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**VIA EMAIL**

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January 13, 2012

**FEI DELTA SCHOOL DISTRICT 37**  
**THERMAL ENERGY SERVICE CONTRACTS CPCN**  
**EXHIBIT A2-20**

Ms. Diane Roy  
Director, Regulatory Affairs –Gas  
FortisBC Energy Inc.  
16705 Fraser Highway  
Surrey, BC V4N 0E8

Dear Ms. Roy:

Re: FortisBC Energy Inc.  
Project No. 3698648  
Application for Certificate of Public Convenience and Necessity  
for Approval of Contracts and Rate for Public Utility Service to  
Provide Thermal Energy Service to Delta School District Number 37

Commission staff submits the following document for the record in this proceeding:

Exhibit C12-10-1 from the FortisBC Energy Alternative Energy Solutions and Other New Initiatives Inquiry

Yours truly,

Alanna Gillis

elm

Enclosure

cc: Registered Interveners  
(FEI-SD37-TES-RI)

**ERRATA**  
**Corix Revised Responses to BCUC, BCSEA and FEU Information Requests #1**  
**7 January 2012**

**1. Revisions to Corix Responses to BCSEA IRs**

- Correction of multiple typos in the questions
- Moving blocks of quoted text into the proper places in 10.3, 10.6, 13.2, and 13.4
- Adding underlining in 13.3, 13.4 and 13.5
- Adding the words "the competitive market" to the request in 14.3
- Adding response to 10.7

**2. Revisions to Corix Responses to FEU IR #1**

- Adding blocks of quoted text into IRs 5.0, 6.0, 8.0 and 12.0
- Adding the text of the request for 1.3.4 (the existing response collectively addresses IRs. 1.3.1 - 1.3.4, among others, and is unaffected)
- Removing an extra word "do" in second sentence of the response to 7.1.
- Removing a repeat of the word "reference" in the preamble to 17.0

**3. Revisions to Corix Responses to BCUC IR #1**

- Adding the term "preamble" to the requests in 3.2 and 12.0
- Moving a block of quoted text from 8.1 to 8.2
- Moving a line of text from the "preamble" section of 12.0 to the "reference" section
- Adding underlining to a sentence in the preamble to 17.0
- Removing an unnecessary heading from the request in 13.2
- Fixing typos in the requests in 17.9 and 22.0
- Fixing typos in the responses to 9.2, 14.2, 15.1 and 25.1.

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- 1.0 Reference:** Corix Infrastructure Inc., Corix Utilities Inc., and affiliate companies; Exhibit C12-6, pages 1-2
- Preamble:** "Corix Infrastructure Inc. is a private company headquartered in Vancouver BC. It is involved in three main lines of business:
- Utilities, including energy, water and wastewater operations, both regulated and non-regulated, operating in three Canadian provinces and three US states;
  - Utility services, including meter installation and reading, designing and building water and wastewater facilities; and
  - Distributing utility products from 41 locations across North America, including pipes, valves, meters, irrigation equipment and related components."
- 1.1 Request:** Is Corix Infrastructure Inc. a holding company or does it undertake these activities in its own name?
- Response:** Corix Infrastructure Inc. is the parent company. It maintains head office staff. These activities are undertaken by operating companies.
- 1.2 Request:** Please identify all of the Corix entities (including Corix Infrastructure Inc., Corix Utilities Inc. ("Corix"), Corix Multi-Utility Services Inc., and any affiliates or subsidiary entities) that engage in the activities described in the first bullet under the above quote from page 1 of Exhibit C12-6.
- Response:** Exhibit C12-6 identifies all Corix entities that engage in the referenced activities in B.C. Corix declines to list affiliates that do not operate in B.C. or do not engage in activities that are the subject of this inquiry since that information is not relevant to this inquiry into FEI AES.
- 1.3 Request:** For each of the entities identified in 1.2 (including Corix Infrastructure Inc., Corix Utilities Inc. ("Corix"), Corix Multi-Utility Services Inc., and any affiliates or subsidiary entities), please provide the following information:
- 1.3.1** The location of each of its utilities;
  - 1.3.2** A description of the services provided by each of its utilities;

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**1.3.3 The service territory of each of its utilities;**

**1.3.4 The approximate number of customers currently served by each of its utilities;**

**1.3.6 Whether its thermal energy utilities are discrete or district in nature;**

**1.3.10 Identify which of the entity’s utilities Corix considers to be regulated (and regulated by whom), and which are unregulated.**

**Response:** Please refer to the table below for responses to FEU IRs. 1.1.3.1 – 1.1.3.4, 1.1.3.6, and 1.1.3.10. All utilities are located in B.C.

