



Southern Pacific Resource Corp.

**Industrial System Designation for
Electrical System of McKay SAGD Project**

June 30, 2011

The Alberta Utilities Commission

Decision 2011-291: Southern Pacific Resource Corp.

Industrial System Designation for Electrical System of McKay SAGD Project

Application No. 1605997

Proceeding ID No. 553

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1 Introduction

1. Southern Pacific Resource Corp. (Southern Pacific) filed Application No. 1605997 (ISD application) with the Alberta Utilities Commission (AUC or the Commission) on March 19, 2010, seeking approval of its request for an industrial system designation (ISD) encompassing the recently approved power plant¹ and all the proposed electric facilities within Southern Pacific's McKay steam-assisted gravity drainage (SAGD) project site pursuant to Section 4 of the *Hydro and Electric Energy Act*.

2 Application details

2. The ISD application applied for encompasses all electric facilities within Southern Pacific's McKay SAGD² project site. The project site comprises a total of 10.5 sections, namely sections 7, 8, 9, 10, 15, 16, 17, 18, 21 and 22, Township 91, Range 14 and the east half of Section 12, Township 91, Range 15, west of the Fourth Meridian, approximately 45 kilometres (km) northwest of Fort McMurray, Alberta. The industrial system would be operated by Southern Pacific and would be comprised of the following major electric facilities:

- A power plant consisting of three 5.65-megawatt (MW) gas turbine generator units with at total generating capacity of 17 MW (power plant).
- A 25-kilovolt (kV) distribution system within Southern Pacific's McKay SAGD project site.

3. Southern Pacific stated that the final equipment list is still under development and will be provided to the Commission once the final system design is available.

4. Southern Pacific submitted that 7-MW of electricity generated from the power plant would be used at the central processing facility for Southern Pacific's SAGD operation. A 25-kV distribution system would connect the power plant to remote well sites to give power to the submersible production pumps, transfer pumps from the production wells to the central processing facility and other loads such as water pumping and electric heat tracing. Approximately 0.9-MW of the electricity generated from the power plant would be distributed

¹ Southern Pacific filed the Power Plant Application (Application No. 1605960) for the construction and operation of a new 17-megawatt (MW) cogeneration power plant (Power Plant) within the SAGD project site. The Power Plant was approved on March 17, 2011 by way of Approval No. U2011-107.

² Southern Pacific SAGD project approved by the ERCB pursuant to Approval No. 11461, October 18, 2010. A copy of Alberta Environment's approval for the SAGD project was submitted to the AUC on November 19, 2010.

initially to bitumen production pads, water wells, and transfer pumps. The power plant output would be adjustable to serve the total load of Southern Pacific's McKay SAGD project site.

3 Application review process

5. The Commission issued information requests (IRs) to Southern Pacific on June 29, 2010. The additional information requested by the Commission included a list of major equipment, a single line diagram, economic comparisons, details of public consultation and the status of the approvals for the McKay SAGD project from Alberta Environment and the Energy and Resources Conservation Board (ERCB). Southern Pacific responded to the Commission's IRs on August 6, October 18 and November 19, 2010.

6. The Commission issued the notice of application on January 4, 2011, with a deadline for submissions to the Commission by January 25, 2011. In response to the notice of application, the Commission received a submission from ATCO Electric Ltd. (ATCO). In its submission, ATCO stated that it had concerns because Southern Pacific's application did not meet all of the criteria set out in the *Hydro and Electric Energy Act* with respect to the requirements for obtaining approval for an ISD. ATCO was also concerned whether Southern Pacific would eventually connect with ATCO's transmission and distribution system, which forms part of the Alberta Interconnected Electric System (AIES) when it was available in the area of Southern Pacific's operations.

7. The Commission requested a written position from ATCO and provided Southern Pacific with the opportunity to respond to that submission.

