

Southern Alberta Transmission System Reinforcement Needs Identification Document Application Notice of Hearing

Application No. 1600862
EPS ID No. 171

The Alberta Utilities Commission (AUC) is a quasi-judicial regulatory body responsible for making decisions about utility-related applications, such as the siting for transmission lines, substations and power plants. The AUC is also responsible for making decisions about the need for transmission system reinforcements, including the need for new or rebuilt transmission lines and facilities.

The Alberta Electric System Operator (AESO), which is responsible for planning electric facility development in Alberta, has applied to the AUC for approval of the need for new transmission development throughout Southern Alberta. This Needs Identification Document (NID) Application (the Needs Application) deals with *the need for transmission reinforcement - and not the construction of the facilities*. The construction of transmission lines and facilities requires a separate application to the AUC.

The locations of the proposed development for the transmission system, the schedule for making a decision on the Needs Application and opportunities for your participation are outlined in this Notice of Hearing. If no objections are received, the AUC must approve the Needs Application.

Description of the Needs Identification Document Application

Pursuant to section 34 of the *Electric Utilities Act*, AESO submitted Needs Application No. 1600862 for approval of the proposed Southern Alberta Transmission System Reinforcement. In the Needs Application, AESO stated that the need for transmission reinforcement in Southern Alberta is driven predominantly by the forecast development of wind generation. AESO's transmission planning activities have been based on its forecast that between 2,000 and 3,900 megawatts (MW) of wind generation will be operating in Alberta within the next 10 years. This includes the 500 MW currently in operation in Southern Alberta. The AESO anticipates that between 1,700 and 3,200 MW will be located in Southern Alberta, representing increases of 1,200 and 2,700 MW above the existing wind-power generation capacity of 500 MW.

The AESO evaluated **six transmission development alternatives** in developing its Southern Alberta Transmission Reinforcement Needs Application. The AESO has selected **Alternative 1A** as the preferred alternative to meet the need for transmission reinforcement in Southern Alberta.

