AUC
Alberta Utilities Commission

Dow Chemical Canada ULC

Dow Fort Saskatchewan Path$_2$Zero Project and Industrial System Designation

September 24, 2025

Alberta Utilities Commission
Decision 29880-D01-2025
Dow Chemical Canada ULC
Dow Fort Saskatchewan Path$_2$Zero Project and Industrial System Designation
Proceeding 29880
Applications 29880-A001 to 29880-A016

September 24, 2025

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The Commission may, no later than 60 days from the date of this decision and without notice, correct typographical, spelling and calculation errors and other similar types of errors and post the corrected decision on its website.

1 Decision summary

1. In this decision, the Alberta Utilities Commission approves applications from Dow Chemical Canada ULC to construct and operate transmission facilities (P2Z Transmission Project). The P2Z Transmission Project is part of the broader Dow Fort Saskatchewan Path$_2$Zero Project (P2Z Project). The Commission also approves Dow's application for an industrial system designation (ISD) that encompasses the previously approved 140-megawatt (MW) steam turbine generator power plant, the proposed P2Z Transmission Project, and distribution facilities.

2 Introduction and background

2. Dow is the majority owner of the P2Z Project, comprised of a net-zero carbon emissions ethylene and derivatives production complex on the existing footprint of the long-standing Dow Fort Saskatchewan industrial site, located within the city of Fort Saskatchewan. Dow also has approval to construct and operate a 140-MW steam turbine generator power plant[1] within the fence boundary of the P2Z Project. The P2Z Project also includes a clean hydrogen and carbon capture and compression complex (Linde Facility) that will be owned and operated by Linde Canada Inc.

3. Dow requested approval to construct and operate the transmission facilities, being the P2Z Transmission Project, outlined in tables 1 and 2 and illustrated in Figure 1. Dow also applied for approval of an ISD that encompasses the previously approved power plant and the associated electric facilities (P2Z Transmission Project distribution facilities) that form part of the overall P2Z Project.

Table 1. Proposed substation facilities

Name	Legal subdivision	Section	Township	Range	Meridian	Major equipment
Main Site BLK 80 1199S Substation	01	10	55	22	W4	• Two 240/15-kilovolt (kV) 60/80/100 megavolt ampere (MVA) transformers • 24 240-kV circuit breakers
8A Substation	02	13	55	22	W4	• Two 240/34.5-kV 90/120/150 MVA transformers • Two 240/34.5/15-kV 105/140/175 MVA transformers • 12 240-kV circuit breakers

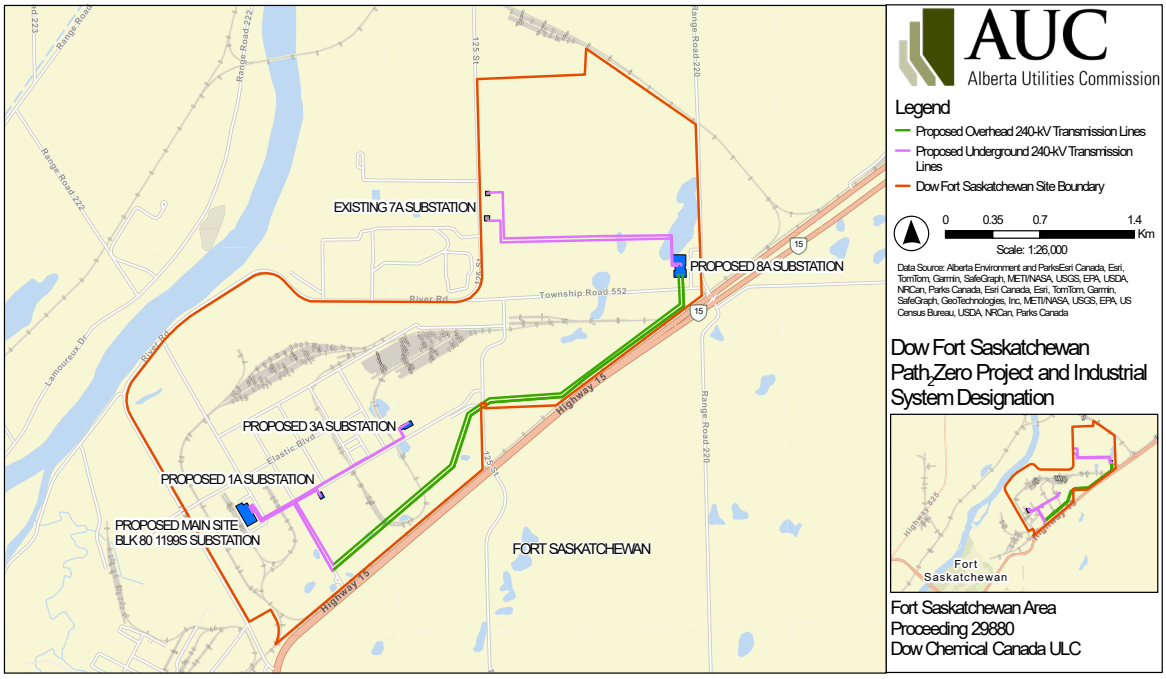
[1] Decision 28367-D01-2023: Dow Chemical Canada ULC – Fort Saskatchewan Path2Zero Power Plant, Proceeding 28367, Application 28367-A001, November 24, 2023.