4 Participant involvement program and environmental review

8. Southern Pacific stated that its participant involvement program (PIP) was conducted for the entire McKay SAGD project development. Southern Pacific stated that it consulted with interested parties in the area regarding its SAGD project. Southern Pacific stated that through the course of its PIP, ATCO raised a concern regarding supplying electric service to the McKay SAGD facilities. Discussion between Southern Pacific and ATCO was ongoing at the time the application was filed.

9. Southern Pacific applied to the ERCB and Alberta Environment in May 2009, seeking approval for its SAGD project. Southern Pacific submitted that its SAGD project was approved by the ERCB pursuant to Approval No. 11461 on October 18, 2010. A copy of Alberta Environment's approval for the SAGD project was submitted to the AUC on November 19, 2010.

5 Findings

10. The Commission notes that a PIP has been conducted by Southern Pacific, generating one concern, being the concern raised by ATCO. The Commission finds that Southern Pacific complied with the consultation and notification requirements contained in AUC Rule 007: *Rules Respecting Applications for Power Plants, Substations, Transmission Lines, and Industrial*

System Designations (AUC Rule 007). The Commission also finds that Southern Pacific's consultation steps were adequate given the nature and scope of the application for an ISD.

11. The Commission notes that Southern Pacific's McKay SAGD project was approved by Alberta Environment and the ERCB. The Commission finds that the environmental requirements contained in AUC Rule 007 have been met.

12. The Commission considered the application pursuant to the principles and criteria set out in Section 4 of the *Hydro and Electric Energy Act*. Section 4(2) sets out the principles the Commission shall have regard to and Section 4(3) sets out the criteria that the Commission should apply when deciding whether to grant an ISD. The Commission's findings with respect to each of these principles and criteria are addressed below.

Principle 4(2)(a) – Most Economic Source of Generation

13. This principle requires proponents to demonstrate that the internal supply through on-site generation is the most economic source of power for the industrial complex. In this case, Southern Pacific provided cost comparisons showing that the internal electric supply using a co-generation plant in the immediate area is a more economic source of generation than the alternative of connecting to and purchasing power from the AIES. The comparison, based on an average Alberta Market Heat Rate of 12,250 kJ/kWh, shows that the on-site generation of electricity using the co-generation plant option set out by Southern Pacific in its application costs is approximately 85 per cent of the approximate cost of electric energy from the AIES. The Commission, therefore, agrees that the proposed ISD, with the co-generation option, satisfies the most economic source of generation principle.

Principle 4(2)(b) - Efficient exchange, with the interconnected electric system, of electric energy that is in excess of the Industrial System's own requirements, improved voltage stability, reduction of losses and congestion of transmission lines

14. This principle requires proponents to demonstrate that the designation supports the development of the economical supply of generation to meet the requirements of integrated industrial processes, the efficient exchange with the interconnected electric system of electric energy that is in excess of the industrial system's own requirements, and the making of decisions respecting the location of generation and consumption facilities so that the efficiency of the interconnected electric system is improved, including improved voltage stability and reduction of losses and congestion on transmission lines.

15. In the application, Southern Pacific stated that the cost of electric energy utilizing the proposed co-generation plant is expected to be approximately 85 per cent of the approximate cost of electric energy from the AIES.

16. Southern Pacific submits that the co-generation plant's output would be scaled to meet the loads of the entire industrial complex where the plant is connected.

17. According to Southern Pacific, the nearest possible connection to the AIES is 16 km but the routing that would create the fewest environmental impacts is approximately 22 km long. The cost to construct a 25-kV line from the co-generation site to the substation to connect to the

AIES would be approximately \$18 million. Southern Pacific stated on page 12 of its application that:

The Project does not promote the efficient exchange with the AIES. The proponent recognizes this criteria of the Hydro and Electricity Act (sic) is not being met however the proponent respectfully suggests that the rule 4.2 (b) (ii) did not envisage a situation where a significant capital investment was being made in a relatively remote location where interconnection to the AIES would present a significant economic hardship to the proponent in the development of their facility.

