

2013 Loss Factors



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1 Purpose

The purpose of this document is to present the 2013 final loss factors along with a brief explanation of the results or changes compared to [2012 Recalculated Loss Factors](#). A loss factor map is included (Appendix III). The loss factors published in this document will be effective from January 01, 2013 to December 31, 2013.

2 Introduction

The AESO has completed the 2013 loss factor process. The 2013 loss factors are shown in Table 1, and settlement loss factors of the tie lines are shown in Table 2. Please note values in Table 2 may not add due to rounding. The process includes the application of the 2013 Generic Stacking Order (GSO) published earlier in the fall and the 2013 Base Cases published on the AESO web site in conjunction with this document. Both the GSO and the Base Cases have been updated and posted based on stakeholder input or more current information during the course of the final calculations. The requirements of the 2007 Transmission Regulation are included.

The loss factor calculation uses four key inputs:

- 1) 2013 Generic Stacking Order (GSO)
- 2) New project data
- 3) Loss factor base cases based on 2013 GSO, load and topology forecast
- 4) Annual energy and loss volume forecast

The Rule governing the determination of the loss factors is located at www.aeso.ca > Rules & Standards > ISO Rules > Current ISO Rules.

Table 1 – 2013 Final Loss Factors

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	0.10	Gen	-3.74
NX01	BALZAC	290	0.37	Gen	-3.47
BAR	BARRIER	216	-0.26	Gen	-4.09
BR3	BATTLE RIVER #3	1491	5.62	Gen	1.79
BR4	BATTLE RIVER #4	1491	5.62	Gen	1.79
BR5	BATTLE RIVER #5	1469	5.12	Gen	1.28
BCRK	BEAR CREEK G1	10142	-2.53	Gen	-6.37
BCR2	BEAR CREEK G2	10142	-2.53	Gen	-6.37
BPW	BEARSPAW	184	-0.40	Gen	-4.23
BIG	BIGHORN	103	2.77	Gen	-1.07
BTR1	BLUE TRAIL WIND FARM	328	3.17	Gen	-0.66
BRA	BRAZEAU	56153	2.09	Gen	-1.74
GOC1	BRIDGE CREEK	19145	0.00	Gen	-3.83
0000045411	BUCK LAKE	4080	2.19	Gen	-1.64
TC01	CARSELAND	5251	0.60	Gen	-3.23
CAS	CASCADE	175	-0.82	Gen	-4.65
CR1	CASTLE RIVER	234	2.38	Gen	-1.45
CRR1	Enel Alberta Castle Rock Wind Farm	221	2.39	Gen	-1.45
EC01	CAVALIER	247	1.27	Gen	-2.56
CHIN	CHIN CHUTE	406	1.86	Gen	-1.98
CMH1	CITY OF MEDICINE HAT	680	0.51	Gen	-3.33
ENC1	CLOVER BAR 1	516	3.50	Gen	-0.33
ENC2	CLOVER BAR 2	516	3.50	Gen	-0.33
ENC3	CLOVER BAR 3	516	3.50	Gen	-0.33
CNR5	CNRL HORIZON	1263	5.17	Gen	1.33
CRE1	COWLEY EXPANSION 1	264	3.77	Gen	-0.06
CRE2	COWLEY EXPANSION 2	264	3.77	Gen	-0.06
CRE3	COWLEY NORTH	264	3.77	Gen	-0.06
PKNE	COWLEY RIDGE WIND POWER PHASE1	264	3.77	Gen	-0.06
CRWD	COWLEY RIDGE WIND POWER PHASE2	264	3.77	Gen	-0.06
DAI1	DIASHOWA	1088	-0.95	Gen	-4.79
DOWGEN15M	DOW GTG	61	3.27	Gen	-0.57
DV1	DRAYTON VALLEY PL IPP	4332	0.00	Gen	-3.83
DRW1	DRYWOOD 1	4226	2.32	Gen	-1.52
CES1	ENMAX CALGARY ENERGY CENTRE CTG	187	0.47	Gen	-3.36
CES2	ENMAX CALGARY ENERGY CENTRE STG	187	0.47	Gen	-3.36
CRS1	ENMAX CROSSFIELD ENERGY CENTER	503	0.80	Gen	-3.03
CRS2	ENMAX CROSSFIELD ENERGY CENTER	503	0.80	Gen	-3.03
CRS3	ENMAX CROSSFIELD ENERGY CENTER	503	0.80	Gen	-3.03
FNG1	FORT NELSON	20000	3.64	Gen	-0.19
AFG1TX	FORTISALBERTA AL-PAC PULP MILL	392	0.48	Gen	-3.35
EC04	FOSTER CREEK G1	1301	3.97	Gen	0.13
0000001511	FT MACLEOD	4237	1.17	Gen	-2.67
GN1	GENESEE 1	525	4.94	Gen	1.11
GN2	GENESEE 2	525	4.94	Gen	1.11
GN3	GENESEE 3	525	4.94	Gen	1.11
GHO	GHOST	180	-0.47	Gen	-4.30
NEP1	GHOST PINE WIND FARM	603	3.87	Gen	0.04
0000022911	GLENWOOD	4245	1.90	Gen	-1.93
GPEC	GRANDE PRAIRIE ECOPOWER CENTRE	1101	-2.90	Gen	-6.73
HAL1	CAPITAL POWER HALKIRK WIND PROJECT	1435	4.96	Gen	1.13
0000025611	HARMATTAN GAS PLANT DG	4123	-0.63	Gen	-4.47
HSH	HORSESHOE	171	-0.29	Gen	-4.12
HRM	HR MILNER	1147	0.02	Gen	-3.81
INT	INTERLAKES	376	1.14	Gen	-2.69
KAN	KANANASKIS	193	-0.27	Gen	-4.10
KH1	KEEPHILLS #1	420	5.07	Gen	1.24
KH2	KEEPHILLS #2	420	5.07	Gen	1.24
KH3	KEEPHILLS #3	610	4.88	Gen	1.05
KHW1	KETTLES HILL WIND ENERGY PHASE 2	402	2.58	Gen	-1.26
IOR1	MAHKESES COLD LAKE	56789	5.04	Gen	1.20
AKE1	MCBRIDE	901	2.29	Gen	-1.55
MKRC	MCKAY RIVER	1274	4.98	Gen	1.15
MEG1	MEG ENERGY	405	4.24	Gen	0.41
MATLIMP	MONTANA TIE LINE	451	2.49	Gen	-1.34
MKR1	MUSKEG	1236	4.94	Gen	1.10
NX02	NEXEN OPTI	1241	4.70	Gen	0.86
NPP1	NORTHERN PRAIRIE POWER PROJECT	1120	-4.81	Gen	-8.65
NPC1	NORTHSTONE ELMWORTH	1134	-5.01	Gen	-8.85
NOVAGEN15M	NOVA JOFFRE	383	1.48	Gen	-2.35
OMRH	OLDMAN	230	2.94	Gen	-0.90
WEY1	P&G WEYERHAUSER	1140	-2.60	Gen	-6.43
0000039611	PINCHER CREEK	4224	2.40	Gen	-1.44
POC	POCATERRA	214	0.60	Gen	-3.23
PH1	POPLAR HILL	1118	-4.89	Gen	-8.73