Name	Legal subdivision	Section	Township	Range	Meridian	Major equipment
3A Substation	07	11	55	22	W4	• Two 240/15-kV 60/80/100 MVA transformers
1A Substation	03	11	55	22	W4	• Two 240/15-kV 60/80/100 MVA transformers

Table 2. Proposed transmission line facilities

Name	From Substation	To Substation	Configuration	Voltage
F-240SWGR-8A-A	Main Site BLK 80 1199S Substation	8A Substation	Overhead and Underground	240 kV
F-240SWGR-8A-B	Main Site BLK 80 1199S Substation	8A Substation	Overhead and Underground	240 kV
F-240SWGR-8A-C	Main Site BLK 80 1199S Substation	8A Substation	Overhead and Underground	240 kV
F-1A-TR1	Main Site BLK 80 1199S Substation	1A Substation	Underground	240 kV
F-1A-TR2	Main Site BLK 80 1199S Substation	1A Substation	Underground	240 kV
F-3A-TR1	Main Site BLK 80 1199S Substation	3A Substation	Underground and Cable Tray	240 kV
F-3A-TR2	Main Site BLK 80 1199S Substation	3A Substation	Underground and Cable Tray	240 kV
F-7ATR-1A	8A Substation	7A Substation	Underground	240 kV
F-7ATR-2A	8A Substation	7A Substation	Underground	240 kV

Figure 1. Proposed transmission facilities



4. The proposed P2Z Transmission Project is within the fence boundary of the broader P2Z Project. Dow explained that the Main Site BLK 80 1199S Substation is also required for the future connection of the P2Z Project with the Alberta Interconnected Electric System (AIES) via new transmission lines. Dow stated that those transmission lines would be constructed and operated by AltaLink Management Ltd.

5. Dow stated that a phased approach is being undertaken to support the energy requirements of the P2Z ISD by 2030. Dow's proposed P2Z Transmission Project and ISD applications reflect Phase 1.

6. Dow currently has approval of an existing ISD for its Fort Saskatchewan Industrial Complex[2] (Legacy ISD) located on the same industrial site where the proposed P2Z Project is located. Dow advised that the Legacy ISD and P2Z ISD would not be electrically connected and would operate separately from each other until Dow files a future application with the Commission to connect the two ISDs as part of Phase 2.

7. Phase 2 also includes transmission upgrades to its existing 34.5-kV 7A Substation, which is operating as part of its Legacy ISD, to facilitate the eventual connection of its proposed 240-kV transmission lines F-7ATR-1A and F-7ATR-2A from its proposed 8A Substation. Dow confirmed that it is only applying for a permit to construct transmission lines F-7ATR-1A and F-7ATR-2A at this time and that it would apply to the Commission for a licence to operate them in the future.[3] Dow expected to file applications for Phase 2 in the fourth quarter of 2026.

8. Dow stated the expected P2Z Transmission Project in-service date to be January 31, 2028.

3 Is approval of the transmission facilities in the public interest?

9. For the reasons outlined below, the Commission finds that approval of the P2Z Transmission Project is in the public interest having regard to the social and economic effects of the project, and the effects of the project on the environment.

10. The Commission has determined that the information requirements specified in Rule 007: *Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines* have been met.