18. Southern Pacific requested that the Commission waive this criterion under the circumstances presented in this application, being that the transmission facilities to which the Southern Pacific McKay SAGD project site could connect are approximately 16 km away from the site, would require the construction of 22 km of transmission line in order to minimize environmental impacts, and, therefore, the connection is economically onerous to Southern Pacific.

19. The Commission notes Southern Pacific's response to an information request presented by ATCO as ATCO Electric – STP – 3 as follows:

The proponent believes all conditions required for the designation of the area applied for in the original "Industrial System Designation" application have been met with the exception of interconnection to the Alberta Interconnected Electric System (AIES). Southern Pacific have not precluded the possibility of interconnecting to the AIES at some point in the future, however that option is not economically feasible at this time. It is therefore believed that an Industrial Systems Designation (ISD) is the more applicable approval for the long term. An ISD also provides the proponent the necessary flexibility for servicing all of their facilities in a timely, flexible and cost effective manner. (emphasis added by author)

20. ATCO stated that it does not oppose Southern Pacific's application at this time, but requested that Southern Pacific be directed to ensure that it meets the conditions of the *Hydro and Electric Energy Act* when interconnection facilities are made available and requests that a specific condition be issued by the Commission with the ISD approval requiring this compliance.

21. ATCO has not indicated when its system could serve Southern Pacific; however, Southern Pacific has confirmed that it has not precluded the possibility of interconnecting to the AIES when transmission facilities are closer to the McKay SAGD project site. Southern Pacific submitted that interconnection to the AIES would not be available in the early months of 2012, when Southern Pacific's electric system is expected to commence operation. Therefore, Southern Pacific stated that it believed that connecting its electric system with the AIES is not feasible at this time.

22. Section 18(4) of the *Hydro and Electric Energy Act* states that the Commission, either on its own initiative or on application or complaint in writing, may issue an interconnection order. The Commission notes that this section of the *Hydro and Electric Energy Act* does not specify, or restrict, who can apply for an interconnection order. Thus, ATCO or Southern Pacific can apply for an interconnection order with respect to the Southern Pacific ISD facilities at such time as either believes it to be appropriate.

23. The Commission finds that the application does not comply with Section 4(2)(b) of the *Hydro and Electric Energy Act*. However, given the unique circumstances of this application, being the distance between the transmission facilities and the industrial system and the lack of certainty regarding when the transmission facilities will be constructed closer to the industrial system, the Commission is prepared to grant the applicant relief from the strict application of Section 4(2)(b) of the *Hydro and Electric Energy Act* at this time. However, Southern Pacific is directed to apply for an interconnection order within a reasonable time of the construction of transmission facilities in the vicinity of the industrial system, allowing a more economically feasible interconnection of the industrial system to the AIES.

Principle 4(2)(c) and (d) - Cost Avoidance, Uneconomic Bypass and Duplication

24. This principle requires proponents to demonstrate that the designation does not facilitate the development of independent electric systems that attempt to avoid costs associated with the interconnected electric system and uneconomical by-pass of the interconnected electric system. In this case, Southern Pacific stated that there are no other electric facilities within 16 km of its McKay SAGD project site. Therefore, it advocated that the approval of this ISD would not facilitate the development of independent electric systems that attempt to avoid costs associated with the interconnected system and would not facilitate uneconomic bypass of the interconnected system.

25. The Commission considers that the proposed ISD also meets the principles set out in the *Hydro and Electric Energy Act*, sections 4(2)(c) and (d).

Criterion 4(3)(a) - Generation Units(s)

26. This criterion requires proponents to demonstrate that the electric system includes a generating unit located on the property of the one or more industrial operations it is intended to serve, that there is a high degree of integration of the electric system with one or more industrial operations the electric system forms part of and serves, and a high degree of integration of the components of the industrial operations.

27. Southern Pacific stated that the electric system includes one 17-MW power plant within the McKay SAGD project site to serve the load to which it is connected. The power plant would be comprised of three gas turbine generator units each having a nominal output of 5.7 MW.

