

May 29, 2015

Dear Loss Factor Stakeholders,

Re: **Changes to 2015 Loss Factors Due to Updated Project Information by April 30, 2015**

From January 1 to April 30, 2015, several generation projects changed ISD and/or STS. These changes and requests triggered a loss factor recalculation to determine the impact on 2015 loss factors.

The ISD and STS updates to generation projects also required adjustments to the Loss Factors Generic Stacking Order (GSO). Please refer to [Updates to 2015 Loss Factors Generic Stacking Order \(GSO\) Due to Updated Project Information Received by April 30, 2015](#) document posted on May 29, 2015 to view all the updates to the GSO.

Yours truly,

*Original signed by*

John Kehler

Senior Technical Advisor

cc: Han Yu

# Prepared For:

# Alberta Electric System Operator

# 2015 Loss Factors Recalculation

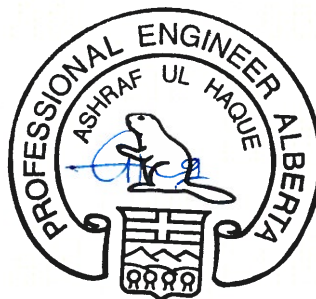
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6065.002-100-001  
2015 May 28

<b>PERMIT TO PRACTICE TESHMONT CONSULTANTS LP</b>	
Signature	<u><i>Ashraf Ul Haque</i></u>
Date	<u>2015 May 28</u>
<b>PERMIT NUMBER: P 03012</b>	
The Association of Professional Engineers, Geologists and Geophysicists of Alberta	



*May 28, 2015*

## Appendix 1: Summary of Changes Due to Loss Factor Customers

Project Number	Project Name	Season(s) of the Projects in the posting in December 2014	Season changes to 2015 Loss Factors due to Updated Project Information
<b>Generation</b>			
1550	Fortis Blue Earth Inc./JBS D.G.	None	Fall
1583	Fortis STS Increase NEPL Ralston DG	None	Summer, Fall
1589	Grande Prairie Contract Capacity Increase Lowe Lake	None	Fall
1600	Sundance Unit 3 Increase	None	Summer, Fall
1614	TransCanada Sheerness Unit 1 Generator Increase	None	Summer, Fall
1245	Cenovus Sunday Creek BTF	Summer, Fall	None
1472	Fortis Genalta Bellshill DG	Summer, Fall	Fall
1523	ATCO Genalta Cadotte Generator Increase	Winter, Spring, Summer, Fall	Fall

## Appendix 2: Updated 2015 Loss Factors

**Table 2.1 Loss Factor Effective from May 01 to December 31, 2015**

MP-ID*	Facility Name	PSS/E Bus	Normalized and Compressed Loss Factor (%)	Loss Factor Asset	Difference % in Loss Factor to System Average
0000089511	FORTIS STS INCREASE NEPL RALSTON DG	3270	2.80	Gen	-0.86

**Table 2.2 Loss Factors Effective from June 01 to December 31, 2015**

MP-ID*	Facility Name	PSS/E Bus	Normalized and Compressed Loss Factor (%)	Loss Factor Asset	Difference % in Loss Factor to System Average
0000001511	FT MACLEOD	4237	1.32	Gen	-2.34
0000006711	STIRLING	4280	2.87	Gen	-0.79
0000022911	GLENWOOD	4245	1.42	Gen	-2.24
0000025611	HARMATTAN GAS PLANT DG	4124	1.65	Gen	-2.01
0000034911	ALTAGAS PARKLAND	4235	0.89	Gen	-2.77
0000038511	SPRING COULEE	4246	2.56	Gen	-1.10
0000039611	PINCHER CREEK	4224	3.18	Gen	-0.48
0000045411	BUCK LAKE	4080	2.48	Gen	-1.18
0000065911	FORTIS GENALTA CARSON CREEK GENERATOR	4325	1.47	Gen	-2.19
372S025N	PENGROWTH LINDBERGH CO-GEN	18444	-2.13	Gen	-5.79
AFG1TX	FORTISALBERTA AL-PAC PULP MILL	2392	0.01	Gen	-3.65
AKE1	MCBRIDE	901	3.28	Gen	-0.39
ANC1	FORTIS ANC (ALBERTA NEWSPRINT COMPANY) - GENERATION	298	2.75	Gen	-0.91
ARD1	TRANSALTA ARDENVILLE WIND FARM	739	4.14	Gen	0.48
BAR	BARRIER	216	2.59	Gen	-1.07
BCR2	BEAR CREEK G2	10142	-3.93	Gen	-7.59
BCRK	BEAR CREEK G1	10142	-3.93	Gen	-7.59
BIG	BIGHORN	103	4.34	Gen	0.68
BPW	BEARSPAW	183	0.80	Gen	-2.86
BR3	BATTLE RIVER #3	1491	5.01	Gen	1.35
BR4	BATTLE RIVER #4	1491	5.01	Gen	1.35
BR5	BATTLE RIVER #5	1469	4.71	Gen	1.05
BRA	BRAZEAU	56153	2.65	Gen	-1.01
BSR1	BLACKSPRING RIDGE I WIND PROJECT	736	3.64	Gen	-0.02
BTR1	BLUE TRAIL WIND FARM	328	3.88	Gen	0.22
CAS	CASCADE	175	-0.37	Gen	-4.03
CES1	ENMAX CALGARY ENERGY CENTRE CTG	187	1.39	Gen	-2.27