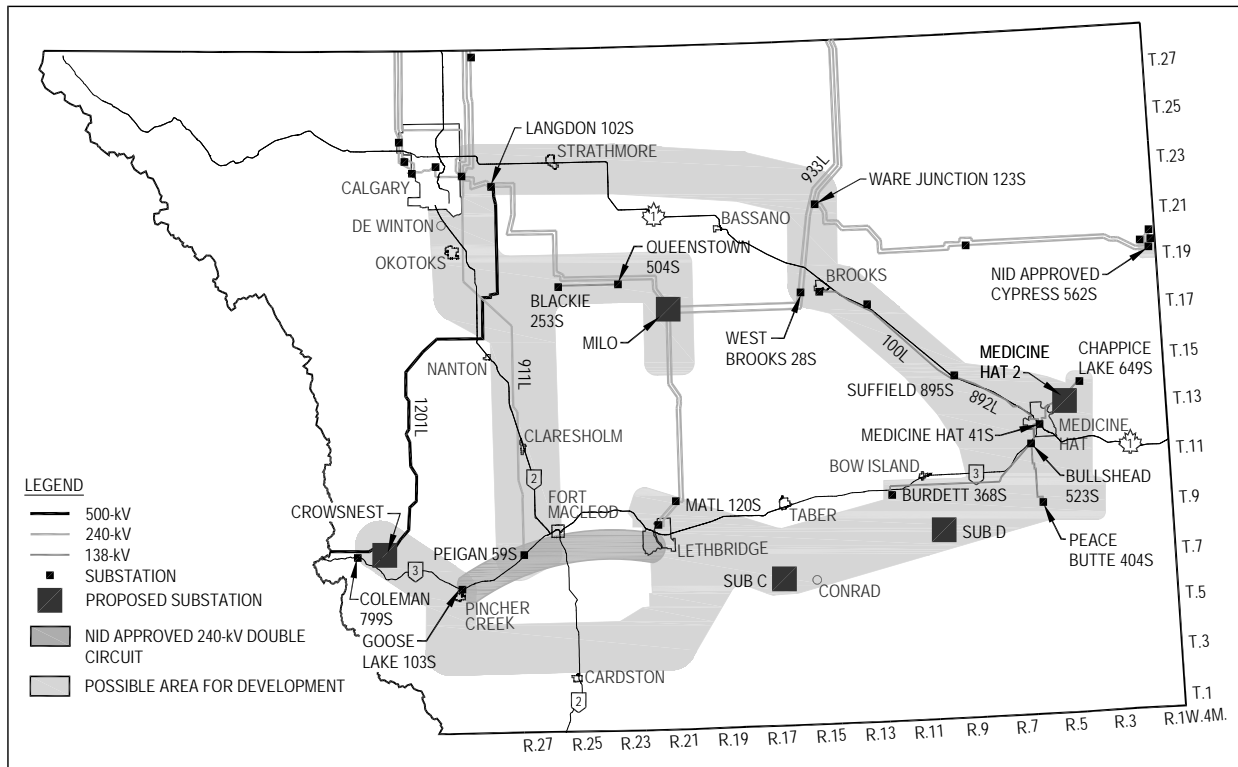
Preferred Alternative 1A, Looped 240 kV

A regional breakdown of the proposed development (**Alternative 1A**) is outlined below:

1. De Winton to Peigan Area:
 - a. Rebuild the existing 240-kV transmission line 911L from a future De Winton substation to Peigan substation 59S (LSD 3&4-15-8-27-W4M), with additional modifications at Peigan substation;
 - b. Replace the existing 179-MVA transformer with two 200-MVA transformers at Peigan substation 59S;
 - c. Salvage the existing 240-kV transmission line 911L;
 - d. Build a new 138-kV transmission line from Blackie substation 253S (LSD 1-15-19-25-W4M) to Queenstown substation 504S (LSD 4-17-19-22-W4M) with modifications at Blackie substation and Queenstown substation;
2. Langdon to West Brooks Area:
 - a. Modify the existing 240-kV transmission line 933L to be in-and-out at Ware Junction 132S (LSD 12-17-22-14-W4M);
 - b. Build a new 240-kV double circuit transmission line from Ware Junction to Langdon substation 102S (LSD 3-16-23-27-W4M);
3. Brooks to Medicine Hat to Bow Island Area:
 - a. Construct a new 240-kV substation south of Bow Island, named Sub D;
 - b. Construct a new 240-kV substation in the Medicine Hat area, named Medicine Hat 2;
 - c. Build a new 240-kV double circuit transmission line from Sub D to the future Medicine Hat 2 substation to West Brooks substation 28S (LSD 13-28-18-15-W4M);
 - d. Construct a new Milo Junction switching substation (LSD NW 13-18-21-W5);
 - e. Modify the future Cypress substation 562S (LSD 16-34-19-1W4) in the Empress Area;
4. Pincher Creek to Bow Island Area:
 - a. Construct a new 240-kV substation south of Taber, named Sub C;
 - b. Build a new 240-kV double circuit transmission line with one side strung from Goose Lake substation to Sub C;
 - c. Build a new 240-kV double circuit transmission line from Sub C to Sub D;
 - d. Build a new 240-kV double circuit transmission line with one side strung from Sub C to future Montana Alberta Tie Ltd. (MATL) substation 120S (LSD NE 1/4-14-10-21-W4M);
5. Pincher Creek to Crowsnest Pass Area:
 - a. Add a Phase Shifting Transformer on 170L at Coleman 799S substation (LSD 4-16-8-4-W5M);
 - b. Construct a new 500-kV substation near Crowsnest Pass, named Crowsnest substation;
 - c. Build a new 240-kV double circuit transmission line from Crowsnest substation to Goose Lake substation 103S (LSD 5&12-36-6-30-W4M) in the Pincher Creek area;
6. Medicine Hat Area:
 - a. Build a new 138-kV transmission line from Medicine Hat 2 substation to Medicine Hat substation 41S (LSD 11-35-12-6-W4M);

- b. Reroute a 138-kV transmission line from Medicine Hat 2 substation to Chappice Lake substation 649S (LSD 4-22-14-4-W4M);
- c. Extend a 138-kV transmission line 892L from Medicine Hat substation to Suffield substation 895S (LSD 12-3-15-9-W4M);
- d. Build a new 138-kV transmission line from Medicine Hat 2 substation to Bullshead substation 523S (LSD 9-4-12-6-W4M);
- e. Build a new 138-kV transmission line from Medicine Hat 2 substation to Burdett substation 368S (LSD 1-15-10-12-W4M);
- f. Modify the existing 138-kV transmission line from Peace Butte substation 404S (LSD 15-26-9-6 W4M) to Bullshead substation 523S to Medicine Hat substation 41S.

The locations of the proposed development for the preferred Alternative 1A are conceptually shown on Map 1A (Alternative 1A, Looped 240 kV) and are described in detail in the Needs Application.

