Single Line Diagrams (SLDs)

AESO 2020 Long-term Transmission Plan

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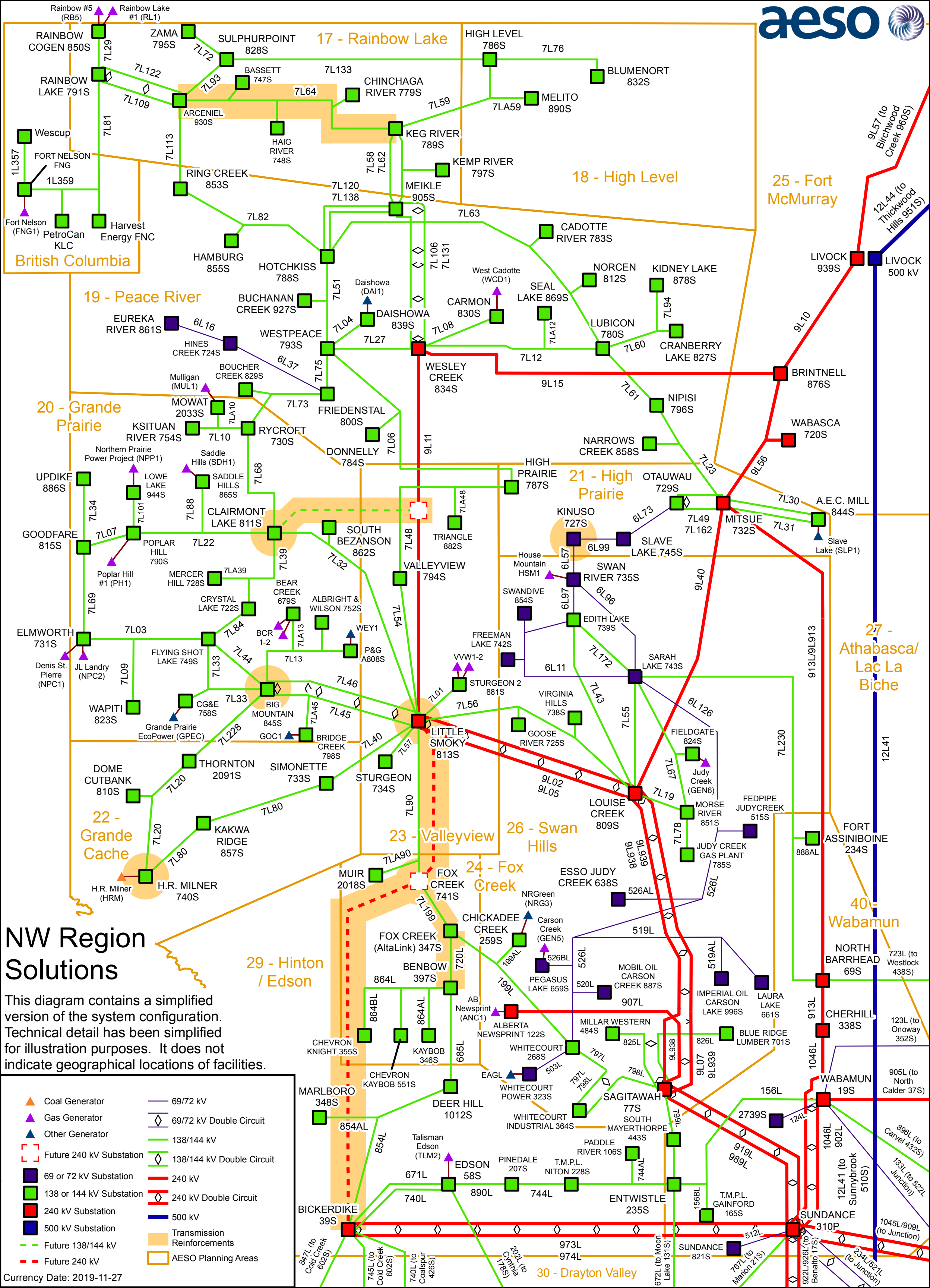
Contents

AESO 2020 Long-term Transmission Plan

Single Line Diagrams (SLDs)

NEAR TERM REGIONAL TRANSMISSION PLANS

- *Northwest Planning Region*
- *Northeast Planning Region*
- *Edmonton Planning Region*
- *Central Planning Region*
- *South Planning Region*
- *Calgary Planning Region*


aeso
17 - Rainbow Lake
18 - High Level
19 - Peace River
20 - Grande Prairie
21 - High Prairie
22 - Grande Cache
23 - Valleyview
24 - Fox Creek
25 - Fort McMurray
26 - Swan Hills
27 - Athabasca/ Lac La Biche
29 - Hinton / Edson
30 - Drayton Valley
40 - Wabamun
British Columbia
Rainbow #5 (RB5)
Rainbow Lake #1 (RL1)
RAINBOW COGEN 850S
ZAMA 795S
SULPHURPOINT 828S
HIGH LEVEL 786S
BLUMENORT 832S
MELITO 890S
RAINBOW LAKE 791S
BASSETT 747S
ARCENIEL 930S
HAIG RIVER 748S
CHINCHAGA RIVER 779S
KEG RIVER 789S
KEMP RIVER 797S
MEIKLE 905S
Wescup
FORT NELSON FNG
Fort Nelson (FNG1)
PetroCan KLC
Harvest Energy FNC
RING CREEK 853S
HAMBURG 855S
HOTCHKISS 788S
CADOTTE RIVER 783S
NORCEN 812S
KIDNEY LAKE 878S
West Cadotte (WCD1)
SEAL LAKE 869S
CARMON 830S
Daishowa (DAI1)
DAISHOWA 839S
BUCHANAN CREEK 927S
EUREKA RIVER 861S
HINES CREEK 724S
WESTPEACE 793S
LUBICON 780S
CRANBERRY LAKE 827S
WESLEY CREEK 834S
BRINTNELL 876S
LIVOCK 939S
LIVOCK 500 kV
BOUCHER CREEK 829S
Mulligan (MUL1)
MOWAT 2033S
FRIEDENSTAL 800S
NIPISI 796S
WABASCA 720S
KSITUAN RIVER 754S
RYCROFT 730S
DONNELLY 784S
NARROWS CREEK 858S
Northern Prairie Power Project (NPP1)
Saddle Hills (SDH1)
HIGH PRAIRIE 787S
OTAUWAU 729S
A.E.C. MILL 844S
UPDIKE 886S
LOWE LAKE 944S
SADDLE HILLS 865S
KINUSO 727S
MITSUE 732S
CLAIRMONT LAKE 811S
TRIANGLE 882S
SLAVE LAKE 745S
Slave Lake (SLP1)
GOODFARE 815S
POPLAR HILL 790S
SOUTH BEZANSON 862S
House Mountain HSM1
Poplar Hill #1 (PH1)
VALLEYVIEW 794S
SWAN RIVER 735S
MERCER HILL 728S
BEAR CREEK 679S
SWANDIVE 854S
CRYSTAL LAKE 722S
ALBRIGHT & WILSON 752S
EDITH LAKE 739S
ELMWORTH 731S
BCR 1-2
WEY1
P&G A808S
FREEMAN LAKE 742S
SARAH LAKE 743S
Denis St. Pierre (NPC1)
JL Landry (NPC2)
FLYING SHOT LAKE 749S
VVW1-2
STURGEON 2 881S
WAPITI 823S
CG&E 758S
BIG MOUNTAIN 845S
VIRGINIA HILLS 738S
Grande Prairie EcoPower (GPEC)
GOC1
BRIDGE CREEK 798S
LITTLE SMOKY 813S
GOOSE RIVER 725S
FIELDGATE 824S
Judy Creek (GEN6)
THORNTON 2091S
SIMONETTE 733S
STURGEON 734S
LOUISE CREEK 809S
MORSE RIVER 851S
FEDPIPE JUDYCREEK 515S
DOME CUTBANK 810S
FORT ASSINIBOINE 234S
KAKWA RIDGE 857S
JUDY CREEK GAS PLANT 785S
H.R. Milner (HRM)
H.R. MILNER 740S
MUIR 2018S
FOX CREEK 741S
ESSO JUDY CREEK 638S
NRGreen (NRG3)
CHICKADEE CREEK 259S
Carson Creek (GEN5)
FOX CREEK (AltaLink) 347S
PEGASUS LAKE 659S
MOBIL OIL CARSON CREEK 887S
NORTH BARRHEAD 69S
723L (to Westlock 438S)
BENBOW 397S
AB Newsprint (ANC1)
ALBERTA NEWSPRINT 122S
IMPERIAL OIL CARSON LAKE 996S
LAURA LAKE 661S
CHERHILL 338S
123L (to Onoway 352S)
MILLAR WESTERN 484S
BLUE RIDGE LUMBER 701S
CHEVRON KNIGHT 355S
KAYBOB 346S
WHITECOURT 268S
CHEVRON KAYBOB 551S
EAGL
WHITECOURT POWER 323S
WABAMUN 19S
905L (to North Calder 37S)
MARLBORO 348S
DEER HILL 1012S
SAGITAWAH 77S
WHITECOURT INDUSTRIAL 364S
SOUTH MAYERTHORPE 443S
2739S
896L (to Carvel 432S)
Talisman Edson (TLM2)
EDSON 58S
PINEDALE 207S
T.M.P.L. NITON 228S
PADDLE RIVER 106S
133L (to 522L Junction)
ENTWISTLE 235S
T.M.P.L. GAINFORD 165S
12L41 (to Sunnybrook 510S)
BICKERDIKE 39S
SUNDANCE 310P
SUNDANCE 821S
1045L/909L (to Junction)
847L (to Cold Creek 602S)
745L (to Cold Creek 602S)
740L (to Coalspur 426S)
202L (to Cynthia 178S)
672L (to Moon Lake 131S)
767L (to Marlon 21S)
922L/926L (to Benalto 17S)
234L/521L (to Junction)
9L57 (to Birchwood Creek 960S)
12L44 (to Thickwood Hills 951S)
973L
974L

NW Region Solutions

This diagram contains a simplified version of the system configuration. Technical detail has been simplified for illustration purposes. It does not indicate geographical locations of facilities.