**Table 1.3**

<b>Utility</b>	<b>Project</b>	<b>Services</b>	<b>Service “territory”</b>	<b>Number of Customers</b>	<b>Regulator</b>
Corix Utilities Inc	Langford waste water	Wastewater services	City of Langford	9,400	City of Langford
	Dockside Green Energy LLP	District Energy	Dockside Green development, Victoria	5	BCUC
Corix Multi-Utility Services Inc	Lonsdale	District Energy – finance/design/build energy plants, operations and customer care for utility	Lower Lonsdale, City of North Vancouver	17	City of North Vancouver
	UniverCity	District Energy	UniverCity, Burnaby Mountain	1	BCUC
	Panorama	Propane, water and wastewater	Panorama Mountain Village	Propane: 210 Water: 335 WW: 250	BCUC (propane), Water Comptroller (water)
	Lindell Beach	Water and wastewater	Lindell Beach and Cultus Country	Water: 365 WW: 365	Water Comptroller
	Sun Rivers	Natural gas, electricity, water, wastewater, geo-	Sun Rivers	Gas: 420 Elec: 680	BCUC (gas and electric)

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		exchange		Water: 465 WW: 450 Geo: 650	
	Sonoma Pines	Natural gas and electricity	Sonoma Pines	Gas: 350 Elec: 350	BCUC

**Request: 1.3.5 The heat output of any thermal energy system(s) it operates;**

**Response:** The requested information is not relevant to this inquiry into FEI AES.

**Request: 1.3.11 For each of the water or energy utilities in BC identified as unregulated in 1.3.10, please**

**1.3.11.1 explain why Corix is of the view that they are not regulated under the Utilities Commission Act or BC Water Utility Act; and**

**1.3.12 For each of the water or energy utilities in BC identified as regulated, please**

**1.3.12.1 explain why Corix is of the view that they are regulated under the Utilities Commission Act or the BC Water Utility Act;**

**Response:** This response answers FEU IRs 1.3.11.1 and 1.3.12.1. All of the energy utilities listed in Table 1.3 above with the exception of the Lonsdale system are regulated by the BCUC. The Lonsdale system is owned by the City of North Vancouver and is regulated under the B.C. *Municipal Act*.

All of the water utilities listed in Table 1.3 above are regulated by the provincial Water Comptroller, with the exception of the water service at Sun Rivers, which is located on a federal Indian Reserve.

Wastewater is not regulated as a public utility in BC.

The BCUC has not actively regulated stand-alone geo-exchange systems.

**Request: 1.3.7 Whether all of the individuals working on the entity’s utility-related activities are employed by that entity, or whether some or all are employed by another legal entity. If the latter,**

**1.3.7.1 please name the entity that employs the individuals; and**

**1.3.7.2 if the individuals are employed by a non-arms length company, describe how Corix ensures that the labour rates charged**

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to the utility operation are fair; and

**1.3.7.3 provide any documented policies regarding the determination of cross-charges or shared services, or if none exists explain why documentation is not necessary for the protection of the utility customers;**

**Response:** All operations staff referred to in the above questions are employed by or contracted to CMUS with the exception of Dockside Green Energy, which also uses staff from Westshore Environmental Services, a Corix company located on Vancouver Island. Costs related to corporate services, with the exception of business development costs, are allocated to Corix Utilities Inc. using the Massachusetts formula.