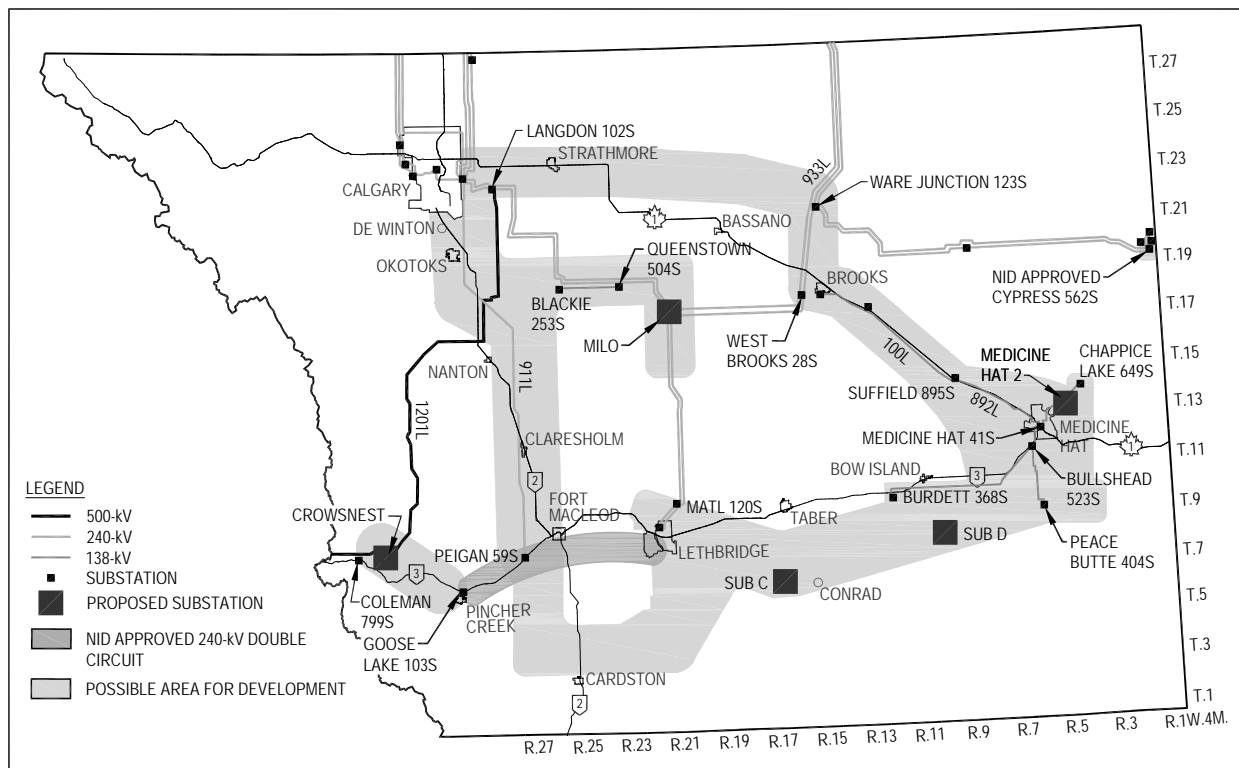


AESO has also considered other alternatives. Regional breakdowns of these alternatives are outlined below:

Alternative 1B, Looped 240 kV

1. De Winton to Peigan Area: same as Alternative 1A;
2. Langdon to West Brooks Area: same as Alternative 1A;
3. Brooks to Medicine Hat to Bow Island Area: same as Alternative 1A;
4. Pincher Creek to Bow Island Area:
 - a. Construct a new 240-kV substation south of Taber, named Sub C;
 - b. Build a new 240-kV double circuit transmission line with one side strung from Peigan substation to Sub C;
 - c. Build a new 240-kV double circuit transmission line from Sub C to Sub D;
 - d. Build a new 240-kV double circuit transmission line with one side strung from Sub C to future Montana Alberta Tie Ltd. (MATL) substation 120S (LSD NE 1/4-14-10-21-W4M);
5. Pincher Creek to Crowsnest Pass Area: same as Alternative 1A;
6. Medicine Hat Area 138-kV Upgrade: same as Alternative 1A;