Coal Generator
Gas Generator
Other Generator
Future 240 kV Substation
69 or 72 kV Substation
138 or 144 kV Substation
240 kV Substation
500 kV Substation
Future 138/144 kV
Future 240 kV
69/72 kV
69/72 kV Double Circuit
138/144 kV
138/144 kV Double Circuit
240 kV
240 kV Double Circuit
500 kV
Transmission Reinforcements
AESO Planning Areas

Currency Date: 2019-11-27

- Gas Generator
- Other Generator
- 69 or 72 kV Substation
- 138 or 144 kV Substation
- 240 kV Substation
- 500 kV Substation
- Normally Open Line
- 69/72 kV
- 138/144 kV
- 138/144 kV Double Circuit
- 240 kV
- 240 kV Double Circuit
- 500 kV
- 500 kV Double Circuit
- HVDC Line
- Transmission Reinforcements
- AESO Planning Areas

Currency Date: 2019-11-28

Northeast Region Solutions

This diagram contains a simplified version of the system configuration. Technical detail has been simplified for illustration purposes. It does not indicate geographical locations of facilities.

aeso

CNRL Horizon (CNR5)
HORIZON MINING 838S
HORIZON UPGRADING 842S
75-PLH-4
75-PLH-3
75_PLH-901
75_PLH-902
FORT HILLS 505S
635PL9-1000
635PL9-1001
BITUMOUNT 941S
9L32
SECORD 2005S
9L101
MCCLELLAND 957S
IOR3 Kearl (IOR3)
KEARL 9900S
L9900
9L69
AURORA
Syncrude #1 (SCL1)
9L77
GREEN STOCKING 925S
9L39
BLACK FLY 934S
JOSLYN CREEK 849S
9L32
9L66
MUSKEG RIVER 847S
9LJH1
9LJH2
JACK PINE 920S
Muskeg River (MKR1)
KVAL-1
KVAL-2
9L08
9L09
9L84
MILDRED LAKE
DML
East Mine
PLANT 30-2 UE-1
D05
29PL9-12
29PL9-13
29PL7-3
29EDD-71
29EDD-65
29PL7-4
29PL7-5
SCR1
29EDD-34
FIREBAG 29EDD-18
29PL7-1
29PL7-2
SCR1
29EDD-0063
29PL9-14
29PL9-15
ATHABASCA CROSSING EDD200
29PL6-14
29EDD -0056
29 EDD-7
29PL6-16
29PL6-23
29PL6-24
29PL6-29
29EDD-67
29EDD-93
29EDD-9
29EDD-8
29EDD-10
29EDD-19
29EDD-45
29EDD-33
29EDD-31
29PL6-28
29PL6-27
29PL6-26
29EDD-62
29EDD-46
29EDD-64
29EDD-84
29EDD-83
SCR1
29EDD-22
29EDD-2
29PL6-22
29PL6-05
29PL6-06
29EDD-3
SCR1
29PL9-3/4
MILLENIUM 29EDD-1
29PL9-5
29PL9-6
HORSESHOE 737S
29PL9-2
29PL9-1
29PL9-16
29PL9-17
29PL6-04
6L-32
29PL6-03
29PL6-20
SCR1
SCR5
SCR6
29EDD -0020
29EDD-5
29PL6-7
29PL6-02
29PL6-01
29EDD-55
STEEPBANK 836S
VOYAGEUR 29EDD-94
6LML1
6LML2
RL1
RL2
MacKay River (MKRC)
DOVER 888S
9L43
MACKAY RIVER 874S
9L74
9L58
9L30
9L112
9L30
9L58
9L01
9L58
RUTH LAKE 848S
9L112
9L30
9L01
7L47
7L71
DOG RIB 2082S
9L23
PARSONS CREEK 718S
9L74
THICKWOOD HILLS 951S
AMR02 937S
9L28
9L19
BIRCHWOOD CREEK 960S
YEO 2015S
9L144
9L57
12L44
7L165
HALFWAY 2014S
7LA97
TOWER ROAD 933S
7L97
9L89
AHS 01 279S
7L182
7L126
HANGINGSTONE 820S
7L135
SALT CREEK 977S
WILLOW LAKE 2009S
7L36
9L85
GERMAIN 950S
7L125
9L10
LIVOCK 939S
DAWES 2011S
7L194
7L147
SWEETHEART LAKE 2032S
7L155
GREGOIRE 883S
Nexen Inc #2 (NX02)
LONG LAKE COGEN 864S
LONG LAKE 841S
9L15 (to Wesley Creek 834S)
BRINTNELL 876S
7L170
ALGAR 875S
7L38
HORSE RIVER 917S
KINOSIS 856S
7L15
7L104
QUIGLEY 989S
WABASCA 720S
9L56
9L56 (to Mitsue 732S)
25 - Fort McMurray
9L89
7L121
7LA121
MARIANA 833S
CROW 860S
7L02
7L02
MCMILLAN 885S
9L55
ROUND HILL 852S
1085L
1086L
7L183
7L167
7LA183
KETTLE RIVER 2049S
9L45
7L05
MEADOW CREEK 2081S
ENGSTROM 2060S
CHARD 658S
WADDEL 907S
7LA114
7L114
9L990
BOHN 931S
MEG1 Christina Lake (MEG1)
CONKLIN 762S
Christina Lake (CL01)
SUNDAY CREEK 539S
1118L
971L
1099L
CHRISTINA LAKE 723S
957L
LEISMER 72S
9L930
JACKFISH 698S
1115L
BLACK SPRUCE 154S
1099L
1090L
IPIATIK 167S
1116L
PIKE 170S
1117L
428L
457L
445L
WINEFRED 818S
789L
KIRBY 651S
UNDERWOOD 183S
HEART LAKE 898S
9L22
9L81
12L41 (to Sunnybrook 510S)
FLATBUSH 500S
724L
27 - Athabasca / Lac La Biche
APF Athabasca (AFG1)
GRASSLAND 282S
FLAT LAKE 242S
796AL
796L
728L
PLAMONDON 353S
WAUPISOO 405S
633L
BOYLE 56S
710L
COLINTON 159S
223L
CLYDE 150S
723L
723L (to North Barrhead 69S)
WESTLOCK 438S
Westlock (WST1)
WAP-7L1
WAP 1S
728L
THOMPSON 140S
788AL
788L
LAC LA BICHE 157S
794L
ABEE 993S
7L437
WEASEL CREEK 947S
7LA808
WHITEFISH LAKE 825S
9L47
9L36/9L37 (to Marguerite Lake 826S)
9L960
9L961
808AL
808L
1054L 1061L
1054L 943L
HEARTLAND 12S
REDWATER 171S
DEERLAND 13S
13L50
794L (to Whitby Lake 819S)
792L (to N.W. Cardiff 191S)
33 - Fort Saskatchewan
60 - Edmonton
56 - Vegreville
28 - Cold Lake
12L70
12L85
HEATHFIELD 2029S
735L
1061L 943L
1061L 1120L
BEAMER 233S
BANNERMAN 681S
Redwater Cogen (TC02)
OPAL 439S
RIVERSIDE 388S
SCORIA 318S
GRANITE 342S
709AL
708L
942L 1061L
807L
1120L 943L
SHELL AOSP 402S
ALC03L
AMELIA 108S
815L
1206L/1212L (to Summerside 657S)
LAMOUREUX 71S
726L (to North Calder 37S)
942L 997L
942L 1120L
807AL
EX1 -01L
SCOTFORD UPGRADER 879S
AIR LIQUIDE 408S
APS1
ALC02L
SCOTFORD 409S
ALS1
ALC01L
856L
857L
856L 857L
BRUDERHEIM 127S
773L
920L (to Castle Downs)
921L (to Clover Bar 987S)
761L (to East Edmonton 38S)
861L
DOW HYDRO CARBONS 258S
JOSEPHBURG 410S
787L
DOWG
899L
FORT SASK CO-GEN 218S
862L
DOW CHEMICAL FORT SASK. 166S
776L
776L 706L
B.F.GOODRICH FORT SASK. 452S
ALBCHEM BEAVERHILL CREEK 308S
846L
CANADIAN OXY ASTOTIN CREEK 365S
781L
SHERRITT GORDON 172S
787AL
ROSS CREEK 906S
707L
DOWG FORT SASK. 54S
709L
694L
706L
706AL
700L (to Sherwood Park 746S)
WESTWOOD 422S
EATL 13L50 (to Newell 2075S)

Edmonton Region - Solutions

This diagram contains a simplified version of the system configuration. Technical detail has been simplified for illustration purposes. It does not indicate geographical locations of facilities. For clarity the City of Edmonton and East Edmonton are shown as insets.