**Request: 1.3.8 Whether another non-arms length entity provides services or equipment to the utility operations, and if so, please**

**1.3.8.1 describe the services provided and the name of the entity that provides the services;**

**1.3.8.2 describe how Corix ensures that the rates charged to the utility operation for the services are fair; and**

**1.3.8.3 provide any documented policies regarding the determination of cross-charges or shared services, or if none exists explain why documentation is not necessary for the protection of the utility customers.**

**1.3.9 Whether the entity provides services, labour, or equipment to another non-arms length entity, and if so, please**

**1.3.9.1 describe the services, labour or equipment provided and the name of the entity that receives the services;**

**1.3.9.2 describe how the entity ensures that the rates charged by it are fair to utility customers; and**

**1.3.9.3 provide any documented policies regarding the determination of cross-charges or shared services, or if none exists explain why documentation is not necessary for the protection of the entity's utility customers.**

**Response:** All Corix employees employed in work related to the B.C. operations listed in

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Table 1.3 are required to fill out job specific time sheets to record hours spent on each operation. A sample time sheet is provided in Attachment 1.1.3-A. Please refer to the Corix response to FEU 1.3.1.4.6 for a detailed discussion of how this process ensures that charges are appropriately allocated between these small utility operations.

**Request: 1.3.11 For each of the water or energy utilities in BC identified as unregulated in 1.3.10, please**

**1.3.11.2 provide any exemption orders obtained.**

**1.3.12 For each of the water or energy utilities in BC identified as regulated, please**

**1.3.12.2 provide copies of all CPCNs obtained for utilities in BC being owned and/or operated by the entity under the Utilities Commission Act or the Water Utility Act or explain why one wasn't sought;**

**Response:** This response answers FEU IRs 1.3.11.2 and 1.3.12.2. No exemptions were sought or obtained. The CPCNs are provided as Attachment 1.1.3-B.

**Request: 1.3.12 For each of the water or energy utilities in BC identified as regulated, please**

**1.3.12.3 provide the approved capital structure and ROE;**

**1.3.12.4 explain whether the debt costs reflected in rates represent the entity's actual embedded cost of debt, or provide the basis for debt costs charged to customers.**

**Response:** This response answers FEU IRs 1.3.12.3 and 1.3.12.4. Dockside Green Energy has an approved ROE of 100 basis points above the bench mark low risk utility ROE and an equity thickness of 40%. UniverCity received a 50 basis point premium and has an equity thickness of 40%. No other Corix energy utilities in B.C. have approved capital structures. All water utilities in the province operate on a return on margin basis.

Debt costs for Dockside Green are as provided under agreement with VanCity and as approved by the Commission. UniverCity debt costs are discussed in Corix's response to FEU IR 1.7.7.

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**1.4 Request:** Please identify all of the Corix entities (including Corix Infrastructure Inc., Corix Utilities Inc. ("Corix"), Corix Multi-Utility Services Inc., and any affiliates or subsidiary entities) that engage in the activities described in the second bullet under the above quote from page 1 of Exhibit C12-6.

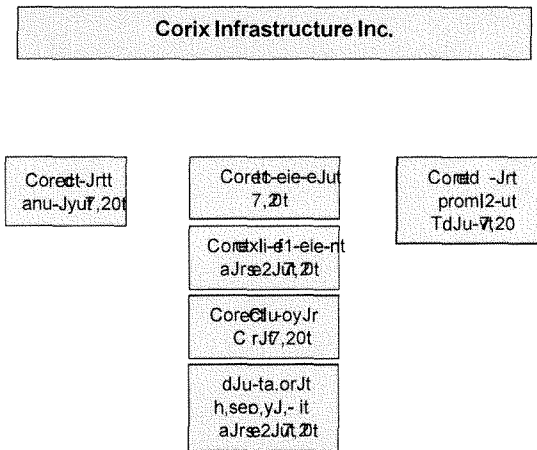
**Response:** Corix Utilities (Trillium Meters) installs smart meters under contract to BC Hydro. Corix Water Systems builds water and wastewater systems.

**1.5 Request:** Please identify all of the Corix entities (including Corix Infrastructure Inc., Corix Utilities Inc. ("Corix"), Corix Multi-Utility Services Inc., and any affiliates or subsidiary entities) that engage in the activities described in the third bullet under the above quote from page 1 of Exhibit C12-6.

**Response:** Corix Water Products (West) distributes water products in B.C.

**1.6 Request:** Please provide an organizational chart showing the relationships between the companies and the utilities described in response to the previous questions 1.3, 1.4 and 1.5.