11. The Commission finds that the participant involvement program for the P2Z Transmission Project meets the requirements of Rule 007. Dow's participant involvement program included consultation and notification with landowners, residents, occupants and interested parties within 800 metres of the P2Z Transmission Project. Dow provided a pre-consultation assessment from the Aboriginal Consultation Office in relation to the P2Z Project's *Water Act* amendment application, deeming no consultation was required. In its application, Dow stated that no stakeholders have identified any concerns. The Commission issued a notice of applications and sent notice by email to Paul First Nation, Lac Ste. Anne Métis Community Association (LSAMCA), Alexis Nakota Sioux Nation, Enoch Cree Nation and

[2] Decision 29882-D01-2025: Dow Chemical Canada ULC – Dow Fort Saskatchewan Industrial Complex Industrial System Designation Order Transfer, Proceeding 29882, Application 29882-A001, March 17, 2025.

[3] Exhibit 29880-X0073, Dow Response to AUC 2025MAY29-001 to 002 (05 June 2025), Dow-AUC-2025MAY29-001(a), PDF page 3.

Alexander First Nation. The Commission received one statement of intent to participate in opposition to the P2Z Transmission Project from LSAMCA. The Commission denied standing to LSAMCA, finding that they did not meet the test for standing.[4]

12. Dow retained WSP Canada Inc. to complete a noise impact assessment (NIA) for the proposed P2Z Transmission Project facilities in accordance with Rule 012: *Noise Control*.[5] The NIA concluded that for each receptor, the change in cumulative sound levels as a result of the P2Z Transmission Project facilities relative to baseline sound levels will be less than or equal to 0.4 decibels (dB), which meets the no net increase threshold set out in Rule 012.[6]

13. The Commission acknowledges that the proposed P2Z Transmission Project is located within the Alberta Industrial Heartland (AIH) along with other numerous existing industrial facilities. Noise in the AIH region is managed by a regional noise management plan (RNMP) developed and maintained by the Northeast Capital Industrial Association (NCIA). NCIA's RNMP is recognized and approved by the Alberta Energy Regulator and endorsed by the AUC. In its endorsement letters, the AUC agreed that NCIA's RNMP meets the criteria set out in Section 2.7 – Noise management plans of Rule 012, and required that in circumstances where meeting the Rule 012 permissible sound levels is not practical, new facilities in the AIH should result in no net increase above baseline case sound levels at nearby receptors (i.e., an increase in sound level above the baseline case should be no greater than 0.4 dB as described in Rule 012).[7] The Commission finds that the P2Z Transmission Project NIA meets the requirements as specified in the AUC's endorsement letters for the NCIA's RNMP and accepts that noise from the project is expected to meet the no net increase threshold set out in Rule 012.

14. For the reasons that follow, the Commission is satisfied that the P2Z Transmission Project will result in negligible off-site environmental impacts and finds that potential environmental impacts within Dow's existing Fort Saskatchewan industrial site boundary will be effectively managed through mitigation measures committed to in this proceeding and the regulatory requirements stipulated in the site's current *Environmental Protection and Enhancement Act* approval.

15. Dow provided an environmental evaluation[8] and an environmental management and mitigation plan,[9] conducted by WSP, which reviewed environmental components and concluded that potential environmental impacts of the broader P2Z Project, which includes the transmission applications before the Commission in this proceeding, can be effectively mitigated.

16. The Commission's expectation is that an environmental evaluation and environmental protection plan are specific to the facilities being applied for, so the Commission can assess the potential environmental impacts of the proposed facilities. In this case, the Commission asked

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4 Exhibit 29880-X0092, AUC letter - Ruling on Lac Ste. Anne Métis Community Association request for standing; Exhibit 29880-X0094, AUC letter - Ruling on standing.

5 Exhibit 29880-X0074, Dow-AUC-2025MAY29-002 – Updated NIA.

6 Cumulative sound levels are calculated as the sum of baseline sound levels and noise levels from the project, while baseline sound levels are calculated as the sum of ambient sound levels and noise levels from the existing facilities that have potential to influence sound levels at receptors.

7 Letter from Alberta Utilities Commission to Northeast Capital Industrial Association, issued on September 16, 2013; Letter from Alberta Utilities Commission to Northeast Capital Industrial Association, issued on October 16, 2013.

8 Exhibit 29880-X0012, TS24 - Environmental Evaluation.

9 Exhibit 29880-X0010, TS26 - Environmental Management & Mitigation Plan.

Dow to identify the environmental information specific to the P2Z Transmission Project, which Dow did through information request responses.[10] Dow identified the sections of the reports that apply to the P2Z Transmission Project facilities and clarified that the construction and operation of these facilities would have no impact to groundwater or air quality, and no negative impact on soil or surface water runoff.