PR1	PRIMROSE	1302	3.34	Gen	-0.49
RB1	RAINBOW 1	1031	2.13	Gen	-1.71
RB2	RAINBOW 2	1032	2.50	Gen	-1.34
RB3	RAINBOW 3	1028	2.16	Gen	-1.67
RL1	RAINBOW 4	83	2.11	Gen	-1.72
RB5	RAINBOW 5	1037	2.40	Gen	-1.43
RYMD	RAYMOND RESERVOIR	413	3.34	Gen	-0.49
TC02	REDWATER	50	3.04	Gen	-0.79
RUN	RUNDLE	195	-0.52	Gen	-4.36
SH1	SHEERNESS #1	1484	4.60	Gen	0.76
SH2	SHEERNESS #2	1484	4.60	Gen	0.76
SHCG	SHELL CAROLINE	370	-0.16	Gen	-3.99
SCTG	SHELL SCOTFORD	43	2.89	Gen	-0.94
GWW1	SODERGLÉN	358	3.09	Gen	-0.74
SPR	SPRAY	310	-0.46	Gen	-4.30
0000038511	SPRING COULEE	4246	1.67	Gen	-2.16
0000006711	STIRLING	4280	0.93	Gen	-2.90
ST1	STURGEON 1	1166	-0.50	Gen	-4.33
ST2	STURGEON 2	1166	-0.50	Gen	-4.33
IEW1	SUMMERVIEW 1	336	3.27	Gen	-0.57
IEW2	SUMMERVIEW 2	336	3.27	Gen	-0.57
SCR3	SUNCOR HILLRIDGE WIND FARM	389	1.36	Gen	-2.47
SCR2	SUNCOR MAGRATH	251	2.15	Gen	-1.68
SCR1	SUNCOR MILLENIUM	1208	5.33	Gen	1.50
SCR4	SUNCOR WINTERING HILLS WIND ENERGY PROJECT	759	4.60	Gen	0.77
SD3	SUNDANCE #3	135	4.02	Gen	0.19
SD4	SUNDANCE #4	135	4.02	Gen	0.19
SD5	SUNDANCE #5	135	4.02	Gen	0.19
SD6	SUNDANCE #6	135	4.02	Gen	0.19
SCL1	SYNCRUDE	1205	5.34	Gen	1.51
TAB1	TABER WIND	343	0.77	Gen	-3.07
TAY1	TAYLOR HYDRO	670	2.50	Gen	-1.33
THS	THREE SISTERS	379	-0.48	Gen	-4.31
ARD1	TRANSALTA ARDENVILLE WIND FARM	739	3.48	Gen	-0.36
VVW2	ATCO VALLEY VIEW 2	1172	-0.33	Gen	-4.16
VVW1	VALLEYVIEW	1172	-0.33	Gen	-4.16
WST1	WESGEN	21	0.00	Gen	-3.83
EAGL	WHITE COURT	410	0.00	Gen	-3.83
Project739_1_GEN	NRGreen Windfall Power Generating Station	1674	1.42	Gen	-2.42
0000016301	Amoco Empress (163S)	262	-0.23	DOS	-4.07
0000079301	ANG Cochrane (793S)	191	2.70	DOS	-1.14
341S025	Syncrude Standby (848S)	1200	-2.76	DOS	-6.60

Notes:

* MP-ID - point where loss factors assessed

For loss factors, "-" means credit, "+" means charge

Loss factors effective from January 01, 2013 to December 31 2013.