28. Southern Pacific expects that the central processing facility will have an electrical load of approximately 7.0 MW. The field area surrounding the central processing facility is expected to add 0.9-MW of electrical load. Two of the three gas turbine generator units would normally be enough to serve the total load of the McKay SAGD project site.

29. The Commission considers that criterion 4(3)(a) has been met.

Criterion 4(3)(b) – Primary Product

30. This criterion states that the industrial operations processing feedstock, produce a primary product or manufacture a product. In this case, the primary product is bitumen produced through a SAGD process.

31. The Commission considers that criterion 4(3)(b) has been met.

Criterion 4(3)(c) - Ownership

32. This criterion states that there is a common ownership of all of the components of the industrial operations. In this case, the components within the McKay SAGD project site are 80 per cent owned by Southern Pacific and 20 per cent by its partner Bounty Developments Ltd.

33. The Commission considers that criterion 4(3)(c) has been met.

Criterion 4(3)(d) - Output

34. This criterion states that the whole of the output of each component within the industrial operation is used by that operation and is necessary to constitute its final products. In this case, the whole of the output of each component within the industrial operation is used by Southern Pacific and is necessary to constitute its final products.

35. The Commission considers that criterion 4(3)(d) has been met.

Criterion 4(3)(e) - Management

36. This criterion states that there is a high degree of integration of the management of the components and processes of the industrial operations. In this case, the components within the McKay SAGD project site are wholly under the direction of Southern Pacific.

37. The Commission considers that criterion 4(3)(e) has been met.

Criterion 4(3)(f) - Investment

38. This criterion states that application to the Commission for a designation demonstrates significant investment in the expansion or extension of the industrial operations processes and the development of the electricity supply. In this case, Southern Pacific stated that the total facility investment is still under evaluation; however, it is expected to be typical for a SAGD bitumen production facility which is a very significant capital investment.

39. The Commission considers that criterion 4(3)(f) has been met.

Criterion 4(3)(g) – Beyond Contiguous Property

40. This criterion applies where an industrial operation extends beyond contiguous property. In this case, the Commission finds that criterion 4(3)(g) is also met as the whole industrial complex, including production wells and water wells, would be located in the MacKay SAGD project site.

41. In addition, Section 4(5) of the *Hydro and Electric Energy Act* states:

(5) Where the Commission is not satisfied that all of clauses (a) to (g) of subsection (3) have been met, the Commission may make a designation under subsection (1) if the Commission is satisfied that

(a) all of clauses (a) to (g) of subsection (3) and subsection (4) have been substantially met, and

(b) there is a significant and sustained increase in efficiency in a process of the industrial operation or in the production and consumption of electric energy by the industrial operation as a result of the integration of the electric system with the industrial operations the electric system forms part of and serves.

42. The Commission considers that the co-generation efficiency figures presented by Southern Pacific are consistent with the industry standard for co-generation plants; therefore, the Commission agrees that there is significant and sustained increased efficiency in this case.

43. Having considered all of the principles and criteria set out in Section 4 of the *Hydro and Electric Energy Act*, the Commission finds that Southern Pacific's proposal substantially meets all the principles and criteria for designation and also demonstrates significant and sustained increased efficiency.

44. Further, the Commission has considered the request made by ATCO and finds that a direction to Southern Pacific to make an application for interconnection when current circumstances change is warranted.

45. Based on the foregoing, the Commission considers the ISD to be in the public interest in accordance with Section 17 of the *Alberta Utilities Commission Act*.

6 Decision

46. Pursuant to Section 4 of the *Hydro and Electric Energy Act* and sections 2(1)(d) and 117 of the *Electric Utilities Act*, the Commission approves the ISD application and grants Southern Pacific Resources Corp. an industrial system designation as set out in Appendix 1 – Industrial System Designation Order No. U2011-223 – June 30, 2011 (Appendix 1 will be distributed separately).

Dated on June 30, 2011.

The Alberta Utilities Commission

(original signed by)

Anne Michaud
Commission Member