17. With respect to potential off-site environmental impacts, the Commission is satisfied that the P2Z Transmission Project does not create air emissions or process (industrial) wastewater and will have no negative impact to surface water runoff or the North Saskatchewan River. The Commission's findings regarding impacts to the North Saskatchewan River are supported by the fact that the proposed transmission facilities themselves are not located on the bank of the river but located approximately 1.2 kilometres away, and that surface water within the Dow facility will continue to be managed through the site-wide stormwater management system, details of which are stipulated within and enforced under the *Environmental Protection and Enhancement Act* approval. Furthermore, the Commission is satisfied that the construction and operation of the P2Z Transmission Project does not require any additional diversion of water from the North Saskatchewan River.[11] Overall, the Commission finds the project will result in negligible off-site environmental impacts.

18. With regard to localized, potential on-site environmental impacts, the Commission finds these will be reasonably managed through implementation of Dow's proposed mitigation measures and continued compliance with existing site-wide processes and management systems, including those enforced under the *Environmental Protection and Enhancement Act* approval.

19. Dow submitted that the entirety of the P2Z Transmission Project will be located within the existing footprint of the Dow Fort Saskatchewan industrial site, on lands that have been cleared and used for industrial purposes for several decades.[12] Dow clarified that during construction of the project, there will be temporary disturbances to six per cent of a greenbelt that was developed by Dow on their property, which is zoned heavy industrial and falls within Alberta's Designated Industrial Zone.[13]

20. As previously noted, Dow has committed to several mitigation measures and has existing site-wide systems in place to reduce potential localised impacts. These include but are not limited to: implementing an erosion and sedimentation control plan; complying with the *Migratory Birds Convention Act;* conducting nest surveys prior to land clearing if the nesting period cannot be completely avoided; conducting a wildlife sweep prior to construction; adhering to requirements of the project's *Water Act* approval for planned wetland disturbances; following the existing system for managing spill response; restoring drainage and native vegetation in the area of construction within the greenbelt; and updating the site-wide soil management plan (SMP) to include soil and groundwater management plans specific to the P2Z Project.

21. The Commission finds the mitigation measures proposed by Dow in this proceeding to be reasonable and accepts Dow's plan to update the SMP and groundwater monitoring program to

[10] Exhibit 29880-X0049, Dow Response to AUC 2025MAR25-001 to 008 (22 Apr 2025); Exhibit 29880-X0088, Dow Response to AUC 2025JUL23-001 to 005 (06 Aug 2025).
[11] Exhibit 29880-X0084, 2025-06-27 - Letter to AUC re Response to LSAMCA SIP, PDF page 4.
[12] Exhibit 29880-X0088, Dow Response to AUC 2025JUL23-001 to 005 (06 Aug 2025), Dow-AUC-2025JUL23-003(b), PDF page 6.
[13] Exhibit 29880-X0049, Dow Response to AUC 2025MAR25-001 to 008 (22 Apr 2025), PDF page 25.

incorporate the P2Z Transmission Project in 2026 prior to operations commencing. The Commission finds that these updated plans will be reviewed and approved by Alberta Environment and Protected Areas, with commitments enforceable under the *Environmental Protection and Enhancement Act* approval. Overall, the Commission finds that the P2Z Transmission Project's on-site incremental environmental impacts will be negligible.

22. A *Historical Resources Act* approval for the P2Z Project,[14] dated January 23, 2023, identified five historical sites; however, no conditions of approval were issued. The Commission finds that potential impacts to historical resources on Dow's existing industrial site will be limited. However, in the event a historic resource is encountered, Dow must comply with the Standard Requirements under the *Historical Resources Act*: Reporting the Discovery of Historic Resources as noted in Dow's *Historical Resources Act* approval.

23. Based on the foregoing, the Commission considers the P2Z Transmission Project to be in the public interest in accordance with Section 17 of the *Alberta Utilities Commission Act*.

4 Does the steam turbine generator power plant and associated electric facilities meet the requirements to be designated as an industrial system?

24. The proposed P2Z ISD would include the approved 140-MW steam turbine generator power plant and the associated electric system, comprised of a 15-kV and 34.5-kV distribution system and 240-kV transmission system, that supplies electricity to the P2Z Project.