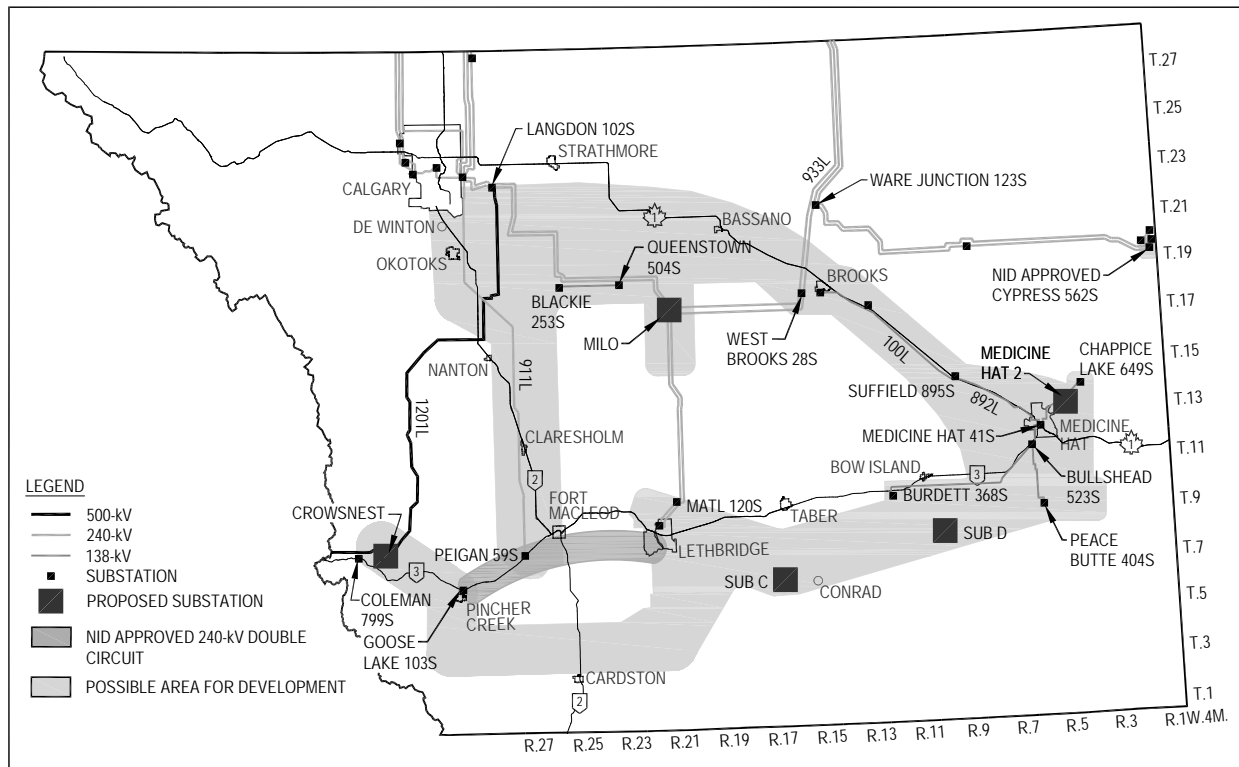
The locations of the proposed development for Alternative 1B are conceptually shown on Map 1B (Alternative 1B, Looped 240 kV) and are described in detail in the Needs Application.



Alternative 1C, Looped 240 kV

1. De Winton to Peigan Area: same as Alternative 1A;
2. Langdon to West Brooks Area:
 - a. Modify the existing 240-kV transmission line 933L to be in-and-out at Ware Junction 132S (LSD 17-22-14-W4M);
 - b. Build a new 240-kV double circuit transmission line from West Brooks substation 28S to a future De Winton;
3. Brooks to Medicine Hat to Bow Island Area: same as Alternative 1A;
4. Pincher Creek to Bow Island Area: same as Alternative 1A;
5. Pincher Creek to Crowsnest Pass Area: same as Alternative 1A;
6. Medicine Hat Area: same as Alternative 1A