Coal Generator
Gas Generator
Future 240 kV Substation
69 or 72 kV Substation
138 or 144 kV Substation
240 kV Substation
500 kV Substation

HVDC Line
Future 69/72 kV
Future 240 kV
Normally Open Line
69/72 kV
69/72 kV Double Circuit

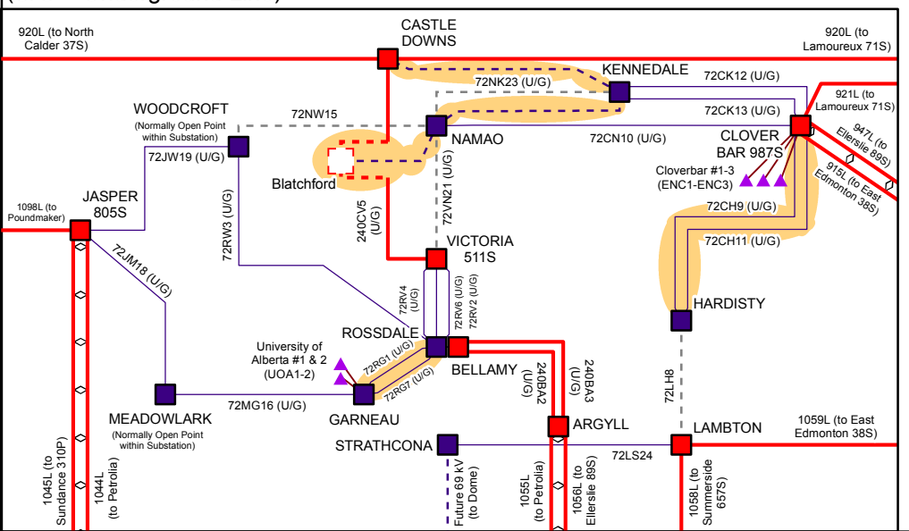
69/138 kV Double Circuit
138/144 kV
138/144 kV Double Circuit
240 kV
240 kV Double Circuit
500 kV
500 kV Double Circuit
Transmission Reinforcements
AESO Planning Areas

Currency Date: 2019-12-09

East Edmonton Inset

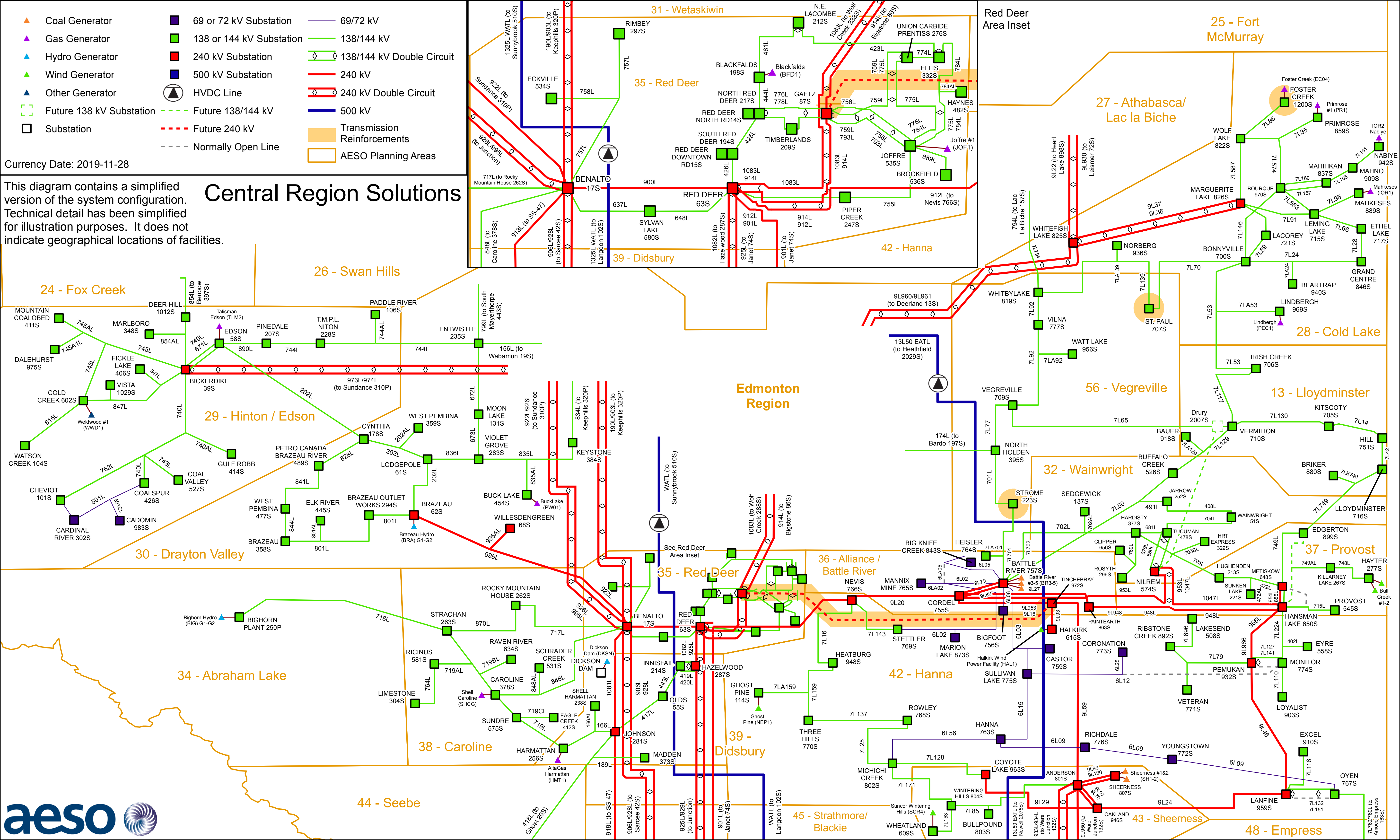
CLOVER BAR 987S
921L
761L (to Lamoureux 71S)
IMPERIAL OIL EDMONTON 95S
BRETVILLE 185S
605L
YASA 286S
PETRO-CANADA EDMONTON 184S
606L
AT PLASTIC 4RS
737L
738L
915L
947L
215L
705L
KNIGHTSBRIDGE 216S
738AL
EAST EDMONTON 38S
741L
AT PLASTIC 5RS
822L
865L
BASELINE 317S
STELCO EDMONTON 133S
822AL
1059L
908L
946L
731L
731L (to Broadmoor 420S)
736L
EAST INDUSTRIAL
908AL
1059AL
BERNESE 293S
72LHB (to Hardisty)
72LS24 (to Strathcona)
LAMBTON 1059L
1206L/1212L (to Heartland 12S)
ELLERSLIE 89S
1057L
908L
1059L
1057L
SUMMERSIDE 657S
908L
946L
947L
780L
897L
BRETONA 45S
897L
874L (to Cooking Lake 522S)
780L (to Cooking Lake 522S)

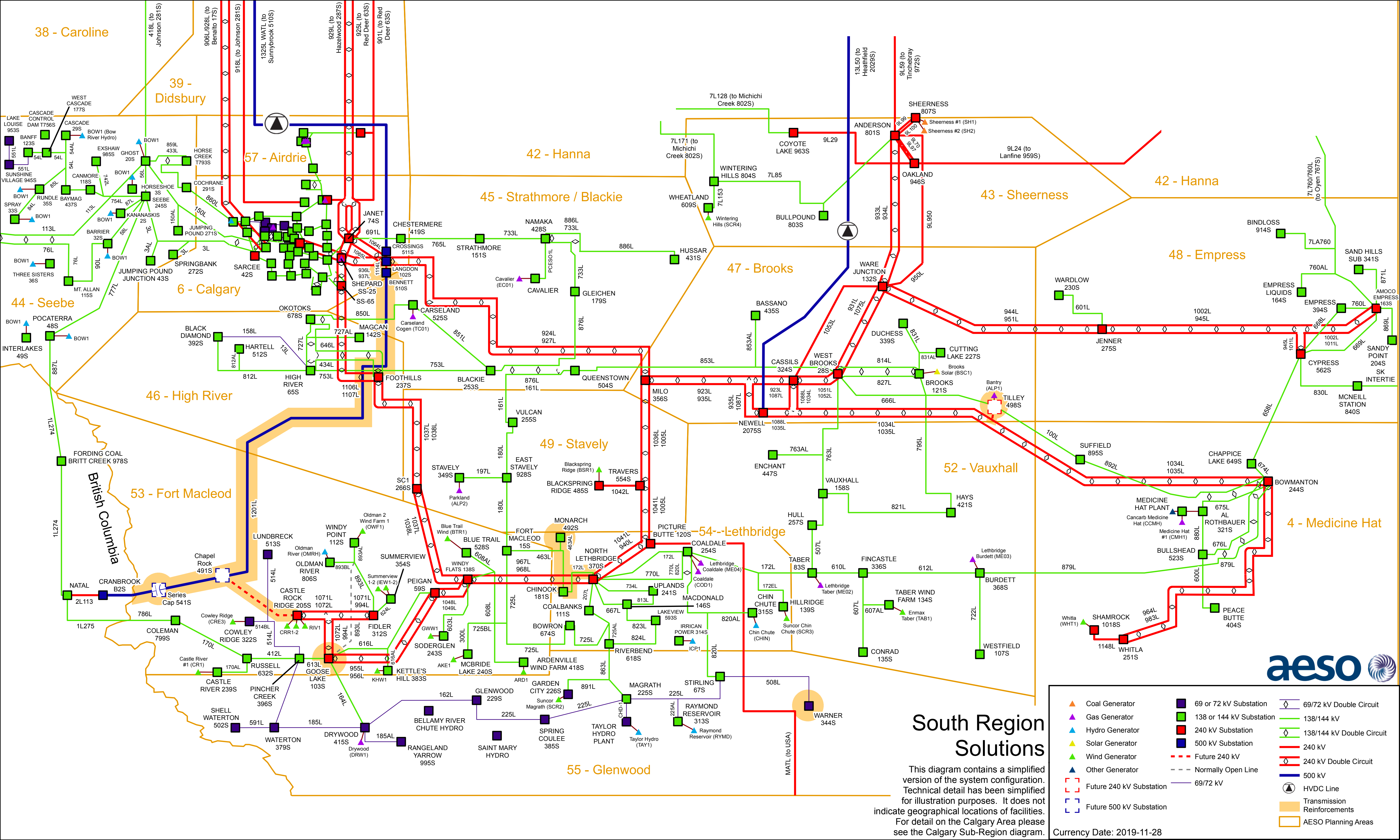
City of Edmonton Inset (U/G = Underground Line)