**Response** The chart below shows the relationships of the Corix B.C. companies.





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- 2.0 Reference:** Corix Projects; Attachment 1 - Corix Utilities webpage - “Our Projects”;  
*District Energy, Regent Park, Toronto, Ontario*  
*Multi-Utility Services, Alaska Army Bases, Alaska*  
*Multi-Utility Services, Dockside Green, Victoria, British Columbia*  
*Sewage Collection System, Langford, British Columbia*  
*Multi-Utility Services, Panorama Resort, British Columbia*  
*Multi-Utility Services, Sun Rivers, British Columbia*
- 2.1 Request:** For each of the above projects, what is the legal entity that owns and operates the project facilities?
- Response:** Corix Utilities Inc. is the legal entity that owns all of the Corix utilities in B.C. that are listed above. The other utility operations listed in this question are not relevant to this inquiry.
- 2.2 Request:** Please confirm that the term “multi-utility services” is synonymous with the provision of “multiple utility services”. If not, why not?
- Response:** Confirmed.
- 2.3 Request:** For each of the projects identified as “multi-utility services” projects, please list the services provided, including whether they are regulated or non-regulated (and if regulated by which regulatory body).
- Response:** Please see Corix’s response to FEU IR 1.1.3, Table 1.3.
- 3.0 Reference:** Relationship Between Regulated and Non-Regulated Business; Exhibit C12-6, pages 1-2
- Preamble:** “Corix Utilities Inc. (“Corix”) is owned by Corix Infrastructure Inc. and operates energy, water and wastewater utilities in B.C. Alberta and Ontario.”
- 3.1 Request:** For Corix Utilities Inc., and for any other related entity that provides utility services in British Columbia, please provide the following information (on a company by company basis):
- 3.1.1** Which of the utilities owned and/or operated by the entity is regulated, and by whom?
- 3.1.2** Does the entity undertake any non-regulated business(es)? If so, please describe the non-regulated business(es).

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**3.1.3 If the entity provides only regulated services:**

**3.1.3.1 Does the entity employ any transfer pricing mechanism or code of conduct in respect of relationships between the entity and other non-arms length companies? If so, please provide copies. If not, why not?**

**3.1.3.2 How is the time and cost of the entity's employees allocated as between the entity and other non-arms length companies?**

**3.1.3.3 How does Corix ensure that time is charged appropriately as between the entity and other non-arms length businesses?**

**3.1.3.4 Please provide a copy of any written policy outlining how timesheets are to be filled out and time costs tracked for the purposes of allocating costs as between the entity and other non-arms length businesses.**

**3.1.4 If the entity provides both regulated and non-regulated services:**

**3.1.4.1 In Corix's view, how does RMDM apply to those operations?**

**3.1.4.2 Does the entity employ any transfer pricing mechanism or code of conduct in respect of relationships between regulated and non-regulated businesses within the entity? If so, please provide copies. If not, why not?**

**3.1.4.3 How is the time and cost of the entity's employees allocated as between the entity's regulated and non-regulated businesses?**

**3.1.4.4 How does the entity ensure that time is charged appropriately as between the entity's regulated and non-regulated businesses?**

**3.1.4.5 How is overhead allocated as between the entity's regulated and unregulated businesses? Please provide a cost allocation study supporting the allocation.**

**3.1.4.6 Please provide a copy of any written policy outlining how timesheets are to be filled out and time costs tracked for the purposes of allocating costs as between the entity's regulated and non-regulated businesses.**

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**Response:** This response addresses FEU IR 1.3.1.1 through 1.3.1.4.6.

Please refer to Corix's response to FEU IR 1.1.3.1 concerning details of the entities included in the Corix Utilities Inc. group of companies.

All employees in Corix Utilities Inc. working on utility projects book time to the specific utility, and track this time with time sheets. As is apparent from Corix's response to FEU IR 1.1.3.1, many of the Corix Utilities Inc. utility operations in B.C. are relatively small. Allocating employee time to each utility as required allows resources to be used in the most cost effective manner. Cost allocations for regulated operations are subject to review and approval at the time of rate applications.

The RMDM guidelines were developed to prevent abuse of market power by large monopoly utilities in non-regulated markets, and to protect ratepayers of those large monopolies from cross-subsidizing the non-regulatory activities. The concept can be legitimately extended to include similar tactics by monopoly utilities in emerging markets such as the TES market that include regulated and unregulated participants, and are characterized by competition between all of participants.