25. The Commission must consider the ISD application in accordance with the principles and criteria set out in Section 4 of the *Hydro and Electric Energy Act*. Section 4(2) sets out principles that the Commission must have regard for when considering an application for an ISD; Section 4(3) sets out specific criteria for determining whether a project should be designated as an industrial system.

26. For the reasons outlined below, the Commission finds that granting an ISD is consistent with the principles in Section 4(2) and each of the criteria found in Section 4(3).

27. Subsection 4(2) lists the principles the Commission must consider:

- The ISD must be consistent with the objective of giving appropriate economic signals such that industrial processes will develop their own internal electricity supply where that is the most economical source of generation.
- The ISD must support the efficient exchange of electric energy that is in excess of the industrial system's own requirements with the interconnected electric system and improve voltage stability and reduction of losses and congestion of transmission lines.
- The ISD should not facilitate "the development of independent electric systems that attempt to avoid costs associated with the interconnected electric system" and uneconomical bypass of the interconnected electric system.

[14] Exhibit 29880-X0008, TS31 - HRA Approval.

- Duplication of the interconnected electric system must be avoided where it is more economical to use utility-owned transmission or distribution facilities existing in the service area where the industrial system will be located.

28. The Commission is satisfied that approval of the P2Z ISD is consistent with the principles set out above. Dow explained that the P2Z power plant is fueled by steam created as a by-product of the ethylene cracker and AutoThermal Reforming (ATR) processes. This method increases efficiency, reduces environmental impact and provides additional power generation. The P2Z power plant is estimated to supply approximately 15 per cent of the P2Z Project's annual electricity needs. Dow provided an economic comparison, which demonstrated that internal supply through on-site generation is the most economic source of power for the industrial complex. The P2Z Project is proposed to connect to the AIES through separately applied-for AltaLink transmission lines. The P2Z power plant will also provide voltage support in an area with limited generation. Further, the P2Z Project will be a net importer of electricity from the AIES and Dow confirmed it would pay the applicable wires tariff charges.

29. Regarding the criteria set out in Section 4(3), and starting with Section 4(3)(a), the electric facilities include the 140-MW power plant, four substations, nine transmission lines, and various 15-kV and 34.5-kV distribution facilities located within the P2Z Project fence boundary. The P2Z power plant would use by-product steam to generate electricity required for operating the P2Z Project. The Commission finds the P2Z Project is a significant, complex industrial operation with a high degree of electric, thermal and operations integration, intentionally designed with a focus on significant and sustained increases in energy efficiency and optimizing energy consumption.

30. Dow explained that treated ethane is fed into the ethylene cracker furnaces where it is heated to high temperatures to produce cracked gas. The cracked gas is predominantly a mixture of ethylene, propylene, butadiene, pygas and offgas (hydrogen and methane). This cracked gas is compressed and separated into its components via multiple separation processes. The ethylene is sent to downstream derivative facilities where it is reacted to form polyethylene pellets (plastic) as a final product.

31. The hydrogen offgas produced by the P2Z Project is recovered and sent to the Linde Facility, which uses ATR technology, which is a process that applies partial oxidation and steam reforming to natural gas to produce more hydrogen and carbon dioxide. The hydrogen produced from the Linde Facility is combined with the recovered hydrogen, and sent back to the P2Z Project to be utilized in the ethylene cracker furnaces, reducing carbon emissions that would have otherwise been released had the raw offgas or natural gas been used. Carbon dioxide produced at the Linde Facility is captured and compressed on-site and then delivered to off-site sequestration, establishing the world's first net-zero carbon emissions ethylene and derivatives production complex.

32. Both the ethylene cracking and ATR technologies produce steam as part of their high temperature processes. This by-product steam will be captured and used to fuel the P2Z power plant. The net-zero carbon emission electricity generated by the P2Z power plant will serve the P2Z Project, via the P2Z Transmission Project and distribution facilities. Low pressure steam, also produced by the P2Z power plant, will return to other low pressure steam systems or be condensed back to water for use within the P2Z Project. Dow stated that utilizing the by-product steam to generate electricity significantly increases the overall efficiency of the P2Z Project.

33. The Commission is satisfied that there is a high degree of integration of the electric system with the industrial operations it forms part of and serves, and there is a high degree of integration of the components of the industrial operations. Accordingly, Section 4(3)(a) is met.

34. The Commission is satisfied that Section 4(3)(b) is met as the P2Z Project produces petrochemical products.

35. Regarding Section 4(3)(d), Dow explained that the approved power plant will recover by-product steam, which is essential for meeting process heat requirements and operating critical equipment, and electrical power, which is necessary for utility power and running process equipment. The Commission is satisfied that Section 4(3)(d) has been met.