System Average Losses, %: **3.83**

For more information, please visit www.aeso.ca

Table 2 – 2013 Tie Loss Factors

Tie	Transaction Type	Loss Factor (%)	Average Loss Charge (%)	Settlement LF (%)
BC	Import	1.05	0.94	1.99
	Export	-	0.94	0.94
SK	Import	2.30	2.50	4.80
	Export	-	2.30	2.30

3 2013 Loss Factors Overview

The following items provide an overview of 2013 loss factor process:

- 1) Load Treatment in the Loss Factor Software – In the 2013 loss factor calculation, only transmission loads are unassigned¹, all non-transmission loads, i.e., “behind-the-fence” loads, are assigned to generators within their facility of operation. The loss factors are based on generation less the non-transmission load while maintaining the appropriate GSO dispatch at the MPID bus.
- 2) Generation & Load Levels – The 2013 Generic Stacking Order was used to populate the loss factor base cases for the 2013 loss factor calculation. The 2013 loss factors use actual average generation levels to determine loss factors based on the AESO Rule². Please refer to Appendix-I for a case comparison. The total gross generation level in 2013 is higher than in the 2012 recalculated cases, due primarily to the new generation projects coming in service from late 2012 to 2013. The load for the 2013 cases has been scaled down in eleven of the twelve cases to meet the total GSO capacity. The seasonal load duration curves are included in Appendix II.
- 3) Additions of Generation –Several new generation facilities were added in the 2013 loss factor base cases, including NRGreen Windfall Power Generating Station, MEG Christina Lake SAGD/Cogen 2 Plant, Montana Tie Line Import, and Enmax Calgary Energy Center STG upgrade. These projects were added according to their in-service-date.
- 4) Small Power Research and Development (SPR&D) Generators – The SPR&D Act exempted a number of generators from paying transmission losses based on a SPR&D contract. These contracts were valid for 20 years and starting in 2011, some of the SPR&D contracts have begun to expire. Accordingly, former SPR&D contract holders Dickson Dam, Saint Mary Dam IPP and Waterton Dam IPP are not included in the 2013 loss factor calculation, while Raymond Reservoir and Chin Chute are partially included in the 2013 loss factor calculation.
- 5) ISD Equivalentents – In the 2013 cases, Industrial System Designations (ISDs) are modeled in the same way as they were modeled in the 2012 cases, with exception of MEG Energy and Foster Creek G1 which are reduced to their interface buses respectively. The total ISD load and generation are modeled at the ISD’s AIES interface bus.
- 6) Topology – The major 2013 planned transmission project additions include the large staged reinforcement projects including the transmission development in Hanna, Fort McMurray, North

¹ Please see Section 2.2 of [Loss Factor Calculation Methodology - Effective January 01, 2009](#)

² Please see Section 5 of the Appendix 1 of [Section 501.10 Transmission Loss Factor Requirements](#)

Central, and Central East regions, and the staged Edmonton/Wabamun upgrade project. All other 2013 planned system additions have also been modeled in the 2013 cases.

- 7) Average System Losses and Shift Factor (SF) – the annual loss forecast for 2013 is 2.35 TWH or 3.83%. Please refer to Table 3 for a comparison of the system average loss and shift factor.

Table 3 – 2013 vs. 2012 Recalculated Final Loss Factors

	2013	2012
System average loss	3.83%	3.61%
Shift Factor	0.86%	0.46%
Loss recovered by Raw Loss Factor	2.97%	3.15%

- 8) Weighting Factor – In a continuing effort to enhance accuracy, the AESO has applied unequal weighting factors to the raw loss factors based on forecast load levels. Please see Table 4 for the 2013 weighting factors used in the loss factor calculation.

Table 4 – 2013 Weighting Factors

	Winter		Spring		Summer		Fall	
	Duration (hr)	Weight (%)	Duration (hr)	Weight (%)	Duration (hr)	Weight (%)	Duration (hr)	Weight (%)
High	75	3.5	50	2.3	100	4.5	125	5.7
Medium	1925	89.1	1375	62.3	2050	92.8	1250	57.2
Low	160	7.4	782	35.4	58	2.6	810	37.1

4 Updates from 2013 Draft to Final Base Cases

The final base cases differ from the previously posted draft cases in the following aspects.

- 1) The models reflecting the ISDs MEG Energy (MEG1) and Foster Creek G1 (EC04) have been reduced to their interface bus to better represent its actual operation.
- 2) Additional generation has been dispatched from the Enmax Calgary Energy Center STG (CES2) to account for the increase in their supply transmission service (STS) contract in 2013.
- 3) Montana Tie line Import (MATLIMP) has been removed from spring base cases according to updated in-service-date.

5 2013 Loss Factor Updates From Draft to Final

Generally speaking, the loss factors have experienced minor changes from the 2013 draft posting to the 2013 final loss factors in Table 1 of this document. The differences between the draft and final loss factors are primarily attributed to updates number 2 and 3 in Section 4. The next section discusses the changes between the 2012 recalculated loss factors and the 2013 final loss factors found in Table 1.