Corix is engaged in small utility operations in B.C. with economies of scope that favour providing multiple utility services. The competitive nature of the business eliminates opportunities for any cross subsidization. With relatively few employees, the cost of service is very transparent in the regulated entities. In the non-regulated services, agreements between the service provider and the developers keep a tight rein on utility costs that might otherwise constrain property sales and the viability of the communities and the utilities. This situation contrasts with that of FEU where abundant resources, both in the form of employees and market presence, can be used to unfairly compete in non-monopoly markets.

**4.0 Reference: Corix Utilities Inc. Regulated Businesses and Classes of Service; Exhibit C12-6, pages 1-2**

**Preamble: "Corix Utilities Inc. ("Corix") is owned by Corix Infrastructure Inc. and operates energy, water and wastewater utilities in B.C. Alberta and Ontario."**

**4.1 Request: How many classes of service are there within Corix Utilities Inc.? Please explain the basis for having that many classes of service.**

**Response:** Please refer to Corix's response to FEU IR 1.1.3. concerning Corix Utilities Inc.'s lines of business. By offering several utility services at one location, Corix is able to offer efficient utility service through economies of scope.

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**Request:** 4.1.1 Is water a different service from the provision of energy? Why or why not?

**Response:** Yes. The commodities are different. Corix assumes, however, that the question relates to whether there is any difference in the principled regulation of each commodity. In this regard please see Corix's response to FEU IR 1.1.4.1.

**Request:** 4.1.2 Is the provision of telecommunications service different from the provision of energy? Why or why not?

4.1.3 Is the provision of telecommunications service different from providing water service? Why or why not?

**Response:** Corix is not engaged in the business of telecommunications.

**Request:** 4.1.4 Is the provision of wastewater treatment a different service from the provision of energy? Why or why not?

4.1.5 Is the provision of wastewater treatment a different service from the provision of water? Why or why not?

**Response:** Please see Corix's response to FEU IR 1.4.1.1.

**Request:** 4.1.6 Does packaging such services to one group of customers make it a different service? Why or why not?

**Response:** The Corix approach to providing several utility services using common resources to achieve economies of scope is an efficient method for the provision of utility services in the communities that we serve. "Packaging" the services does not in and of itself change the nature of the service.

**4.2 Request:** Has Corix Utilities Inc. separated telecommunications, water, wastewater, thermal energy, electricity, etc. services into distinct classes of service for ratemaking purposes? If not, why not?

**Response:** Corix has a separate rate based on the cost of service for each utility service offered. The services are different, not different classes of service.

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**4.3 Request: Does Corix Utilities Inc. employ any transfer pricing mechanism to address cost allocation as among telecommunications, water, wastewater, thermal energy, electricity, etc. services? If not, why not?**

**Response:** Please refer to Corix's response to FEU IR 1.4.10.

**4.4 Request: Does Corix Utilities Inc. employ a code of conduct to govern the use of information obtained in the context of providing one service (e.g. one of telecommunications, water, wastewater, thermal energy, or electricity) for the purposes of another of the listed services? If so, please provide copies. If not, why not?**

**Response:** Please refer to Corix's response to FEU IR 1.4.10.

**4.5 Request: How is the time and cost of the employees of Corix Utilities Inc. allocated as among the telecommunications, water, wastewater, thermal energy, electricity services? Please provide documentation to support the allocation.**

**Response:** Please refer to Corix's response to FEU IR 1.4.10.

**4.6 Request: How does Corix ensure that time is charged appropriately as among the telecommunications, water, wastewater, thermal energy, electricity services?**

**Response:** Please refer to Corix's response to FEU IR 1.4.10.

**4.7 Request: How is overhead allocated among the telecommunications, water, wastewater, thermal energy, electricity services? Please provide a cost allocation study supporting the allocation.**

**Response:** Please refer to Corix's response to FEU IR 1.4.10.

**4.8 Request: Please provide a copy of any written policy outlining how timesheets are to be filled out and time costs tracked for the purposes of allocating costs as among the telecommunications, water, wastewater, thermal energy, electricity services.**

**Response:** Please refer to Corix's response to FEU IR 1.4.10.

**4.9 Request: Explain how the company ensures that the customers of one service (e.g.**

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**telecommunications, water, wastewater, thermal energy, or electricity service) are not cross-subsidizing the customers taking another of the services.**

**Response:** Please refer to Corix’s response to FEU IR 1.4.10.

**4.10 Request: Explain how the company ensures that the customers of one service (e.g. telecommunications, water, wastewater, thermal energy, or electricity service) are not bearing risks associated with another of the services.**

**Response:** As discussed in Corix’s response to FEU IR 1.3.1.4.6, Corix employees working on the various utility services code their time sheets to the appropriate project, and the rate charged for these employees does not vary between projects. Corporate overheads are allocated to Corix Utilities Inc. using a standard allocation method, the Massachusetts model.