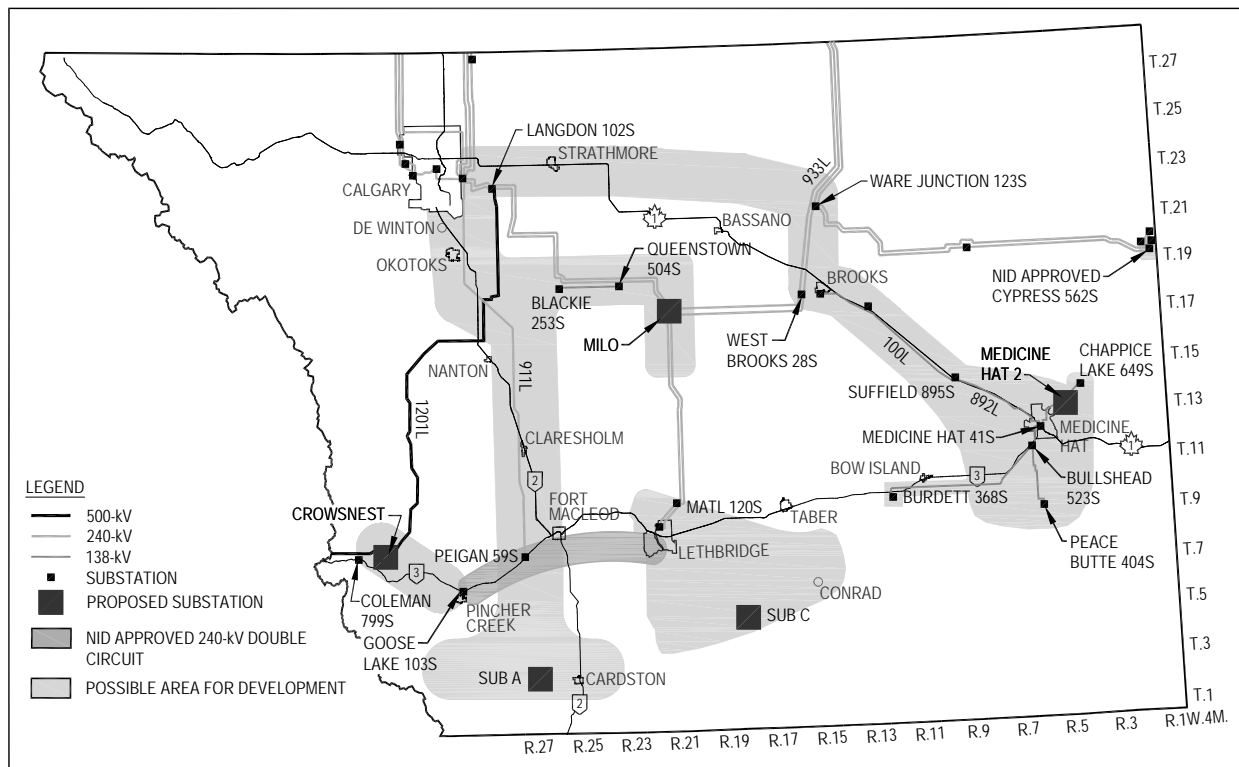
The locations of the proposed development for Alternative 1C are conceptually shown on Map 1C (Alternative 1C, Looped 240 kV) and are described in detail in the Needs Application.



Alternative 2, Radial 240 kV

1. De Winton to Peigan Area: same as Alternative 1A;
2. Langdon to West Brooks Area: same as Alternative 1A;
3. Brooks to Medicine Hat to Bow Island Area: same as Alternative 1A;
4. Pincher Creek to Bow Island Area:
 - a. Construct a new 240-kV substation south of Taber, named Sub C;
 - b. Construct a new 240-kV substation south of Peigan, named Sub A;
 - c. Build a new 240-kV double circuit transmission line from Peigan to Sub A;
 - d. Build a new 240-kV double circuit transmission line with one side strung from Sub C to future Montana Alberta Tie Ltd. (MATL) substation 120S (LSD NE 1/4-14-10-21-W4M);
5. Pincher Creek to Crowsnest Pass Area: same as Alternative 1A;
6. Medicine Hat Area: same as Alternative 1A;