6 2013 Overall Loss Factor Results

There is an overall slight increase in the 2013 final loss factors compared to the [Final Alberta Recalculated Loss Factors for 2012](#) posted July 30, 2012. An overall increase in loss factors occurs because of an increase in SF for 2013. Further changes in loss factors can be attributed to changes in: dispatched generation, load and transmission topology resulting from new projects. The high level results are summarized below:

1. The Rainbow area has experienced an increase in loss factor charge. This increase in loss factors is mainly attributed to the increase of net flow out of the area in most of the 12 base cases, mainly due to the decrease in transmission load.
2. The Fort McMurray area has seen an increase in loss factor charge relative to the 2012 recalculated loss factors. The increase in charge can be attributed to a considerable increase in net flow out of the area resulting from an increase in generation and decrease in transmission load. The Suncor Firebag 4 capacity increase that came in service in late 2012 contributes to the generation increase in this area. The increased capacity only applied to one season in 2012 but will apply to all seasons in 2013. Another new generation facility in this area is the MEG Christina Lake SAGD/Cogen 2 Plant which is expected to come into service in 2013.
3. The West area has generally experienced a decrease in loss factor credit. The transmission load in the area has decreased over the 2012 values. And in addition, a new generation facility NRGreen Windfall Power Generating Station has been added. As a result, the net flow out of the area has increased and thus caused an increase in loss factors.
4. The Wabamun area has seen an overall decrease in loss factor charges. The raw loss factors for this area have decreased mainly due to an overall decrease in generation, as well as the staged Edmonton/Wabamun upgrade project.
5. The Cold Lake has generally experienced more loss factor charges as generation has increased and the transmission load has decreased thereby, increasing the loss factor charge in the area.
6. The Southeast area has experienced higher loss factor charges compared to 2012. The increase in loss factors can be attributed to the increased generation in this area primarily due to the Montana Tie Line which is expected to come in service in 2013, as well as the increased output from wind generation facilities in this area.

7 Loss Factor Map

The AESO has provided a loss factor map (Figure: 1) in Appendix III showing the maximum and minimum loss factors in each area. The tie lines and DOS loss factors are also shown. Each facility with a loss factor is shown in its designated area.

8 Conclusion

The AESO has published the 2013 loss factors as per the AESO's Loss Factor Rule, and has made the calculation and provided results using the best information available. The data process includes gathering data from the billing system, new customer facilities, and system load and topology features. The AESO has completed the loss factor calculation process and has had the results independently run for comparison purposes. The results from the AESO's calculation are identical to the results run independently.

The AESO published the draft values on October 19, 2012 for stakeholders' review. The 2013 loss factors will be applicable from January 01, to December 31, 2013.

Appendix I: Case Comparison - AIL

Winter Peak Case

	Load (MW)			Loss (MW)		Import (MW)	Export (MW)
	Static	Motor	Total	Shunt	Transmission		
2013	10163.3	174.65	10338.0	23.4	313.3	456.0	-
2012 Recalculation	9904.2	148.2	10052.4	21.1	301.2	523.0	-
2013 - 2012	259.1	26.5	285.5	2.3	12.1		

Winter Medium Case

	Load (MW)			Loss (MW)		Import (MW)	Export (MW)
	Static	Motor	Total	Shunt	Transmission		
2013	9118.3	177.15	9295.5	23.4	267.3	244.6	-
2012 Recalculation	9085.9	155.8	9241.7	21.2	266.4	383.0	-
2013 - 2012	32.4	21.4	53.8	2.2	0.9		

Winter Low Case

	Load (MW)			Loss (MW)		Import (MW)	Export (MW)
	Static	Motor	Total	Shunt	Transmission		
2013	8152.6	208.64	8361.2	23.6	238.6	-	71.5
2012 Recalculation	8064.9	166.0	8230.9	21.3	243.3	108.7	-
2013 - 2012	87.7	42.6	130.3	2.3	-4.7		

Spring Peak Case

	Load (MW)			Loss (MW)		Import (MW)	Export (MW)
	Static	Motor	Total	Shunt	Transmission		
2013	9500	179.08	9679.1	23.9	260.3	453.4	-
2012 Recalculation	9209.3	146.1	9355.4	21.5	290.8	517.6	-
2013 - 2012	290.7	33.0	323.7	2.4	-30.5		

Spring Medium Case

	Load (MW)			Loss (MW)		Import (MW)	Export (MW)
	Static	Motor	Total	Shunt	Transmission		
2013	8713.7	176.46	8890.2	24	219.8	424.8	-
2012 Recalculation	8593.9	144.1	8738.0	21.4	249.4	419.2	-
2013 - 2012	119.8	32.4	152.2	2.6	-29.6		

Spring Low Case

	Load (MW)			Loss (MW)		Import (MW)	Export (MW)
	Static	Motor	Total	Shunt	Transmission		
2013	7722.1	180.86	7903.0	24.1	195.4	450.1	-
2012 Recalculation	7547.1	155.8	7702.9	21.5	202.9	320.9	-
2013 - 2012	175.0	25.1	200.1	2.6	-7.5		

Summer Peak Case

	Load (MW)			Loss (MW)		Import (MW)	Export (MW)
	Static	Motor	Total	Shunt	Transmission		
2013	9706.3	196.61	9902.9	23.9	247.9	422.6	-
2012 Recalculation	9218.8	176.5	9395.3	21.7	267.0	414.8	-
2013 - 2012	487.5	20.1	507.6	2.2	-19.1		