The nature of the small utility business that characterizes Corix’s operations does not lend itself to cross-subsidization as might occur with large monopoly utility operations. This is because the cost of service review for the regulated utility operations is very transparent and easily identified during rate reviews. Non-regulated utilities are subject to contractual agreements with developers that ensure that market forces keep rates competitive.

In addition, unlike the FEU, which make use of natural gas service “energy solutions” employees to promote its TES service, Corix does not allocate business development costs to its utility operations. The risk of Corix erring in terms allocating insufficient costs to its TES operations lies with the Corix shareholders. A sample of a time sheet is provided in Attachment 1.1.3-A.

When compared to the potential abuse of the monopoly power of a large province-wide gas utility, the potential for market abuse by the small municipal operations run by Corix is remote. However, Corix accepts that the principles are the same and is prepared to accept any conditions imposed by the Commission to ensure a full and fair functioning market.

**5.0 Reference: Separation of Regulated vs. Non-Regulated services and Different Classes of Service; Exhibit C12-6, page 11**

**Preamble: “If internal FEI governance does not restrict the access the TES business has to the natural gas business resources and does not properly allocate the true cost of use of those resources to TES business, then the FEI natural gas ratepayers are subsidizing the TES business in large measure, which in turn gives FEI an unfair competitive advantage in the TES market.**

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Further, FEI marketing of its TES offerings will promote that advantage to customers. The Commission should be vigilant to prevent any such abuse of its monopoly utility position."

**5.1 Request:** Please explain how and where cost allocations to the various projects and lines of business are accomplished within Corix Utilities' corporate structure and explain Corix Utilities' internal control processes to oversee the fairness of these allocations. How do the Corix Utilities ensure that the allocation methodologies used do not give the Corix Utilities any unfair advantage over competitors?

**Response:** As discussed in Corix's response to FEU IR 1.4.10, Corix uses a recognized allocation method to allocate corporate costs to its operations. Corix's regulated operations are very small and the costs are easily discerned. The rates and underlying costs are reviewed by the BCUC. Further, any risk of cross subsidization is borne by the shareholder, and not ratepayers.

Thus, Corix cannot manipulate its cost allocation to obtain an unfair advantage, for example, by shifting TES costs to another group of ratepayers. Any advantage achieved in the TES rates that Corix offers must be achieved through efficient and effective operation and use of resources. Otherwise, Corix shareholders bear the cost.

**5.2 Request:** How does Corix Utilities' model and cost allocation ensure adequate separation, transparency and cost/revenue segregation and promote fair and reasonable rates to various classes of customers and types of service within the company?

**Response:** Please see Corix's response to FEU IR 1.5.1.

**5.3 Request:** How do the Corix Utilities' corporate structures allocate corporate costs to various entities including energy and water utilities?

**Response:** Costs are allocated to Corix Utilities Inc. using the Massachusetts method of cost allocation.

**6.0 Reference:** Business Structure and TES Initiatives; Exhibit C12-6, page 2

**Preamble:** "Corix and affiliate companies own and operate TES undertakings across North America. In B.C., Corix owns and operates the following TES undertakings, some of which are regulated by the BCUC:"

**6.1 Request:** Does the Corix Group of Companies (this term is used on the website) offer

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**thermal energy services (i.e. geoexchange and DES) to the single family residential customer market? If so list the locations or projects where this occurs and describe the nature of the service provided.**

**Response:** Yes. Corix provides geo-exchange service to customers in Sun Rivers and The Rise. For each of these operations, Corix provides and maintains the geo-exchange loop field for a fixed monthly fee.