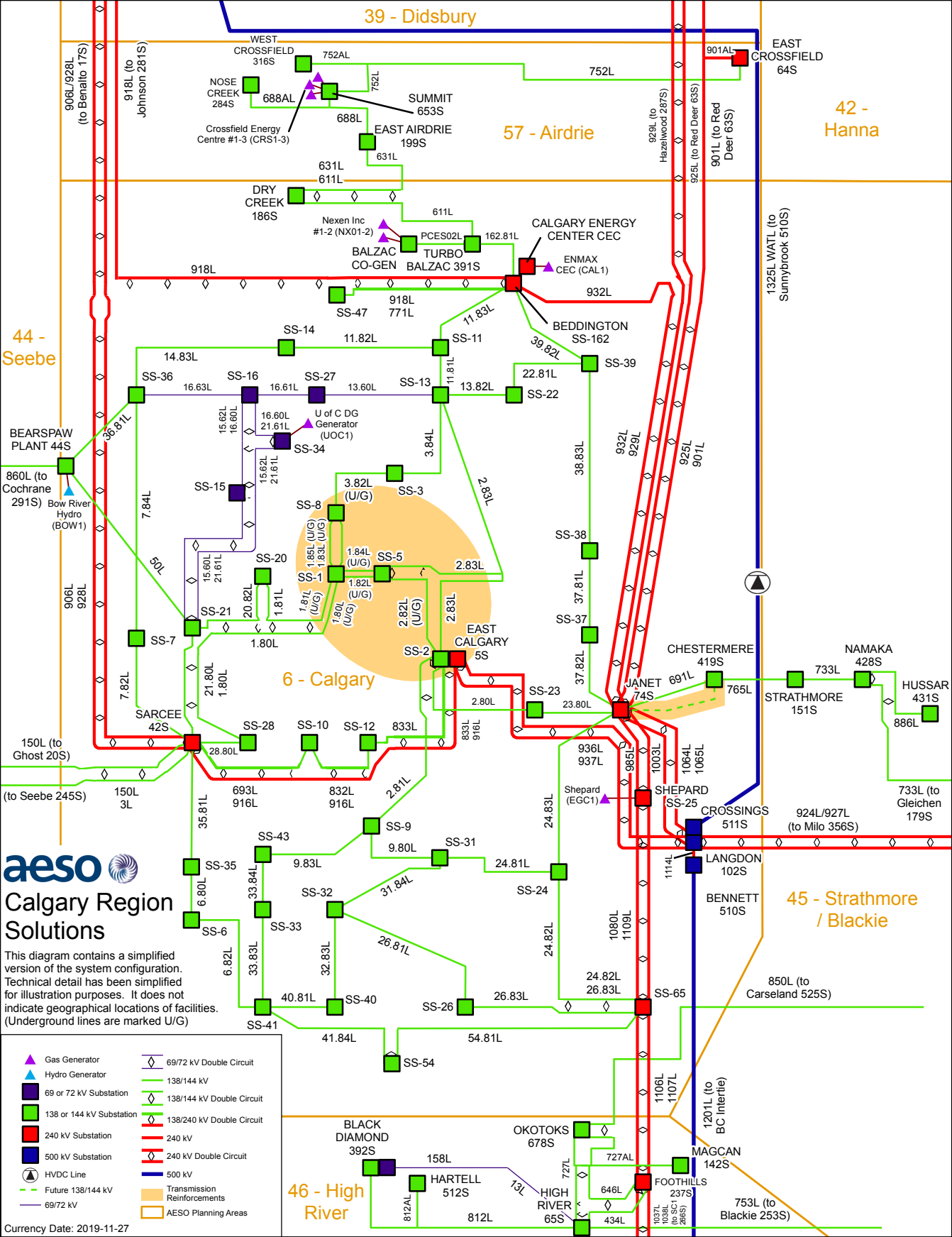
Central Region Solutions

This diagram contains a simplified version of the system configuration. Technical detail has been simplified for illustration purposes. It does not indicate geographical locations of facilities.





South Region Solutions
This diagram contains a simplified version of the system configuration. Technical detail has been simplified for illustration purposes. It does not indicate geographical locations of facilities. For detail on the Calgary Area please see the Calgary Sub-Region diagram.
Currency Date: 2019-11-28
aeso
Coal Generator
Gas Generator
Hydro Generator
Solar Generator
Wind Generator
Other Generator
Future 240 kV Substation
Future 500 kV Substation
69 or 72 kV Substation
138 or 144 kV Substation
240 kV Substation
500 kV Substation
Future 240 kV
Normally Open Line
69/72 kV
69/72 kV Double Circuit
138/144 kV
138/144 kV Double Circuit
240 kV
240 kV Double Circuit
500 kV
HVDC Line
Transmission Reinforcements
AESO Planning Areas
38 - Caroline
39 - Didsbury
57 - Airdrie
42 - Hanna
45 - Strathmore / Blackie
43 - Sheerness
48 - Empress
47 - Brooks
6 - Calgary
44 - Seebe
46 - High River
49 - Stavely
52 - Vauxhall
53 - Fort Macleod
54 - Lethbridge
4 - Medicine Hat
55 - Glenwood
British Columbia
SHEERNESS 807S
ANDERSON 801S
OAKLAND 946S
COYOTE LAKE 963S
WINTERING HILLS 804S
WHEATLAND 609S
BULLPOUND 803S
HUSSAR 431S
NAMAKA 428S
STRATHMORE 151S
CHESTERMERE 419S
JANET 74S
CROSSINGS 511S
LANGDON 102S
BENNETT 510S
SHEPARD
CARSELAND 525S
CAVALIER
GLEICHEN 179S
BASSANO 435S
WARE JUNCTION 132S
DUCHESS 339S
CUTTING LAKE 227S
WEST BROOKS 28S
CASSILS 324S
BROOKS 121S
NEWELL 2075S
MILO 356S
QUEENSTOWN 504S
BLACKIE 253S
FOOTHILLS 237S
HIGH RIVER 65S
OKOTOKS 678S
MAGCAN 142S
HARTELL 512S
BLACK DIAMOND 392S
SARCEE 42S
SPRINGBANK 272S
JUMPING POUND JUNCTION 43S
WARDLOW 230S
JENNER 275S
BINDLOSS 914S
EMPRESS 394S
EMPRESS LIQUIDS 164S
SANDY POINT 204S
SK INTERTIE
CYPRESS 562S
MCNEILL STATION 840S
TILLEY 498S
SUFFIELD 895S
CHAPPICE LAKE 649S
BOWMANTON 244S
MEDICINE HAT PLANT
AL ROTHBAUER 321S
BULLSHEAD 523S
PEACE BUTTE 404S
SHAMROCK 1018S
WHITLA 251S
ENCHANT 447S
VAUXHALL 158S
HAYS 421S
HULL 257S
TABER 83S
FINCASTLE 336S
BURDETT 368S
WESTFIELD 107S
CONRAD 135S
TABER WIND FARM 134S
HILLRIDGE 139S
CHIN CHUTE 315S
MACDONALD 146S
UPLANDS 241S
COALDALE 254S
PICTURE BUTTE 120S
NORTH LETHBRIDGE 370S
TRAVERS 554S
BLACKSPRING RIDGE 485S
STAVELY 349S
EAST STAVELY 928S
VULCAN 255S
SC1 266S
FORT MACLEOD 15S
MONARCH 492S
BLUE TRAIL 528S
CHINOOK 181S
COALBANKS 111S
BOWRON 674S
PEIGAN 59S
SUMMERVIEW 354S
WINDY POINT 112S
OLDMAN RIVER 806S
CASTLE ROCK RIDGE 205S
FIDLER 312S
GOOSE LAKE 103S
KETTLE'S HILL 383S
SODERGLEN 243S
MCBRIDE LAKE 240S
ARDENVILLE WIND FARM 418S
RIVERBEND 618S
MAGRATH 225S
STIRLING 67S
RAYMOND RESERVOIR 313S
WARNER 344S
GARDEN CITY 226S
SPRING COULEE 385S
TAYLOR HYDRO PLANT
GLENWOOD 229S
BELLAMY RIVER CHUTE HYDRO
SAINT MARY HYDRO
DRYWOOD 415S
RANGELAND YARROW 995S
WATERTON 379S
SHELL WATERTON 502S
PINCHER CREEK 396S
RUSSELL 632S
CASTLE RIVER 239S
COWLEY RIDGE 322S
COLEMAN 799S
NATAL
CRANBROOK B2S
Chapel Rock 491S
Series Cap 541S
LUNDBRECK 513S
FORDING COAL BRITT CREEK 978S
INTERLAKES 49S
POCATERRA 48S
THREE SISTERS 36S
MT. ALLAN 115S
BARRIER 32S
KANANASKIS 2S
SEEBE 245S
HORSESHOE 3S
BAYMAG 437S
CANMORE 118S
RUNDLE 35S
SPRAY 33S
SUNSHINE VILLAGE 945S
LAKE LOUISE 953S
BANFF 123S
CASCADE 29S
CASCADE CONTROL DAM T756S
WEST CASCADE 177S
EXSHAW 985S
GHOST 20S
HORSE CREEK T793S
COCHRANE 291S
JUMPING POUND 271S
MATL (to USA)
13L50 (to Heathfield 2029S)
9L59 (to Tinchebray 972S)
9L24 (to Lanfine 959S)
7L128 (to Michichi Creek 802S)
7L171 (to Michichi Creek 802S)
7L760/760L (to Oyen 767S)
418L (to Johnson 281S)
906L/928L (to Benalto 17S)
918L (to Johnson 281S)
1325L WATL (to Sunnybrook 510S)
929L (to Hazelwood 287S)
925L (to Red Deer 63S)
901L (to Red Deer 63S)