Summer Medium Case

	Load (MW)			Loss (MW)		Import (MW)	Export (MW)
	Static	Motor	Total	Shunt	Transmission		
2013	8673.5	193.83	8867.3	24.1	216.4	355.2	-
2012 Recalculation	8234.0	156.2	8390.2	21.9	218.3	250.8	-
2013 - 2012	439.5	37.6	477.1	2.2	-1.9		

Summer Low Case

	Load (MW)			Loss (MW)		Import (MW)	Export (MW)
	Static	Motor	Total	Shunt	Transmission		
2013	7729.3	189.69	7919.0	24	189.4	341.8	-
2012 Recalculation	7128.0	175.6	7303.6	21.7	164.9	240.9	-
2013 - 2012	601.3	14.1	615.4	2.3	24.5		

Fall Peak Case

	Load (MW)			Loss (MW)		Import (MW)	Export (MW)
	Static	Motor	Total	Shunt	Transmission		
2013	10058.4	168.31	10226.7	24.4	267.4	414.9	-
2012 Recalculation	9206.2	166.3	9372.5	21.6	278.7	402.1	-
2013 - 2012	852.2	2.0	854.2	2.8	-11.3		

Fall Medium Case

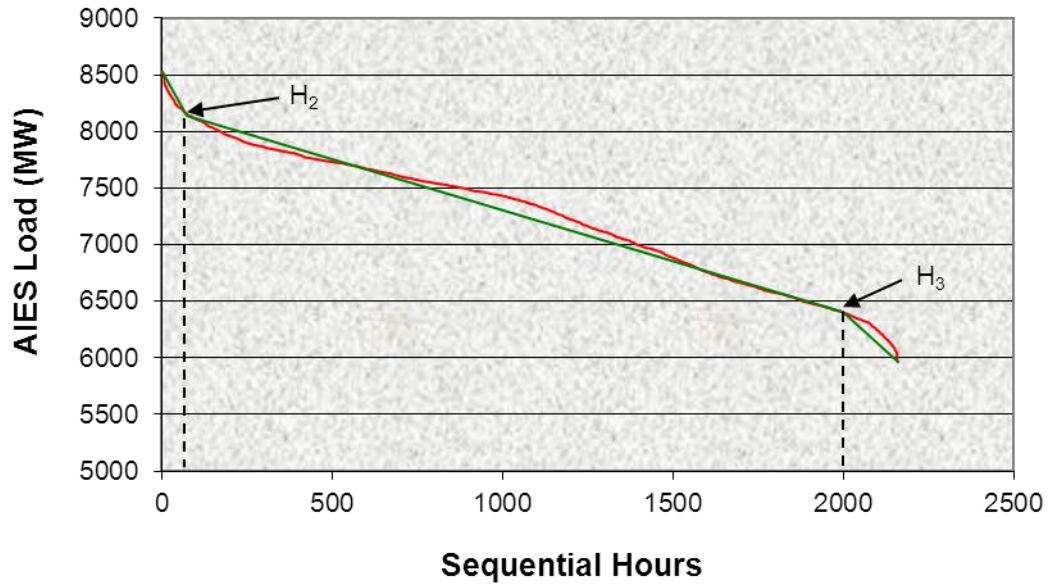
	Load (MW)			Loss (MW)		Import (MW)	Export (MW)
	Static	Motor	Total	Shunt	Transmission		
2013	9252.5	173.11	9425.6	24.4	235	363.9	-
2012 Recalculation	8410.0	162.7	8572.7	21.8	250.8	149.3	-
2013 - 2012	842.5	10.4	852.9	2.6	-15.8		

Fall Low Case

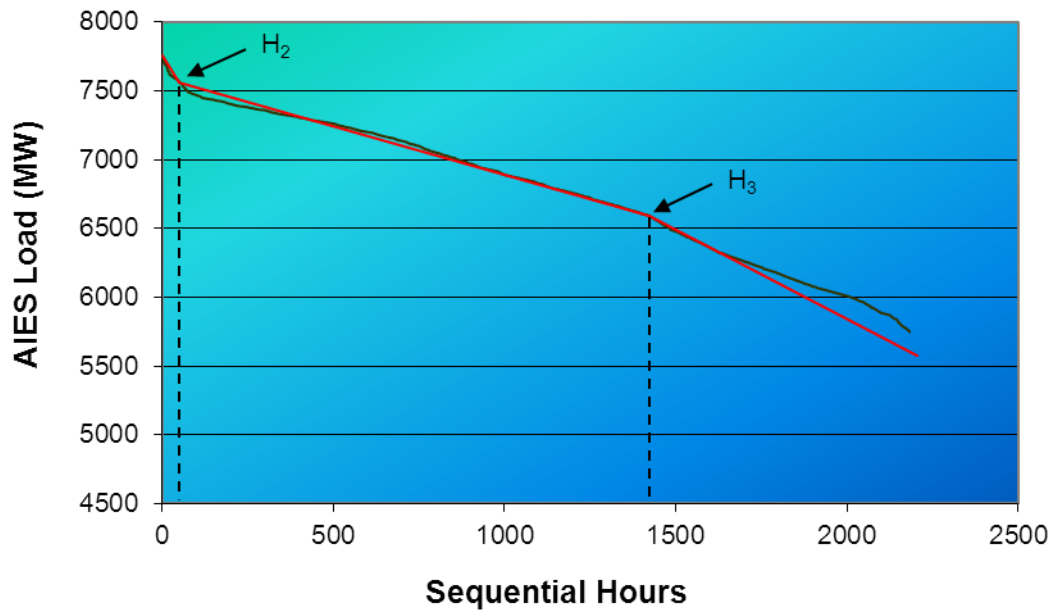
	Load (MW)			Loss (MW)		Import (MW)	Export (MW)
	Static	Motor	Total	Shunt	Transmission		
2013	8241.8	183.77	8425.6	24.4	209.9	106.9	-
2012 Recalculation	7583.7	258.3	7842.0	21.7	229.4	-	121.3
2013 - 2012	658.1	-74.6	583.6	2.7	-19.5		