MP-ID*	Facility Name	PSS/E Bus	Normalized and Compressed Loss Factor (%)	Loss Factor Asset	Difference % in Loss Factor to System Average
CES2	ENMAX CALGARY ENERGY CENTRE STG	187	1.39	Gen	-2.27
CHIN	CHIN CHUTE	406	2.91	Gen	-0.75
CMH1	CITY OF MEDICINE HAT	680	2.05	Gen	-1.61
CNR5	CNRL HORIZON	1263	2.07	Gen	-1.59
CR1	CASTLE RIVER	234	3.11	Gen	-0.55
CRE1	COWLEY EXPANSION 1	264	4.19	Gen	0.52
CRE2	COWLEY EXPANSION 2	264	4.19	Gen	0.52
CRE3	COWLEY NORTH	264	4.19	Gen	0.52
CRR1	ENEL ALBERTA CASTLE ROCK WIND FARM	221	3.30	Gen	-0.36
CRS1	ENMAX CROSSFIELD ENERGY CENTER	503	1.69	Gen	-1.97
CRS2	ENMAX CROSSFIELD ENERGY CENTER	503	1.69	Gen	-1.97
CRS3	ENMAX CROSSFIELD ENERGY CENTER	503	1.69	Gen	-1.97
CRWD	COWLEY RIDGE WIND POWER PHASE2	264	4.19	Gen	0.52
DAI1	DIASHOWA	1088	-1.84	Gen	-5.50
DOWGEN15M	DOW GTG	61	2.37	Gen	-1.29
DRW1	DRYWOOD 1	4226	1.63	Gen	-2.03
EAGL	WHITE COURT	410	3.15	Gen	-0.51
EC01	CAVAILIER	247	2.44	Gen	-1.22
EC04	FOSTER CREEK G1	1301	1.57	Gen	-2.09
EGC1	ENMAX SHEPARD ENERGY CENTRE	772	1.58	Gen	-2.08
ENC1	CLOVER BAR 1	516	3.05	Gen	-0.61
ENC2	CLOVER BAR 2	516	3.05	Gen	-0.61
ENC3	CLOVER BAR 3	516	3.05	Gen	-0.61
FNG1	FORT NELSON	20000	-2.10	Gen	-5.76
GHO	GHOST	180	1.04	Gen	-2.62
GN1	GENESEE 1	525	4.63	Gen	0.97
GN2	GENESEE 2	525	4.63	Gen	0.97
GN3	GENESEE 3	525	4.63	Gen	0.97
GPEC	GRANDE PRAIRIE ECOPOWER CENTRE	1101	-4.27	Gen	-7.93
GWW1	SODERGLEN	358	3.81	Gen	0.15
HAL1	CAPITAL POWER HALKIRK WIND PROJECT	1435	4.71	Gen	1.04
HRM	HR MILNER	1147	-1.65	Gen	-5.32
HSH	HORSESHOE	171	0.98	Gen	-2.68
IEW1	SUMMERVIEW 1	336	3.52	Gen	-0.14
IEW2	SUMMERVIEW 2	336	3.52	Gen	-0.14
INT	INTERLAKES	376	2.31	Gen	-1.35
IOR1	MAHKESES COLD LAKE	56789	0.23	Gen	-3.43
IOR3	IMPERIAL OIL BTF GENERATOR ADDITION	1610	2.50	Gen	-1.16
KAN	KANANASKIS	193	0.74	Gen	-2.92
KH1	KEEPHILLS #1	420	4.77	Gen	1.11
KH2	KEEPHILLS #2	420	4.77	Gen	1.11
KH3	KEEPHILLS #3	610	4.62	Gen	0.96

