



ATCO Electric Ltd.

Micro-Generation Determination

April 17, 2009



ALBERTA UTILITIES COMMISSION

Decision 2009-044: ATCO Electric Ltd..

Micro-Generation Determination

Application No. 1604775

Proceeding ID. 162

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1 BACKGROUND

1. On January 22, 2009, Golden Sheep Power Inc. (GSP) submitted a micro-generation project application on behalf of Martin Wilson to ATCO Electric Ltd. (ATCO Electric). GSP proposed to construct a 20 kW wind generation unit at Site ID 0010084149715, located at LSD SW 5-73-4 W6 (Micro-Generation Project) and requested ATCO Electric to consider this unit as a micro-generation unit pursuant to the *Micro-Generation Regulation*.¹
2. On January 30, 2009, ATCO Electric rejected GSP's Micro-Generation Project and filed a Notice of Dispute (Notice of Dispute) with the Alberta Utilities Commission (Commission or AUC) stating that GSP's Micro-Generation Project does not meet the requirements set out in subsections 1(1)(h)(ii) and (iii) of the *Micro-Generation Regulation*.
3. Subsection 2(3) of the *Micro-Generation Regulation* requires the Commission to determine whether the Micro-Generation Project is or will be a micro-generation generating unit.
4. On February 5, 2009, the Commission issued a Notice of Application requesting Statements of Intent to Participate (SIPs) from interested parties by February 13, 2009 and any other additional submissions from parties in support of their position by February 20, 2009. The Application was assigned Proceeding ID 162.
5. The Commission received a SIP from GSP.
6. On March 11, 2009, the Commission issued information requests to both ATCO Electric and GSP seeking clarification with respect to their written submissions and requested information responses by March 20, 2009.
7. For the purposes of this Decision, the Commission considers the record for Proceeding ID 162 closed on March 20, 2009.
8. In reaching the determinations contained within this Decision, the Commission has considered all relevant materials comprising the record of this proceeding, including the evidence provided by each party. Accordingly, references in this Decision to specific parts of the record are intended to assist the reader in understanding the Commission's reasoning relating to a particular matter and should not be taken as an indication that the Commission did not consider all relevant portions of the record with respect to that matter.

¹ *Micro-Generation Regulation*, AR27/2008

2 MICRO-GENERATION REQUIREMENTS

9. Subsection 1(1)(h) of the Micro-Generation Regulation defines a “micro-generation generating unit” to be one that:

- (i) exclusively uses sources of renewable or alternative energy,
- (ii) is intended to meet all or a portion of the customer’s electricity needs
- (iii) is, at the time of construction or installation of the generating unit, sized to the customer’s load or anticipated load or a portion of it, as evidenced by a total nominal capacity of the generating unit that does not exceed the rating of the customer’s service,
- (iv) has a total nominal capacity not exceeding 1 MW, and
- (v) is located on the customer’s site, on a site owned by, or leased to the customer that is adjacent to the customer’s site.

10. To qualify as a “micro-generation generating unit”, a customer must satisfy all five conditions as stated in subsections 1(1)(h)(i) to (v) of the Micro-Generation Regulation.

11. The Commission notes that no issues were raised as to whether the Micro-Generation Project meets the requirements set out in subsections 1(1)(h)(i), (iv) and (v) of the Micro-Generation Regulation. As such, the Commission considers it necessary to only address whether the Micro-Generation Project meets the requirements set out in subsections 1(1)(h)(ii) and (iii) of the Micro-Generation Regulation.