Appendix II: Load Duration Curves

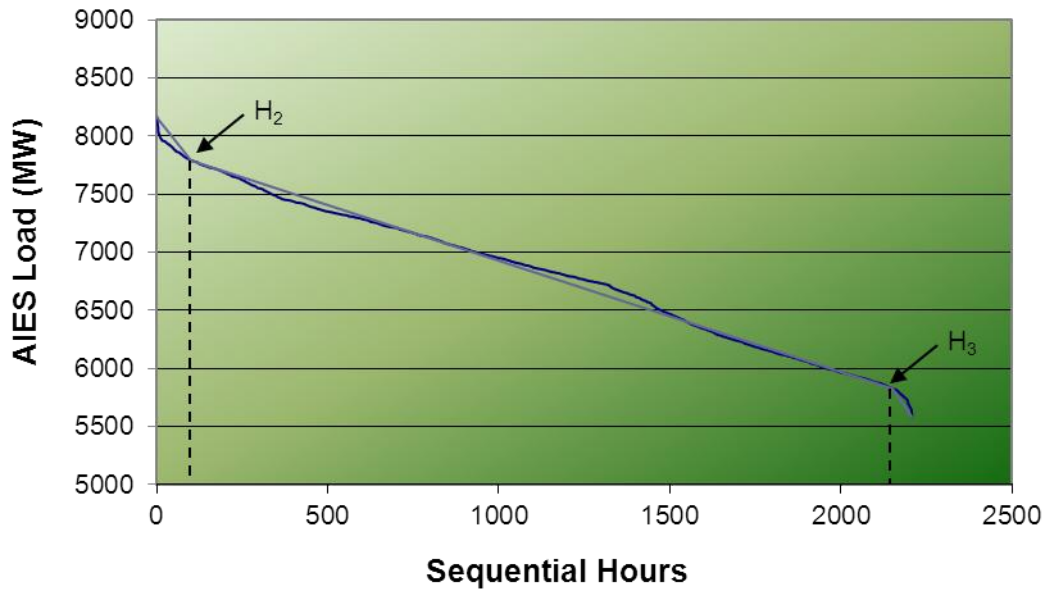
2012-2013 Winter AIES Load Duration Curve