39 - Didsbury
42 - Hanna
57 - Airdrie
44 - Seebe
6 - Calgary
45 - Strathmore / Blackie
46 - High River
WEST CROSSFIELD 316S
752AL
752L
NOSE CREEK 284S
688AL
688L
SUMMIT 653S
Crossfield Energy Centre #1-3 (CRS1-3)
EAST AIRDRIE 199S
631L
611L
DRY CREEK 186S
Nexen Inc #1-2 (NX01-2)
PCES02L
162.81L
BALZAC CO-GEN
TURBO BALZAC 391S
CALGARY ENERGY CENTER CEC
ENMAX CEC (CAL1)
918L
SS-47
771L
932L
BEDDINGTON SS-162
EAST CROSSFIELD 64S
901AL
906L/928L (to Benalto 17S)
918L (to Johnson 281S)
929L (to Hazelwood 287S)
925L (to Red Deer 63S)
901L (to Red Deer 63S)
1325L WATL (to Sunnybrook 510S)
SS-14
11.82L
SS-11
11.83L
39.82L
SS-39
14.83L
SS-36
16.63L
SS-16
16.61L
SS-27
13.60L
SS-13
13.82L
22.81L
SS-22
BEARSPAW PLANT 44S
36.81L
16.60L 21.61L
U of C DG Generator (UOC1)
SS-34
3.84L
38.83L
932L 929L
925L 901L
860L (to Cochrane 291S)
Bow River Hydro (BOW1)
SS-15
15.62L 16.60L
15.62L 21.61L
7.84L
3.82L (U/G)
SS-3
2.83L
SS-8
1.85L (U/G)
1.83L (U/G)
1.84L (U/G)
SS-5
2.83L
SS-38
SS-20
SS-1
1.82L (U/G)
37.81L
SS-37
906L 928L
SS-21
20.82L
1.81L
1.81L (U/G)
1.80L (U/G)
2.82L (U/G)
2.83L
1.80L
SS-7
SS-2
EAST CALGARY 5S
7.82L
21.80L
1.80L
CHESTERMERE 419S
NAMAKA 428S
733L
691L
765L
STRATHMORE 151S
HUSSAR 431S
886L
SARCEE 42S
SS-28
SS-10
SS-12
833L
SS-23
2.80L
23.80L
JANET 74S
833L 916L
28.80L
936L 937L
985L
1003L
1064L 1065L
150L (to Ghost 20S)
(to Seebe 245S)
150L 3L
693L 916L
832L 916L
2.81L
Shepard (EGC1)
SHEPARD SS-25
733L (to Gleichen 179S)
CROSSINGS 511S
924L/927L (to Milo 356S)
35.81L
SS-9
24.83L
SS-43
9.80L
SS-31
LANGDON 102S
1114L
9.83L
24.81L
SS-35
SS-24
BENNETT 510S
6.80L
33.84L
31.84L
SS-32
SS-6
SS-33
1080L 1109L
6.82L
33.83L
32.83L
26.81L
24.82L
24.82L 26.83L
850L (to Carseland 525S)
40.81L
SS-40
SS-26
26.83L
SS-65
SS-41
41.84L
54.81L
SS-54
1106L 1107L
1201L (to BC Intertie)
BLACK DIAMOND 392S
158L
OKOTOKS 678S
727AL
727L
MAGCAN 142S
HARTELL 512S
13L
HIGH RIVER 65S
646L
FOOTHILLS 237S
812AL
812L
434L
1037L 1038L (to SC1 266S)
753L (to Blackie 253S)
aeso
Calgary Region Solutions
This diagram contains a simplified version of the system configuration. Technical detail has been simplified for illustration purposes. It does not indicate geographical locations of facilities. (Underground lines are marked U/G)
Gas Generator
Hydro Generator
69 or 72 kV Substation
138 or 144 kV Substation
240 kV Substation
500 kV Substation
HVDC Line
Future 138/144 kV
69/72 kV
69/72 kV Double Circuit
138/144 kV
138/144 kV Double Circuit
138/240 kV Double Circuit
240 kV
240 kV Double Circuit
500 kV
Transmission Reinforcements
AESO Planning Areas
Currency Date: 2019-11-27

AESO 2020 Long-term Transmission Plan

Single Line Diagrams (SLDs)

LONGER TERM ALBERTA-WIDE TRANSMISSION PLANS BY SCENARIO

- *Reference Case*
- *High Cogeneration Sensitivity*
- *Alternate Renewables Policy*
- *High Load Growth*

AESO 2020 LTP Reference Case

This diagram contains a simplified version of the system configuration. Technical detail has been simplified for illustration purposes. It does not indicate geographical locations of facilities. For detail on Calgary, Edmonton and Fort Saskatchewan Areas please see the inset diagrams.

Currency Date: 2019-11-27

Edmonton/Fort Sask. Areas Inset

13S DEERLAND
1054L
1061L
9L960
9L961
(to Whitefish Lake 825S)
12S HEARTLAND
2029S HEATHFIELD
12L70
12L85
13L50 (to Newell 2075S)
905L (to Wabamun 19S)
37S NORTH CALDER
920L
CASTLE DOWNS
920L
920L
921L
71S LAMOUREUX
681S BANNERMAN
930L
1098L
805S JASPER
240CV5
VICTORIA
947L
915L
921L
987S CLOVER BAR
POUNDMAKER
1045L
1044L
1045L/909L (to Sundance 310P)
BELLAMY
915L
38S EAST EDMONTON
1139L
240BA2
240BA3
946L
908AL
1059AL
908L
1059L
1043L (to Keephills 320P)
1044L
908L
PETROLIA
ARGYLL
367S HARRY SMITH
908L
909L
1055L
EAST INDUSTRIAL
1059L
1202L (to Keephills 320P)
DOME
908L
909L
1056L
947L
946L
908L
657S SUMMERSIDE
LAMBTON
1057L
1058L
1209L (to Genesee 330P)
89S ELLERSLIE
1206L
1212L
1112L/1140L (to Saunders Lake 289S)
997L
942L
942L
1061L
1061L
943L
1120L
943L
942L
1120L
1120L
943L
108S AMELIA
410S JOSEPHBURG

Calgary Area Inset

906L/928L (to Benalto 17S)
918L (to Johnson 281S)
CALGARY ENERGY CENTER
SS-162 BEDDINGTON
929L (to Hazelwood 287S)
925L (to Red Deer 63S)
901L (to Red Deer 63S)
1325L WATL (to Sunnybrook 510S)
918L
932L
929L
925L
901L
1064L
1065L
5S EAST CALGARY
74S JANET
906L
928L
916L
985L
1003L
936L
937L
511S CROSSINGS
42S SARCEE
SS-25 SHEPARD
102S LANGDON
1114L
520S BENNETT
1080L
1109L
SS-65
1106L
1107L
(to SC1 266S)
1201L (to BC Intertie)
924L/927L (to Milo 356S)

Legend

- Future 240 kV Substation
- Future 500 kV Substation
- 240 kV Substation
- 500 kV Substation
- Future 240 kV
- Future 500 kV
- 240 kV
- 240 kV Double Circuit
- 500 kV
- 500 kV Double Circuit
- HVDC Line
- Long-Term Additions

