENTRE	503	1.02	Gen	-3.40
CRS2	SUMMIT CROSSFIELD ENERGY CENTRE	503	1.02	Gen	-3.40
CRS3	SUMMIT CROSSFIELD ENERGY CENTRE	503	1.02	Gen	-3.40
SCR3	SUNCOR HILLRIDGE WIND FARM	389	0.33	Gen	-4.09
SCR2	SUNCOR MAGRATH	251	1.06	Gen	-3.36
SCR1	SUNCOR MILLENIUM	1208	6.21	Gen	1.79
SD1	SUNDANCE #1	135	5.79	Gen	1.37
SD2	SUNDANCE #2	135	5.79	Gen	1.37
SD3	SUNDANCE #3	135	5.79	Gen	1.37
SD4	SUNDANCE #4	135	5.79	Gen	1.37
SD5	SUNDANCE #5	135	5.79	Gen	1.37
SD6	SUNDANCE #6	135	5.79	Gen	1.37
SCL1	SYNCRUDE	1205	6.03	Gen	1.61
341S025	Syncrude Standby (848S)	1200	-3.80	DOS	-8.22
TAB1	TABER WIND	343	-0.10	Gen	-4.52
TAY1	TAYLOR HYDRO	670	1.68	Gen	-2.74
TAY2	TAYLOR WIND PLANT	670	1.68	Gen	-2.74
THS	THREE SISTERS	379	-1.21	Gen	-5.63
VVW2	VALLEY VIEW 2	1172	0.65	Gen	-3.77
VVW1	VALLEYVIEW	1171	0.68	Gen	-3.74
WB4	WABAMUN #4	133	5.03	Gen	0.61
WTRN	WATER IPP	3449	0.00	Gen	-4.42
0000040511	WAUPISOO	2417	2.46	Gen	-1.96
WST1	WESGEN	14	0.00	Gen	-4.42
EAGL	WHITE COURT	410	0.00	Gen	-4.42

Notes:

* MP-ID - point where loss factors assessed
 For loss factors, "-" means credit, "+" means charge
 Loss factors effective from January 01, 2010 to December 31 2010.
 System Average Losses, %: 4.42
 For more information, please visit www.aeso.ca