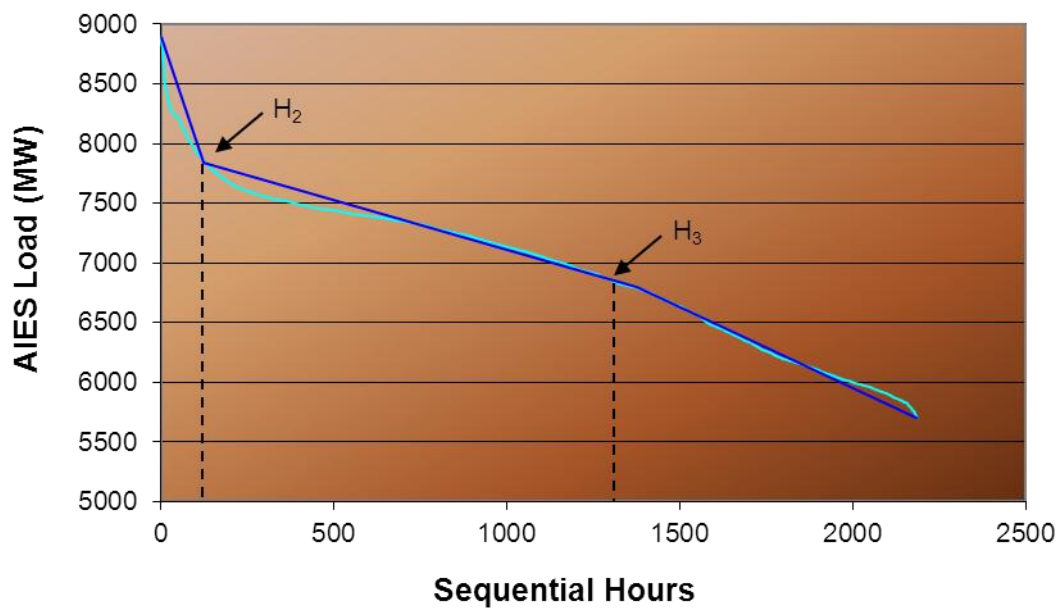
2013 Spring AIES Load Duration Curve



2013 Summer AIES Load Duration Curve



2013 Fall AIES Load Duration Curve



Appendix III: 2013 Loss Factor Map

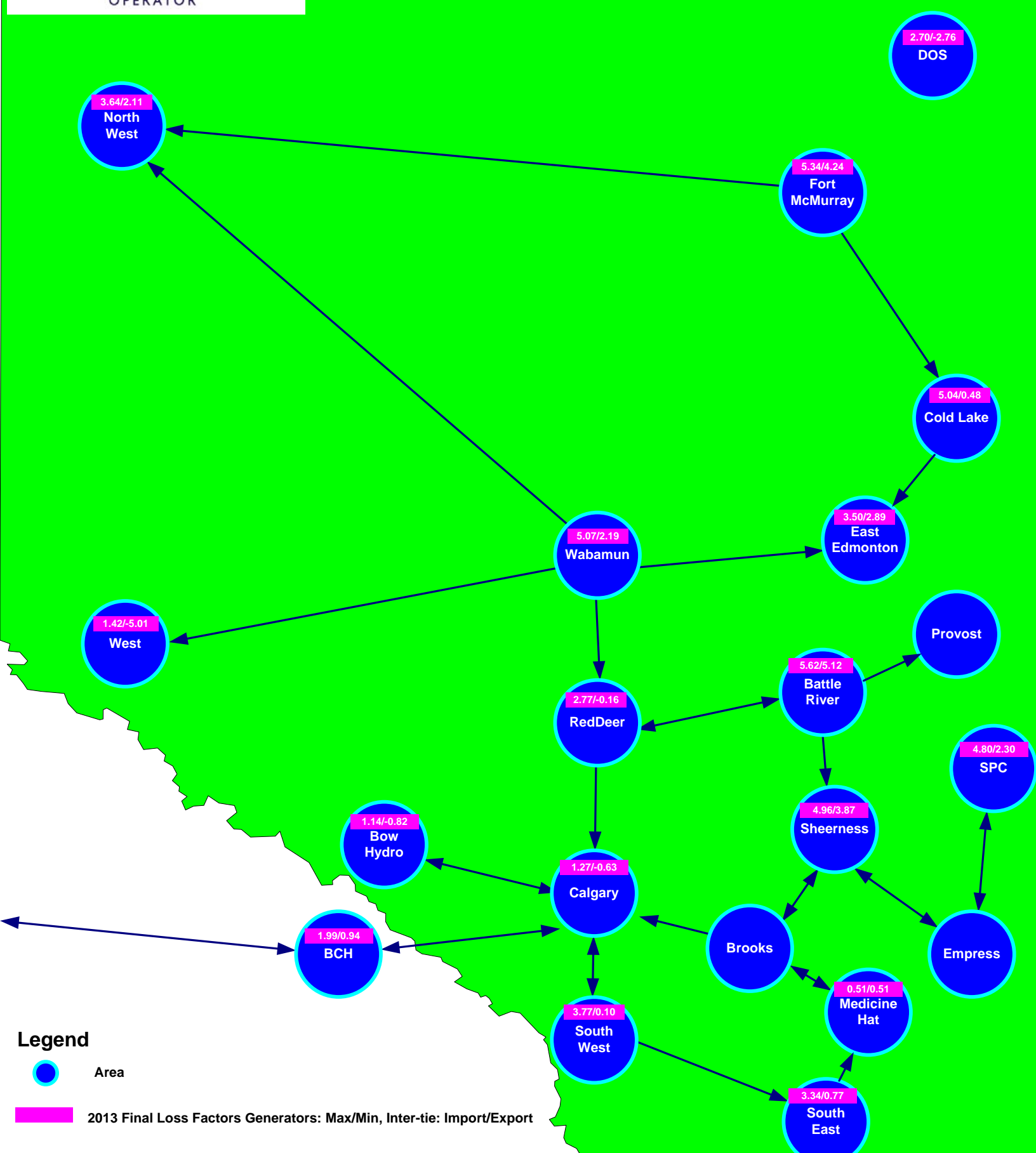


Figure: 1

Location	MPID	Loss Factor(%)	Gen Name
North West	RB1	2.13	RAINBOW 1
	RB2	2.50	RAINBOW 2
	RB3	2.16	RAINBOW 3
	RL1	2.11	RAINBOW 4
	RB5	2.40	RAINBOW 5
	FNG1	3.64	FORT NELSON
West	HRM	0.02	HR MILNER
	PH1	-4.89	POPLAR HILL
	NPC1	-5.01	FALSE
	DAI1	-0.95	DIASHOWA
	BCR2	-2.53	BEAR CREEK G2
	BCRK	-2.53	BEAR CREEK G1
	GPEC	-2.90	GRANDE PRAIRIE ECOPOWER CENTRE
	ST1	-0.50	STURGEON 1
	ST2	-0.50	STURGEON 2
	VVW1	-0.33	VALLEYVIEW
	VVW2	-0.33	ATCO VALLEY VIEW 2
	WEY1	-2.60	P&G WEYERHAUSER
	NPP1	-4.81	NORTHERN PRAIRIE POWER PROJECT
	Project739_1_GEN	1.42	NRGreen Windfall Power Generating Station
Fort McMurray	MKR1	4.94	MUSKEG
	MKRC	4.98	MCKAY RIVER
	SCL1	5.34	SYNCRUDE
	SCR1	5.33	SUNCOR MILLENIUM
	NX02	4.70	NEXEN OPTI
	MEG1	4.24	MEG ENERGY
	CNR5	5.17	CNRL HORIZON
Wabamun	GN1	4.94	GENESEE 1
	GN2	4.94	GENESEE 2
	GN3	4.94	GENESEE 3
	KH1	5.07	KEEPHILLS #1
	KH2	5.07	KEEPHILLS #2
	KH3	4.88	KEEPHILLS #3
	SD3	4.02	SUNDANCE #3