505S FORT HILLS
838S HORIZON MINING
842S HORIZON UPGRADING
635PL9-1000
635PL9-1001
75-PLH-3
75-PLH-4
2005S SECORD
957S MCCLELLAND
9900S KEARL
75_PLH-901
75_PLH-902
941S BITUMOUNT
9L32
AURORA
9L101
L9900
9L69
925S GREEN STOCKING
934S BLACK FLY
9L39
9L77
849S JOSLYN CREEK
9L32
9L66
847S MUSKEG RIVER
9L66
920S JACK PINE
29PL9-12
29EDD-65
29PL9-13
9LJH1
9LJH2
29EDD-34
KVAL-1
KVAL-2
29EDD-3
29PL9-5
29PL9-6
29PL9-14
29PL9-15
9L08
9L09
D05
29EDD-0056
874S MCKAY RIVER
RL1
RL2
29EDD-1 MILLENNIUM
29PL9-3
29PL9-4
9L43
888S DOVER
29PL9-1
29PL9-2
29PL9-16
29PL9-17
9L01
9L58
9L74
9L58
9L30
848S RUTH LAKE
29EDD-34 VOYAGEUR
9L58
9L112
9L30
9L01
9L74
9L23
9L84
937S AMR02
960S BIRCHWOOD CREEK
951S THICKWOOD HILLS
9L19
9L28
9L144
12L44
2015S YEO
977S SALT CREEK
939S LIVOCK 240 kV
939S LIVOCK 500 kV
9L57
9L07
856S KINOSIS
9L85
834S WESLEY CREEK
9L15
9L10
876S BRINTNELL
2011S DAWES
2049S KETTLE RIVER
9L45
539S SUNDAY CREEK
762S CONKLIN
9L89
9L990
723S CHRISTINA LAKE
1118L
971L
957L
72S LEISMER
154S BLACK SPRUCE
1099L
1090L
1099L
698S JACKFISH
885S MCMILLAN
852S ROUND HILL
1085L
1086L
9L55
1115L
9L930
1117L
1116L
170S PIKE
167S IPIATIK
9L47
898S HEART LAKE
9L22
9L81
9L36
9L37
826S MARGUERITE LAKE
825S WHITEFISH LAKE
9L960
9L961
9L56
720S WABASCA
732S MITSUE
9L40
9L913
9L11
813S LITTLE SMOKY
9L02
9L05
809S LOUISE CREEK
913L
12L41
122S ALBERTA NEWSPRINT
907L
9L938
9L939
9L07
9L939
69S NORTH BARRHEAD
338S CHERHILL
77S SAGITAWAH
919L
999L
1046L
19S WABAMUN
902L
905L
1045L
909L
39S BICKERDIKE
973L
974L
310P SUNDANCE
1043L
320P KEEPHILLS
1203L
1202L
1238L
1239L
1209L
510S SUNNYBROOK
330p GENESEE
1112L
1140L
289S SAUNDERS LAKE
See Edmonton/Fort Sask. Areas Inset
12S HEARTLAND
13S DEERLAND
62S BRAZEAU
926L
922L
68S WILLESDENGREEN
998L
995AL
910L
914L
86S BIGSTONE
190L
903L
288S WOLF CREEK
1083L
914L
87S GAETZ
1083L
914L
766S NEVIS
912L
9L20
757S BATTLE RIVER
9L79
9L80
755S CORDEL
9L27
953L
953L
1047L
574S NILREM
899S EDGERTON
648S METISKOW
1047L
954L
9L953
863S PAINTEARTH
9L948
948L
650S HANSMAN LAKE
966L
9L966
922L
926L
995L
17S BENALTO
900L
63S RED DEER
912L
914L
1081L
1082L
287S HAZELWOOD
972S TINCHEBRAY
9L16
9L93
615S HALKIRK
13L50
9L59
281S JOHNSON
1325L
925L
929L
901L
906L
928L
932S PEMUKAN
9L46
801S ANDERSON
9L99
9L100
807S SHEERNESS
963S COYOTE LAKE
946S OAKLAND
9L97
9L70
9L24
959S LANFINE
9L29
933L
934L
9L950
950L
64S EAST CROSSFIELD
See Calgary Area Inset
CEC
SS-162
74S
5S
511S
102S
SS-25
42S SARCEE
SS-65
520S
1053L
132S WARE JUNCTION
163S AMOCO EMPRESS
1106L
1107L
924L
927L
935L
324S CASSILS
1051L
1052L
275S JENNER
1002L
1002L
1011L
237S FOOTHILLS
356S MILO
923L
1087L
935L
1087L
1034L
1088L
28S WEST BROOKS
944L
951L
945L
945L
1011L
562S CYPRESS
554S TRAVERS
485S BLACKSPRING RIDGE
1037L
1038L
1036L
1005L
2075S NEWELL
1035L
1088L
1042L
244S BOWMANTON
1034L
1035L
266S SC1
1037L
1038L
491S Chapel Rock
1201L
1041L
1005L
120S PICTURE BUTTE
138S WINDY FLATS
1071L
312S FIDLER
59S PEIGAN
994L
541S Series Cap
205S CASTLE ROCK RIDGE
1072L
1048L
1049L
967L
968L
370S NORTH LETHBRIDGE
1041L
940L
964L
983L
1018S SHAMROCK
251S WHITLA
1148L
103S GOOSE LAKE (SVC to be added)
955L
956L
Back-to-back DC converter on MATL
MATL (to USA)

AESO 2020 LTP
High Cogeneration Scenario
(in addition to Reference Case)

This diagram contains a simplified version of the system configuration. Technical detail has been simplified for illustration purposes. It does not indicate geographical locations of facilities. For detail on Calgary, Edmonton and Fort Saskatchewan Areas please see the inset diagrams.

Currency Date: 2019-11-27

Edmonton/Fort Sask. Areas Inset

FME (to Thickwood Hills 951S)
12S HEARTLAND
13S DEERLAND
1054L
1061L
9L960
9L961
(to Whitefish Lake 825S)
2029S HEATHFIELD
12L70
12L85
13L50 (to Newell 2075S)
905L (to Wabamun 19S)
37S NORTH CALDER
920L
CASTLE DOWNS
920L
920L
921L
71S LAMOUREUX
681S BANNERMAN
930L
1098L
805S JASPER
240CV5
VICTORIA
947L
915L
921L
987S CLOVER BAR
1061L
943L
942L
1061L
POUNDMAKER
1045L
1044L
1045L/909L (to Sundance 310P)
BELLAMY
915L
38S EAST EDMONTON
997L
942L
1061L
1120L
1120L
943L
1139L
240BA2
240BA3
946L
908AL
1059AL
908L
1059L
942L
1120L
1043L (to Keephills 320P)
1044L
908L
PETROLIA
ARGYLL
108S AMELIA
367S HARRY SMITH
908L
909L
1055L
EAST INDUSTRIAL
1059L
1202L (to Keephills 320P)
DOME
908L
909L
1056L
947L
946L
908L
657S SUMMERSIDE
LAMBTON
1057L
1058L
410S JOSEPHBURG
1209L (to Genesee 330P)
1112L/1140L (to Saunders Lake 289S)
89S ELLERSLIE
1206L
1212L

838S HORIZON MINING
842S HORIZON UPGRADING
505S FORT HILLS
635PL9-1000
635PL9-1001
75-PLH-3
75-PLH-4
2005S SECORD
957S MCCLELLAND
9900S KEARL
75_PLH-901
75_PLH-902
941S BITUMOUNT
9L101
AURORA
L9900
925S GREEN STOCKING
9L32
9L69
934S BLACK FLY
9L39
9L77
849S JOSLYN CREEK
9L32
9L66
847S MUSKEG RIVER
9L66
920S JACK PINE
29PL9-12
29EDD-65
9LJH1
9LJH2
29PL9-13
29EDD-34
KVAL-1
KVAL-2
29PL9-5
29PL9-6
29PL9-14
29PL9-15
9L08
9L09
29EDD-3
D05
29PL9-3
29PL9-4
29EDD-0056
874S MCKAY RIVER
RL1
RL2
29EDD-1 MILLENNIUM
9L43
888S DOVER
9L01
9L58
29PL9-1
29PL9-2
29PL9-16
29PL9-17
9L74
9L58
9L30
848S RUTH LAKE
29EDD-34 VOYAGEUR
9L58
9L112
9L30
9L01
9L74
9L23
9L84
937S AMR02
960S BIRCHWOOD CREEK
951S THICKWOOD HILLS
9L19
9L28
9L144
12L44
2015S YEO
977S SALT CREEK
9L57
939S LIVOCK 240 kV
939S LIVOCK 500 kV
9L07
856S KINOSIS
9L85
834S WESLEY CREEK
9L15
9L10
876S BRINTNELL
2011S DAWES
2049S KETTLE RIVER
9L45
539S SUNDAY CREEK
762S CONKLIN
9L89
9L990
723S CHRISTINA LAKE
1118L
971L
957L
72S LEISMER
1099L
154S BLACK SPRUCE
9L56
720S WABASCA
885S MCMILLAN
1090L
1099L
698S JACKFISH
1115L
852S ROUND HILL
1085L
1086L
9L55
9L930
1117L
1116L
170S PIKE
167S IPIATIK
9L11
732S MITSUE
9L40
898S HEART LAKE
9L47
813S LITTLE SMOKY
9L02
9L05
809S LOUISE CREEK
9L913
12L41
9L22
9L81
9L36
9L37
826S MARGUERITE LAKE
9L938
9L939
122S ALBERTA NEWSPRINT
907L
69S NORTH BARRHEAD
913L
825S WHITEFISH LAKE
9L960
9L961
9L938
9L07
9L939
77S SAGITAWAH
338S CHERHILL
919L
999L
1046L
19S WABAMUN
902L
905L
1045L
909L
See Edmonton/Fort Sask. Areas Inset
12S HEARTLAND
13S DEERLAND
39S BICKERDIKE
973L
974L
310P SUNDANCE
1043L
1203L
320P KEEPHILLS
1202L
1209L
1238L
1239L
510S SUNNYBROOK
330p GENESEE
1112L
1140L
289S SAUNDERS LAKE
2007S Drury
926L
922L
910L
914L
86S BIGSTONE
62S BRAZEAU
998L
995AL
68S WILLESDENGREEN
190L
903L
288S WOLF CREEK
1083L
914L
87S GAETZ
766S NEVIS
912L
9L20
757S BATTLE RIVER
755S CORDEL
9L79
9L80
9L27
953L
574S NILREM
899S EDGERTON
953L
1047L
648S METISKOW
1047L
954L
9L16
9L953
863S PAINTEARTH
9L948
948L
650S HANSMAN LAKE
922L
926L
995L
17S BENALTO
900L
63S RED DEER
1081L
1082L
912L
914L
287S HAZELWOOD
972S TINCHEBRAY
9L93
13L50
615S HALKIRK
9L59
966L
9L966
932S PEMUKAN
281S JOHNSON
1325L
925L
929L
901L
906L
928L
801S ANDERSON
9L99
9L100
807S SHEERNESS
9L46
64S EAST CROSSFIELD
963S COYOTE LAKE
946S OAKLAND
9L24
959S LANFINE
See Calgary Area Inset
CEC
SS-162
74S
5S
511S
102S
SS-25
42S SARCEE
SS-65
520S
9L29
9L70
9L950
933L
934L
1053L
132S WARE JUNCTION
163S AMOCO EMPRESS
275S JENNER
1002L
1002L
924L
927L
935L
324S CASSILS
1051L
1052L
931L
1075L
28S WEST BROOKS
944L
951L
945L
945L
1011L
1011L
562S CYPRESS
1106L
1107L
237S FOOTHILLS
356S MILO
923L
1087L
935L
1087L
1034L
1088L
554S TRAVERS
485S BLACKSPRING RIDGE
1036L
1005L
1037L
1038L
1042L
2075S NEWELL
1035L
1088L
244S BOWMANTON
1034L
1035L
266S SC1
1037L
1038L
491S Chapel Rock
1201L
1041L
1005L
120S PICTURE BUTTE
138S WINDY FLATS
1071L
312S FIDLER
59S PEIGAN
994L
1041L
940L
541S Series Cap
205S CASTLE ROCK RIDGE
1072L
1048L
1049L
967L
968L
370S NORTH LETHBRIDGE
964L
983L
1018S SHAMROCK
251S WHITLA
1148L
103S GOOSE LAKE (SVC to be added)
955L
956L
MATL (to USA)