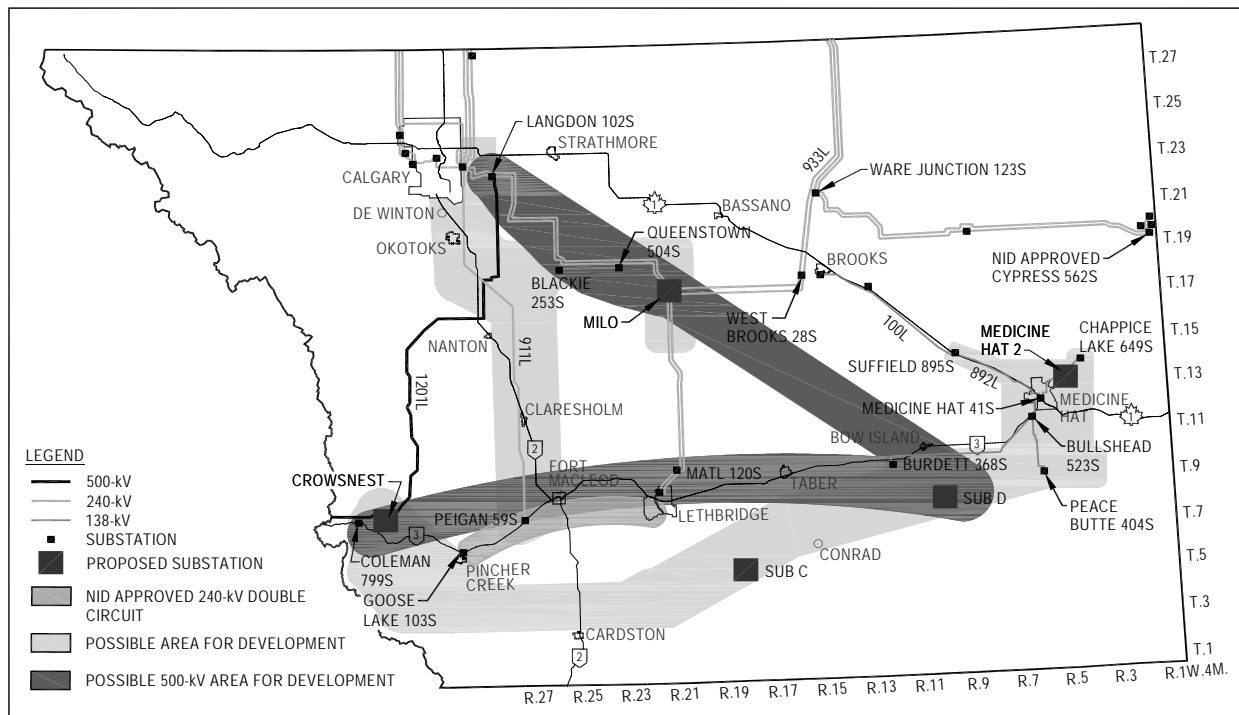
The locations of the proposed development for Alternative 2 are conceptually shown on Map 2 (Alternative 2, Radial 240 kV) and are described in detail in the Needs Application.



Alternative 3, Looped 500 kV

1. De Winton to Peigan Area: same as Alternative 1A;
2. Langdon to Milo to Bow Island Area:
 - a. Construct a new 240-kV substation south of Bow Island, named Sub D (Sub H);
 - b. Construct a new 240-kV Milo Junction Switching Station;
 - c. Build a new Langdon to Milo Junction 500-kV single circuit line operated at 240kV;
 - d. Build a new Milo Junction to Sub D 500-kV single circuit transmission line operated at 240kV;
 - e. Upgrade Sub D to be operated at 500kV;
 - f. Upgrade Milo Junction switching substation to be operated at 500-kV;
 - g. Upgrade Langdon to Milo Junction to Sub D transmission line to be operated at 500-kV;
 - h. Modify the existing 240-kV transmission line 933L to be in-and-out at Ware Junction;
3. Medicine Hat to Bow Island Area:
 - a. Construct a new 240-kV substation, named Medicine Hat 2;
 - b. Build a new 240-kV double circuit transmission line from Sub D to Medicine Hat 2;
4. Pincher Creek to Bow Island Area:
 - a. Construct a new 240-kV substation south of Taber, named Sub C;
 - b. Build a new 240-kV single circuit transmission line from Goose Lake to Sub C;
 - c. Build a new 240-kV single circuit transmission line from Sub C to Sub D;
5. Pincher Creek to Crowsnest Pass Area:
 - a. Add a new Phase Shifting Transformer on 170L at Coleman 799S substation;
 - b. Construct a new 500-kV substation near Crowsnest Pass, named Crowsnest substation;
 - c. Build a new 500-kV single circuit transmission line from Crowsnest to Sub D;
 - d. Build a new 240-kV double circuit transmission line from Crowsnest to Goose Lake;
6. Medicine Hat: same as Alternative 1A.