2.1 Electricity Needs of the Customer

12. With respect to subsection 1(1)(h)(ii) of the *Micro-Generation Regulation*, GSP submitted that Mr. Wilson’s plumbing and heating business has shown a steady historical growth of 0.5% to 1.75% annually, which translated to an increase of approximately 7% to 9% in electricity consumption. In its five-year forecast, GSP indicated that annual electricity consumption for this site could reach as high as 43 MW.h and, as such, a 20 kW wind generation unit is required to meet the customer’s electricity needs.²

13. ATCO Electric submitted that the historical peak load demand and annual consumption of this site are approximately 4 kW and 30 M.Wh respectively. ATCO Electric also stated that the proposed generation size of 20 kW significantly exceeds the customer’s peak load demand and is beyond the intent to offset the on-site electricity needs.³

Commission Findings

14. In determining the electricity needs of the customer, the Commission considers two components: peak load demand (in kW) and consumption (in kW.h). In its submission, GSP indicated that, using a 43% use-factor obtained from Wind Atlas predicted guidelines, the proposed 20 kW wind generation unit would have an anticipated capacity rate equivalent to a generator of 8.6 kW (43% x 20 kW = 8.6 kW). Using GSP’s assumption, the Commission calculates that the wind generation unit would produce 75.3 MW.h of electricity annually (8.6 kW x 8760 hours = 75.3 MW.h). The Commission finds that both generation capacity of 8.6 kW

² Exhibit 0011.00.GSP-162, GSP Information Response AUC-GSP at page 1.

³ Exhibit 0006.00.AE-162, ATCO Electric Submission at page 1.

and electricity generation of 75.3 MW.h exceed the customer's needs of 4 kW and 43 MW.h. In terms of electricity (MW.h) production, the Commission finds that the proposed wind generation unit could produce more than the customer's electricity needs.

2.2 Customer's Load or Anticipated Load

15. With respect to subsection 1(1)(h)(iii) of the Micro-Generation Regulation, GSP submitted that its wind generation unit output into the system is approximately 8.6 kW with the use-factor of 43% obtained from Wind Atlas predicted guidelines. The existing site service rating is capable of serving the 20 kW wind generation unit.⁴ In Information Response AUC-GSP 2(iii), GSP stated that the maximum generator capacity of the wind generation unit would be 20kW.⁵

16. ATCO Electric submitted that the existing transformer service rating of this site is 10 kV.A. In order to accommodate a 20 kW wind generation unit constructed at this site, the existing facilities (transformer, breaker, relays, etc.) would require an upgrade to a 25 kV.A capacity, which would cost approximately \$7000. Therefore, the wind generation unit of 20 kW capacity would exceed the rating of the customer's service, contrary to subsection 1(1)(h)(iii) of the Micro-Generation Regulation.⁶

Commission Findings

17. To meet the requirement in subsection 1(1)(h)(iii) of the Micro-Generation Regulation, the wind generation unit capacity must be sized to the customer's load or anticipated load or a portion of it, as evidenced by a total nominal capacity of the generating unit that does not exceed the rating of the customer's service. Although GSP used a 43% use-factor to reduce the wind generation unit capacity to 8.6 kW, the Commission considers the fact that the wind generation unit with a nameplate capacity of 20 kW will reach the maximum peak generation of 20 kW.

18. The customer's historical peak load demand is approximately 4 kW and the site's service rating is 9 kW (10 kV.A). The Commission finds that the wind generation unit with a capacity of 20kW far exceeds the customer's peak load demand of 4 kW and a facilities upgrade would be required to accommodate a 20 kW wind generation unit.

3 CONCLUSION

19. Based on the information provided by both ATCO Electric and GSP, the Commission finds that GSP's Micro-Generation Project does not meet the requirements set out in subsections 1(1) (h) (ii) and (iii) of the Micro-Generation Regulation. As such, the Micro-Generation Project is not a "micro-generation generating unit" as defined in the Micro-Generation Regulation.

⁴ Exhibit 0007.00.GSP-162, GSP Submission at page 1.

⁵ Exhibit 0011.00.GSP-162, GSP Information Response AUC-GSP at page 2.

⁶ Exhibit 0012.00.AE-162, ATCO Information Response AUC-ATCO at page 2

Dated in Calgary, Alberta on April 17, 2009.

ALBERTA UTILITIES COMMISSION

(original signed by)

Anne Michaud
Acting Commissioner