Future 240 kV Substation
Future 500 kV Substation
240 kV Substation
500 kV Substation
Future 240 kV
Future 500 kV
240 kV
240 kV Double Circuit
500 kV
500 kV Double Circuit
HVDC Line
Long-Term Additions

Calgary Area Inset

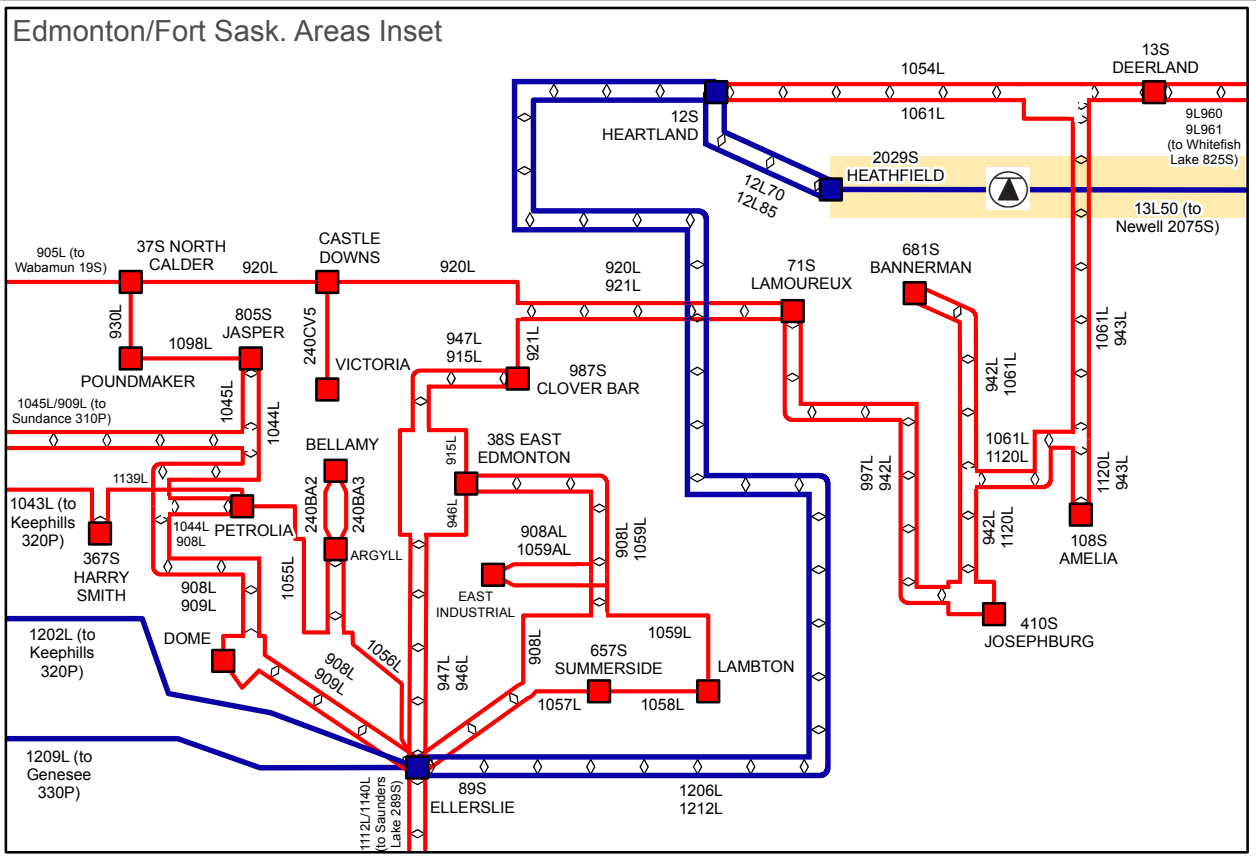
906L/928L (to Benalto 17S)
918L (to Johnson 281S)
CALGARY ENERGY CENTER
SS-162 BEDDINGTON
929L (to Hazelwood 287S)
925L (to Red Deer 63S)
901L (to Red Deer 63S)
1325L WATL (to Sunnybrook 510S)
918L
932L
929L
925L
901L
1064L
1065L
5S EAST CALGARY
74S JANET
906L
928L
916L
985L
1003L
936L
937L
511S CROSSINGS
42S SARCEE
SS-25 SHEPARD
102S LANGDON
1114L
1080L
1109L
520S BENNETT
SS-65
1106L
1107L
(to SC1 266S)
1201L (to BC Intertie)
924L/927L (to Milo 356S)

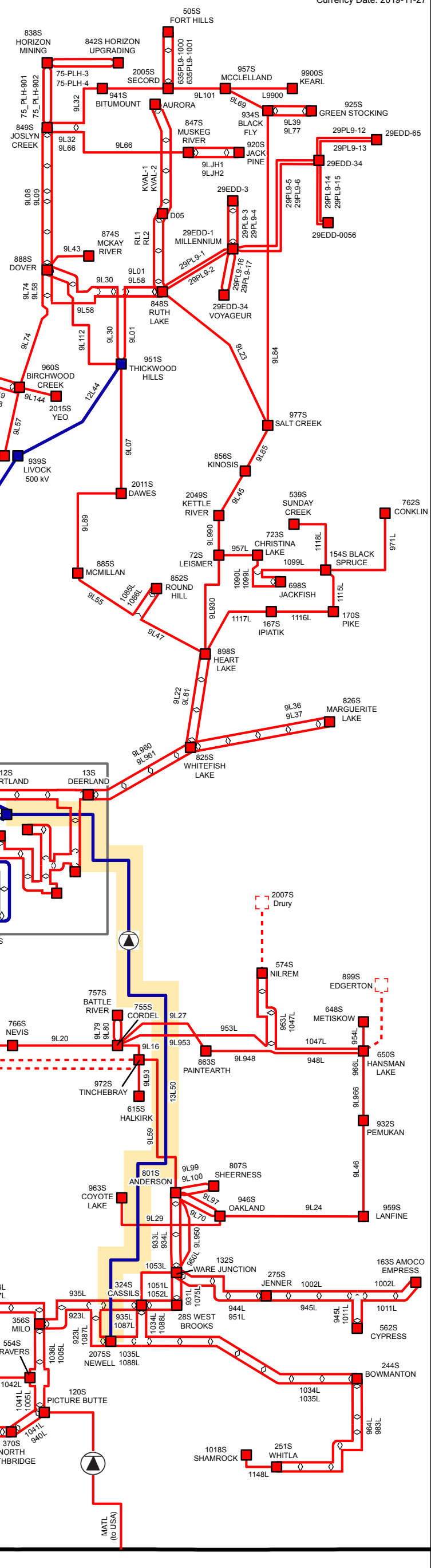
AESO 2020 LTP - Alternate Renewables Scenario

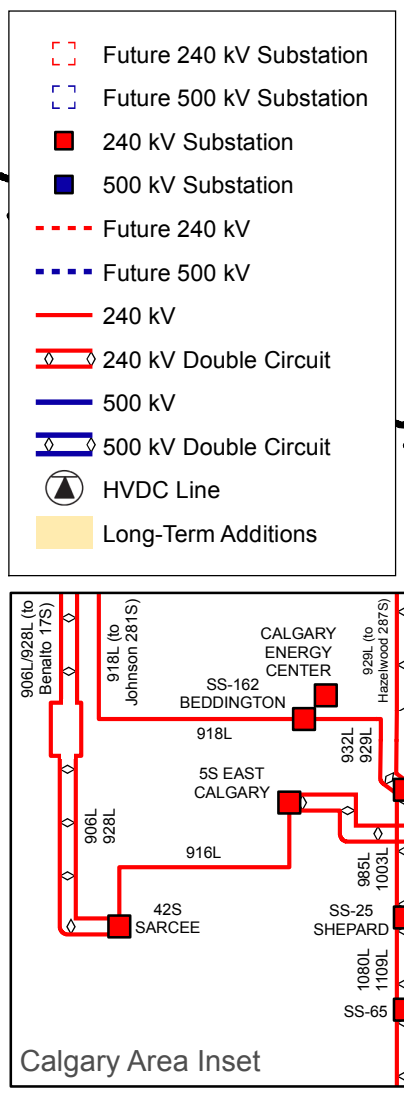
(in addition to Reference Case)

This diagram contains a simplified version of the system configuration. Technical detail has been simplified for illustration purposes. It does not indicate geographical locations of facilities. For detail on Calgary, Edmonton and Fort Saskatchewan Areas please see the inset diagrams.