MP-ID*	Facility Name	PSS/E Bus	Normalized and Compressed Loss Factor (%)	Loss Factor Asset	Difference % in Loss Factor to System Average
KHW1	KETTLES HILL WIND ENERGY PHASE 2	402	3.33	Gen	-0.33
MATLIMP	MONTANA TIE LINE	451	2.53	Gen	-1.13
MEG1	MEG ENERGY	405	1.40	Gen	-2.26
MKR1	MUSKEG	1236	2.85	Gen	-0.81
MKRC	MCKAY RIVER	1274	2.99	Gen	-0.67
NEP1	GHOST PINE WIND FARM	603	3.94	Gen	0.28
NOVAGEN15M	NOVA JOFFRE	383	1.71	Gen	-1.95
NPC1	NORTHSTONE ELMWORTH	19134	-6.52	Gen	-10.18
NPP1	NORTHERN PRAIRIE POWER PROJECT	1120	-6.73	Gen	-10.39
NRG3	NRGREEN WINDFALL POWER GENERATING STATION	1674	1.98	Gen	-1.68
NX01	BALZAC	290	1.54	Gen	-2.12
NX02	NEXEN OPTI	1241	1.84	Gen	-1.82
OMRH	OLDMAN	230	3.35	Gen	-0.31
OWF1	ALBERTA WIND ENERGY OLD MAN RIVER WIND FARM	61543	3.92	Gen	0.26
PH1	POPLAR HILL	1118	-6.88	Gen	-10.54
PKNE	COWLEY RIDGE WIND POWER PHASE1	264	4.19	Gen	0.52
POC	POCATERRA	214	1.59	Gen	-2.07
PR1	PRIMROSE	1302	0.99	Gen	-2.67
Project1472_1_GN	FORTIS GENALTA BELLSHILL DG	4078	3.71	Gen	0.05
Project1523_1_GN	ATCO GENALTA CADOTTED GENERATOR INCREASE	19083	-1.73	Gen	-5.39
Project1550_1_GN	FORTIS BLUE EARTH INC./JBS D.G.	4445	3.79	Gen	0.13
RB1	RAINBOW 1	1031	-2.84	Gen	-6.50
RB2	RAINBOW 2	1032	-2.84	Gen	-6.50
RB3	RAINBOW 3	1033	-2.59	Gen	-6.25
RB5	RAINBOW 5	1037	-2.65	Gen	-6.31
RL1	RAINBOW 4	1035	-2.26	Gen	-5.92
RUN	RUNDLE	195	1.41	Gen	-2.25
RYMD	RAYMOND RESERVOIR	413	5.11	Gen	1.45
SCL1	SYNCRUDE	1205	3.31	Gen	-0.35
SCR1	SUNCOR MILLENIUM	1208	3.28	Gen	-0.38
SCR2	SUNCOR MAGRATH	251	3.00	Gen	-0.66
SCR3	SUNCOR HILLRIDGE WIND FARM	389	2.01	Gen	-1.65
SCR4	SUNCOR WINTERING HILLS WIND ENERGY PROJECT	759	5.15	Gen	1.49
SCTG	SHELL SCOTFORD	43	2.25	Gen	-1.41
SD1	SUNDANCE #1	135	5.05	Gen	1.39
SD2	SUNDANCE #2	135	5.05	Gen	1.39
SD3	SUNDANCE #3	135	5.05	Gen	1.39
SD4	SUNDANCE #4	135	5.05	Gen	1.39
SD5	SUNDANCE #5	135	5.05	Gen	1.39
SD6	SUNDANCE #6	135	5.05	Gen	1.39
SH1	SHEERNESS #1	1484	4.53	Gen	0.87
SH2	SHEERNESS #2	1484	4.53	Gen	0.87

MP-ID*	Facility Name	PSS/E Bus	Normalized and Compressed Loss Factor (%)	Loss Factor Asset	Difference % in Loss Factor to System Average
SHCG	SHELL CAROLINE	370	-0.11	Gen	-3.77
SPR	SPRAY	310	1.25	Gen	-2.41
ST1	STURGEON 1	1166	-0.55	Gen	-4.21
ST2	STURGEON 2	1166	-0.55	Gen	-4.21
TAB1	TABER WIND	343	0.78	Gen	-2.88
TAY1	TAYLOR HYDRO	670	4.05	Gen	0.39
TC01	CARSELAND	5251	1.78	Gen	-1.88
TC02	REDWATER	50	1.96	Gen	-1.71
THS	THREE SISTERS	379	1.13	Gen	-2.53
VVW1	VALLEYVIEW	1172	-0.50	Gen	-4.16
VVW2	ATCO VALLEY VIEW 2	1172	-0.50	Gen	-4.16
WEY1	P&G WEYERHAUSER	1140	-4.04	Gen	-7.71
WST1	WESGEN	14	0.00	Gen	-3.66
0000079301	ANG COCHRANE (793S)	191	1.42	DOS	-2.24
321S033	DAISHOWA-MARUBENI INTERNATIONAL LTD.	1087	2.61	DOS	-1.05

**Table 2.3 2015 Recalculation Tie Loss Factors**

Tie	Transaction Type	Loss Factor (%)	Average Loss Charge (%)	Settlement LF (%)
BC	Import	1.76	0.80	2.56
	Export	-	0.77	0.77
SK	Import	3.90	2.50	6.40
	Export	-	2.30	2.30

NOTES:

\* MP-ID - point where loss factors assessed  
 For loss factors, "-" means credit, "+" means charge  
 System Average Losses, %: **3.66**  
 For more information, please visit [www.aeso.ca](http://www.aeso.ca)