36. The Commission is satisfied that Section 4(3)(e) has been met because Dow is the majority owner and operator of the P2Z Project and will fully own the power plant, substations, transmission lines and distribution facilities. Dow stated that there are a number of operating and commercial agreements between Dow and Linde to support the combined operations at the P2Z Project. Therefore, there is a high degree of integration of the management of the components and the processes of the industrial operations.

37. Dow stated that the construction of the P2Z production complex, power plant, transmission and distribution facilities represent a capital investment of $6.5 billion (USD) and an additional $2 billion (USD) of investment from other third parties associated with circular hydrogen, carbon capture and ancillary infrastructure assets critical to the P2Z Project execution. Therefore, the requirements of Section 4(3)(f) have been satisfied.

38. The Commission finds that Section 4(3)(g) is not applicable in this case because the industrial operations do not extend beyond contiguous property.

39. Section 4(3)(c) requires that there is a common ownership of all of the components of the industrial operations. Dow will own the ethylene and derivatives production complex, the power plant and the electric facilities. However, the clean hydrogen and carbon capture and compression complex will be owned and operated by Linde Canada Inc. Because Dow is the majority owner but not the sole owner of the P2Z Project, the Commission finds that this criterion is not met. However, Section 4(4) permits the Commission to make a designation if the Commission is satisfied that all of the separately owned components and all of the industrial operations are components of an integrated industrial process. The Commission considers that to be the case for this application. The Commission notes that Dow requested Linde be listed on the ISD Order. This is satisfactory to the Commission.

40. In conclusion, the Commission finds that Dow's proposal meets the principles and criteria for an ISD.

5 Decision

41. Under sections 14, 15 and 19 of the *Hydro and Electric Energy Act*, the Commission approves applications 29880-A001 to 29880-A009, 29880-A012 to 29880-A013, and 29880-A015 to 29880-A016, and grants to Dow Chemical Canada ULC the following approvals:

- Substation Permit and Licence 29880-D02-2025, to construct and operate Main Site BLK 80 1199S Substation (Appendix 1)
- Substation Permit and Licence 29880-D03-2025, to construct and operate 8A Substation (Appendix 2)
- Substation Permit and Licence 29880-D04-2025, to construct and operate 3A Substation (Appendix 3)
- Substation Permit and Licence 29880-D05-2025, to construct and operate 1A Substation (Appendix 4)
- Transmission Line Permit and Licence 29880-D06-2025, to construct and operate Transmission Line F-240SWGR-8A-A (Appendix 5)
- Transmission Line Permit and Licence 29880-D07-2025, to construct and operate Transmission Line F-240SWGR-8A-B (Appendix 6)
- Transmission Line Permit and Licence 29880-D08-2025, to construct and operate Transmission Line F-240SWGR-8A-C (Appendix 7)
- Transmission Line Permit and Licence 29880-D09-2025, to construct and operate Transmission Line F-1A-TR1 (Appendix 8)
- Transmission Line Permit and Licence 29880-D10-2025, to construct and operate Transmission Line F-1A-TR2 (Appendix 9)
- Transmission Line Permit and Licence 29880-D11-2025, to construct and operate Transmission Line F-3A-TR1 (Appendix 10)
- Transmission Line Permit and Licence 29880-D12-2025, to construct and operate Transmission Line F-3A-TR2 (Appendix 11)
- Transmission Line Permit 29880-D13-2025, to construct Transmission Line F-7ATR-1A (Appendix 12)
- Transmission Line Permit 29880-D14-2025, to construct Transmission Line F-7ATR-2A (Appendix 13)

42. The Commission dismisses applications 29880-A010 and 29880-A011 for transmission lines F-ASU-TR1 and F-ASU-TR2, respectively, because Dow requested that these applications be withdrawn.

43. Pursuant to Section 4 of the *Hydro and Electric Energy Act* and sections 2(1)(d) and 17 of the *Electric Utilities Act*, the Commission approves Application 29880-A014 and grants to Dow Chemical Canada ULC and Linde Canada Inc. an industrial system designation as set out in Appendix 14 – Industrial System Designation Order 29880-D15-2025.

44. The appendixes will be distributed separately.

Dated on September 24, 2025.

Alberta Utilities Commission

(original signed by)

Carolyn Dahl Rees
Chair