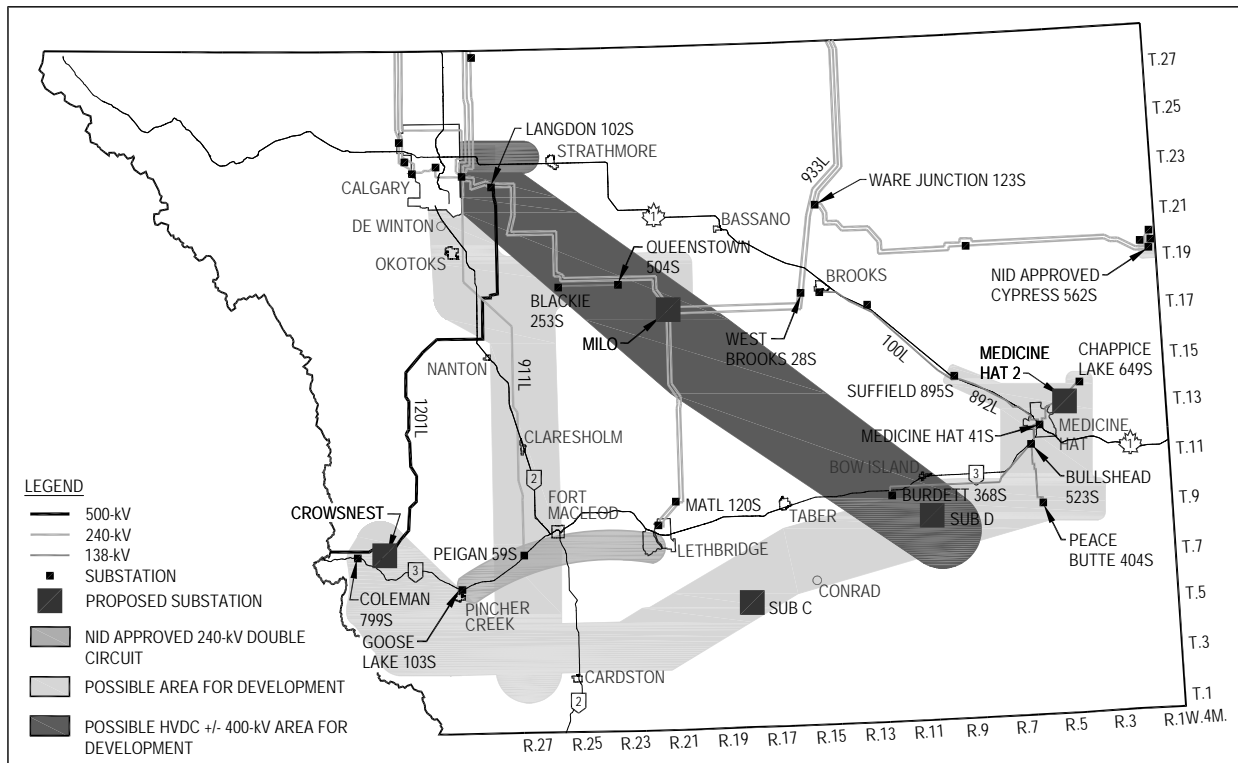
The locations of the proposed development for Alternative 3 are conceptually shown on Map 3 (Alternative 3, Looped 500 kV) and are described in detail in the Needs Application.



Alternative 4, High-Voltage Direct Current (HVDC) Classic

1. De Winton to Peigan Area: same as Alternative 1A;
2. Langdon to Milo to Bow Island Area:
 - a. Construct a new 240-kV Milo Junction Switching Station;
 - b. Construct a new 500-kV Langdon converter station;
 - c. Construct a new 500-kV converter station and 500-kV substation south of Bow Island, named Sub D;
 - d. Build a new HVDC transmission line from Langdon to Sub D;
 - e. Modify the existing 240-kV transmission line 933L to be in-and-out at Ware Junction;
3. Medicine Hat to Bow Island Area:
 - a. Construct a new 240-kV substation, named Medicine Hat 2;
 - b. Build a new 240-kV double circuit transmission line from Sub D to Medicine Hat 2;
 - c. Modify the future Cypress substation in the Empress Area;
4. Pincher Creek to Bow Island Area:
 - a. Construct a new 240-kV substation south of Taber, named Sub C;
 - b. Build a new 240-kV single circuit line from Goose Lake to Sub C;
 - c. Build a new 240-kV single circuit line from Sub C to Sub D;
5. Pincher Creek to Crowsnest Pass Area:
 - a. Add a new Phase Shifting Transformer on 170L at Coleman 799S substation;
 - b. Construct a new 500-kV substation near Crowsnest Pass, named Crowsnest substation;
 - c. Build a new 240-kV double circuit transmission line from Crowsnest to Goose Lake;
6. Medicine Hat Area: same as Alternative 1A.