	SD4	4.02	SUNDANCE #4
	SD5	4.02	SUNDANCE #5
	SD6	4.02	SUNDANCE #6
	0000045411	2.19	BUCK LAKE
Cold Lake	IOR1	5.04	MAHKESES COLD LAKE
	PR1	3.34	PRIMROSE
	EC04	3.97	FOSTER CREEK G1
	AFG1TX	0.48	FORTISALBERTA AL-PAC PULP MILL
East Edmonton	SCTG	2.89	SHELL SCOTFORD
	TC02	3.04	REDWATER
	ENC1	3.50	CLOVER BAR 1
	ENC2	3.50	CLOVER BAR 2
	ENC3	3.50	CLOVER BAR 3
	DOWGEN15M	3.27	DOW GTG
Red Deer	NOVAGEN15M	1.48	NOVA JOFFRE
	BIG	2.77	BIGHORN
	BRA	2.09	BRAZEAU
	SHCG	-0.16	SHELL CAROLINE
Calgary	CES1	0.47	ENMAX CALGARY ENERGY CENTRE CTG
	CES2	0.47	ENMAX CALGARY ENERGY CENTRE STG
	TC01	0.60	CARSELAND
	EC01	1.27	CAVAILIER
	NX01	0.37	BALZAC
	CRS1	0.80	ENMAX CROSSFIELD ENERGY CENTER
	CRS2	0.80	ENMAX CROSSFIELD ENERGY CENTER
	CRS3	0.80	ENMAX CROSSFIELD ENERGY CENTER
	0000025611	-0.63	HARMATTAN GAS PLANT DG
Bow Hydro	BAR	-0.26	BARRIER
	BPW	-0.40	BEARSPAW
	CAS	-0.82	CASCADE
	GHO	-0.47	GHOST
	HSH	-0.29	HORSESHOE
	KAN	-0.27	KANANASKIS
	POC	0.60	POCATERRA
	INT	1.14	INTERLAKES

	RUN	-0.52	RUNDLE
	THS	-0.48	THREE SISTERS
	SPR	-0.46	SPRAY
South East	SCR2	2.15	SUNCOR MAGRATH
	TAY1	2.50	TAYLOR HYDRO
	0000006711	0.93	STIRLING
	SCR3	1.36	SUNCOR HILLRIDGE WIND FARM
	TAB1	0.77	TABER WIND
	MATLIMP	2.49	MONTANA TIE LINE IMPORT
	CHIN	1.86	CHIN CHUTE
	RYMD	3.34	RAYMOND RESERVOIR
Battle River	BR3	5.62	BATTLE RIVER #3
	BR4	5.62	BATTLE RIVER #4
	BR5	5.12	BATTLE RIVER #5
Medicine Hat	CMH1	0.51	CITY OF MEDICINE HAT
Sheerness	SH1	4.60	SHEERNESS #1
	SH2	4.60	SHEERNESS #2
	NEP1	3.87	GHOST PINE WIND FARM
	HAL1	4.96	CAPITAL POWER HALKIRK WIND PROJECT
	SCR4	4.60	SUNCOR WINTERING HILLS WIND ENERGY PROJEC
South West	AKE1	2.29	MCBRIDE
	DRW1	2.32	DRYWOOD 1
	IEW1	3.27	SUMMERVIEW 1
	IEW2	3.27	SUMMERVIEW 2
	CR1	2.38	CASTLE RIVER
	OMRH	2.94	OLDMAN
	0000022911	1.90	GLENWOOD
	0000039611	2.40	PINCHER CREEK
	0000038511	1.67	SPRING COULEE
	CRE1	3.77	COWLEY EXPANSION 1
	CRE2	3.77	COWLEY EXPANSION 2
	CRE3	3.77	COWLEY NORTH
	CRWD	3.77	COWLEY RIDGE WIND POWER PHASE2
	0000001511	1.17	FT MACLEOD
	PKNE	3.77	COWLEY RIDGE WIND POWER PHASE1

	GWW1	3.09	SODERGLÉN
	0000034911	0.10	ALTAGAS PARKLAND
	BTR1	3.17	BLUE TRAIL WIND FARM
	ARD1	3.48	TRANSALTA ARDENVILLE WIND FARM
	KHW1	2.58	KETTLES HILL WIND ENERGY PHASE 2
	CRR1	2.39	Enel Alberta Castle Rock Wind Farm
BCH	BCHIMP	1.99	BCH - Export
	BCHEXP	0.94	BCH - Import
SPC	SPCIMP	4.80	SPC - Export
	SPCEXP	2.30	SPC - Import
DOS	0000016301	-0.23	Amoco Empress (163S)
	0000079301	2.70	ANG Cochrane (793S)
	341S025	-2.76	Syncrude Standby (848S)