Currency Date: 2019-11-27





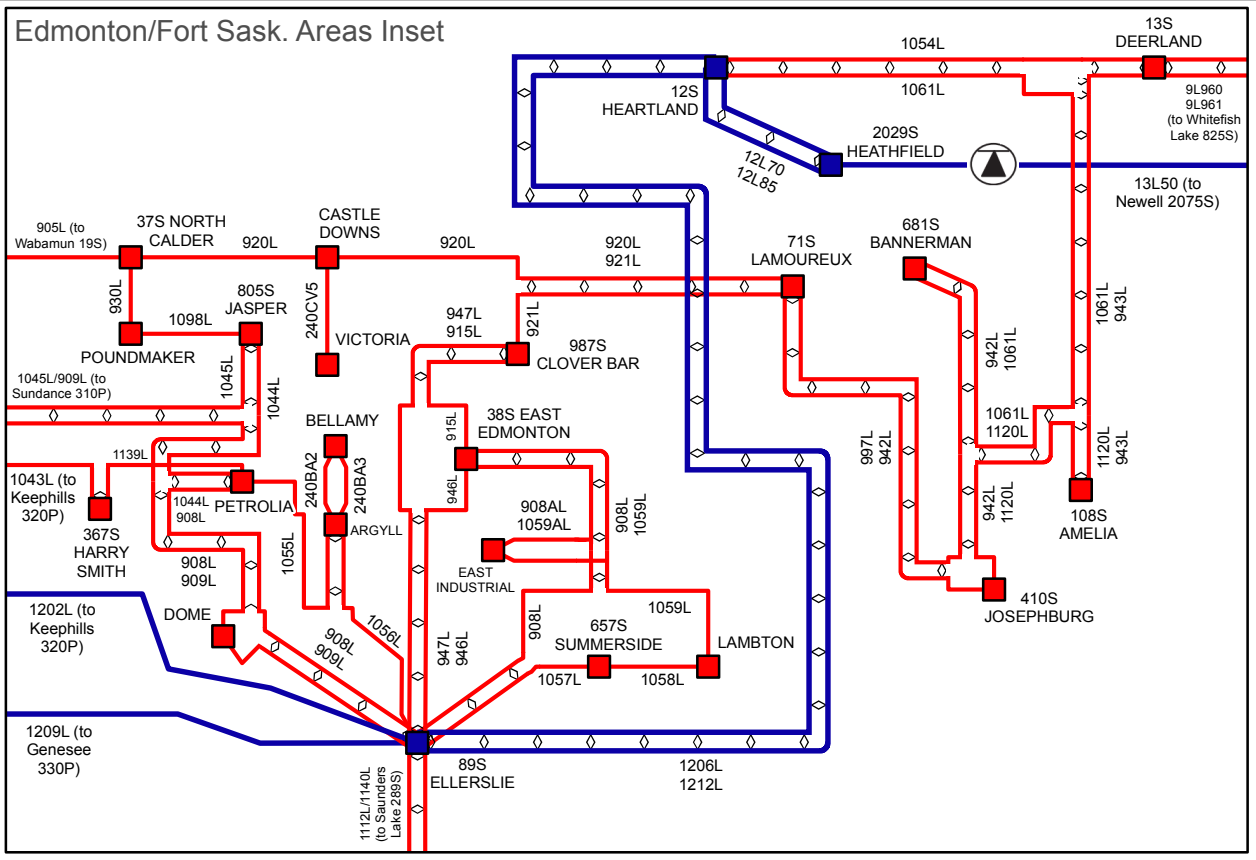


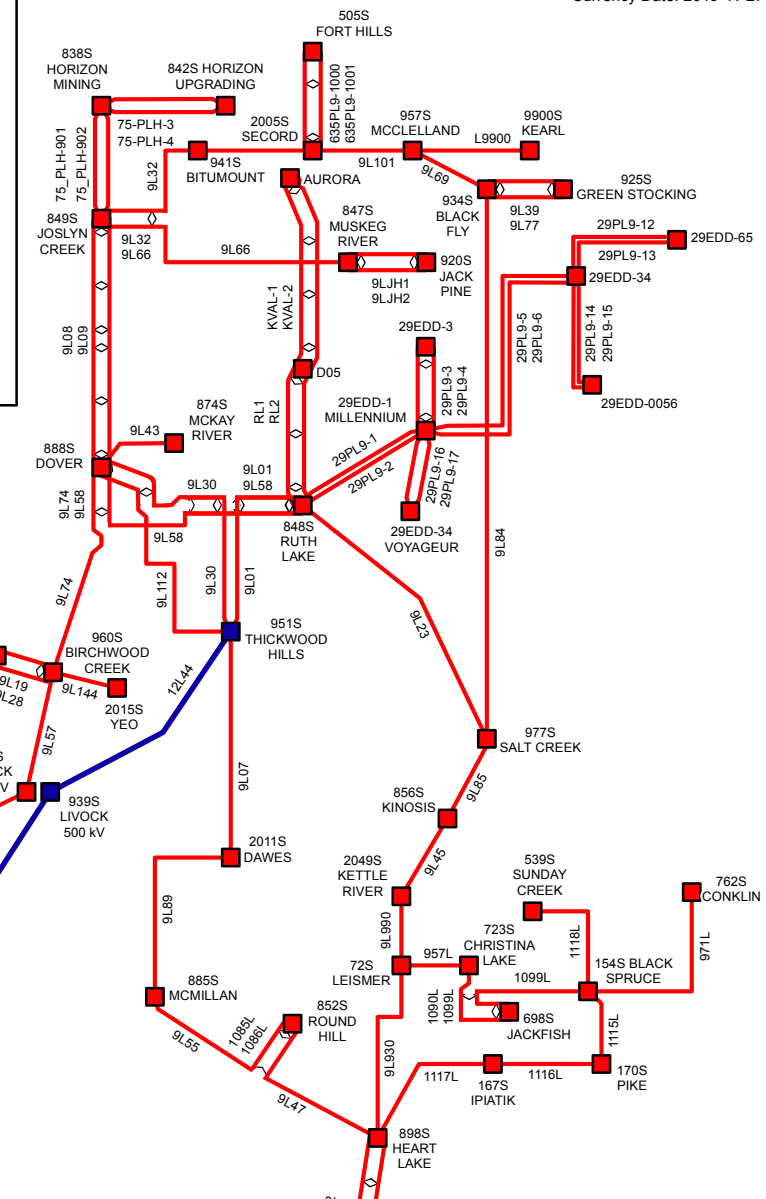
AESO 2020 LTP
High Growth Scenario

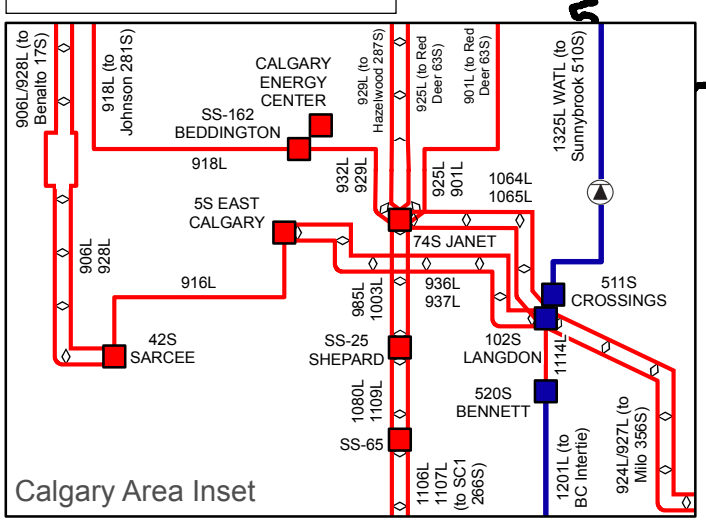
(in addition to Reference Case)

This diagram contains a simplified version of the system configuration. Technical detail has been simplified for illustration purposes. It does not indicate geographical locations of facilities. For detail on Calgary, Edmonton and Fort Saskatchewan Areas please see the inset diagrams.

Currency Date: 2019-11-27







Future 144 kV Substation
Future 240 kV Substation
Future 500 kV Substation
138 or 144 kV Substation
240 kV Substation
500 kV Substation
Future 138/144 kV
Future 240 kV
Future 240 kV Double Circuit
Future 500 kV
240 kV
240 kV Double Circuit
500 kV
500 kV Double Circuit
HVDC Line
Long-Term Additions