The locations of the proposed development for Alternative 4 are conceptually shown on Map 4 (Alternative 4, HVDC Classic) and are described in detail in the Needs Application.



Notice of Hearing

The AUC has decided to hold a hearing on the Needs Application on **Monday, June 22, 2009**. The place of the hearing is to be determined and will be announced at a later date. If you have concerns or objections that the Needs Application is contrary to the public interest, or is technically deficient, or if you are in support of the Needs Application please send a letter stating your position before **Tuesday, April 7, 2009**.

If you have not filed a concern by **Tuesday, April 7, 2009**, you may still participate in this hearing by filing a submission by **Monday, June 1, 2009**. If you have filed a concern and wish to add to your previous letter, you may do so by **Monday, June 1, 2009**. If no letters or submissions objecting to the Needs Application are received by **Monday, June 1, 2009**, the AUC will cancel the hearing and must approve the Application.

Schedule	Deadlines
Letters of Concern, Objections or Support	April 7, 2009
Submissions of All Information by Interested Persons	June 1, 2009
Reply Submission by AESO and All Interested Persons	June 10, 2009
Commencement of Hearing, Location To Be Determined	June 22, 2009

Submissions

After reviewing the privacy information in this notice, please send a copy of your letter or submission to both the AESO and the AUC containing the following information:

- your name or organization name, address and/or legal land description, telephone number and email address (if available);
- state your position and whether in your view the Needs Application is contrary to the public interest, or is technically deficient, and the reasons for your position
- a list of the issues that you have with the proposed project and a summary of reference materials or evidence that you plan to use to support your views; and
- the decision that you would like the AUC to make in regards to the Needs Application.

If you are represented by another person, please include the contact information for your representative. If you are part of a group, provide a contact person for the group and provide details on the group members.

Details on intervener funding to assist in presenting your concerns in a well-prepared, well-reasoned and well-documented way are available on our website under Involving Albertans, or can be obtained by contacting the AUC as indicated in this Notice. Intervener funding will also be a topic at the AUC Information Sessions.

Freedom of Information and Protection of Privacy Act

Subject to the *Freedom of Information and Protection of Privacy Act*, all documents filed in this Proceeding, including any documents filed prior to the start of this Proceeding, must be placed on the public record. Your written submissions and any other documents you file will be accessible to the public and all other participants in the Proceeding through the Proceeding Search system on the AUC website. Please ensure that any document you file is free of information that you do not want to appear on a public record. If you do not want your document or part thereof placed on the public record, you must apply to the Commission under section 13 of the *AUC Rules of Practice* for a confidentiality order before you file your document.

Contact Information

Electronic copies of letters or submissions should be sent to:

E-mail: Filings@auc.ab.ca
Subject: Application No. 1600862

and

Email: deanna.merrick@aeso.ca
Subject: Application No. 1600862

Paper copies of submissions should be sent to:

Alberta Utilities Commission
Utilities Division
Fifth Avenue Place, 4th floor, 425 – 1 Street SW
Calgary, AB T2P 3L8
Re: Application No. 1600862

and

AESO
2500, 330 – 5th Ave SW
Calgary, AB T2P 0L4
Attention: Deanna Merrick
Telephone: 403-539-2563
Email: deanna.merrick@aeso.ca

To obtain additional information or a paper copy of the Needs Application, contact the AESO at the abovementioned address. The AUC can also be contacted for more information at:

Telephone: (780) 427-4903 (for toll free access in Alberta first dial 310-0000)
Email: kai.yang@auc.ab.ca

Information about this Needs Application and opportunities for participation are available on our website www.auc.ab.ca under Items of Interest.

Use the following link for electronic documents regarding this application:

https://www.auc.ab.ca/eub/dds/EPS_Query/ProceedingDetail.aspx?ProceedingID=171

AUC Information Sessions

The AUC will be holding Information Sessions about its hearing procedure, including intervener funding, in the following communities: Okotoks, Claresholm, Cardston, Fort Macleod, Lethbridge, Taber, Pincher Creek, Medicine Hat, Strathmore and Brooks. The Information Sessions will be held in April, 2009. Please refer to our website and watch your local newspaper for an announcement regarding the specific dates, times and locations.

Issued at Calgary, Alberta on March 9, 2009.

ALBERTA UTILITIES COMMISSION
Douglas A. Larder, Q.C., General Counsel