**7.0 Reference: Business Risk; Exhibit C12-6, pages 6-7**

**7.1 Request: What is Corix Utilities Inc.’s capital structure and ROE?**

**7.1.1 How are the capital structure and ROE for Corix Utilities Inc. determined? Are they set by the regulator?**

**7.1.2 Are there differences among the returns required or obtained from regulated vs. non-regulated businesses within Corix Utilities Inc.? What rates of return are obtained on Corix’s regulated businesses and what rates of return are obtained on Corix’s non-regulated businesses?**

**7.1.3 Are the debt equity levels for all regulated projects set at 60% debt and 40% equity? What are the exceptions?**

**Response:** Corix treats the investment in each utility as a discreet project and applies for the cost of capital appropriate for that project. Corix does not cross subsidize more risky projects with lower risk projects.

Please refer to Corix’s response to FEU IR 1.3.12.4 concerning the ROE and capital structure for Corix’s regulated energy utilities in B.C. All of the debt equity levels for regulated energy operations are 60% debt and 40% equity.

**7.2 Request: Does involvement in alternative thermal energy activity, such as geoexchange and DES, increase the corporate risk of the Corix Utilities?**

**Response:** The relative level of risk may vary from project to project depending on size and technology used. This risk is allocated to each particular project.

**7.3 Request: To what extent do any added risks from thermal energy projects cause a required increase in the Corix Utilities’ equity thickness and ROE?**

**Response:** The risks associated with each project should be reflected in the allowed return on investment for that project. To the extent they are not, Corix shareholders bear



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the added risk and cost, not another group of ratepayers.

**7.4 Request: Would added risks expose the ratepayers of the company’s existing utility operations to some of that risk so that they incur higher energy rates?**

**Response:** No, not if the risks are being properly allocated to each utility. The problem arises when the risks are passed on to other utility operations through such mechanisms as a “postage stamp” rate which results in more risky operations being subsidized by rate payers in less risky operations. Corix has individual rates for each of its operations based on the costs and risks of each operation.

**7.5 Request: How can such risks to ratepayers be reduced?**

**Response:** Please see Corix’s response to FEU IRs 1.7.3 and 1.7.4.

**7.6 Request: Please confirm that Corix Multi-Utility Services is providing services to and sharing resources with Neighbourhood Utility Service (NUS) in the UniverCity Project. Please provide evidence of how Corix is assigning overhead costs to NUS, including any documented cost allocation study supporting the allocation.**

**Response:** Corix is developing the district energy system that will provide energy service to customers living in new and future developments being constructed at UniverCity on Burnaby Mountain. The utility is regulated by the BCUC and costs for service, including allowed overhead costs, to the initial customers using a temporary natural gas boiler plant were approved in the CPCN granted to Corix in Order C-7-11. FEU may refer to that record of information.

**7.7 Request: What was the cost of debt used to determine the rates and how was it derived?**

**Response:** The cost of debt approved by the Commission was 6%, reflecting a credit spread of 250 basis points above the 10 year Government of Canada bond yield of 3.5%.

**8.0 Reference: Fair Competition; Exhibit C12-6, page 7**

**Preamble: “The RFP process is competitive, and generally results in several bids from TES service providers. The ultimate choice is based on multiple factors, including:”**

**8.1 Request: Does Corix conduct competitive processes for the designing and building of all of its TES projects to ensure that TES customers receive cost-effective**

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**service? If not, why not?**

**Response:** Corix responds to competitive tendering processes common in the TES market, and is further incentivized by the market to seek cost-effective services in designing and building its projects. Corix generally will tender out construction on TES projects, unless it would be more cost effective to undertake a portion of the work in-house.

**8.2 Request: Does Corix in any cases acquire pipe and equipment for its utility projects from its own affiliates in the utility products distribution line of business? If so, how does the customer (or the regulator) ensure that a fair price is being paid for the materials and equipment acquired from an affiliate?**

**Response:** Products distributed by Corix affiliate companies may be used in utility operations where those products are available at a competitive price. The customers and the Commission may review all costs when the rates are reviewed.

**8.3 Request: Do existing customers of Corix thermal energy services (e.g., UniverCity or Sun Rivers) have the option to choose other service providers/energy sources for their thermal energy now that the system has been installed by Corix?**

**8.3.1 What are the economic and business conditions that might trigger these customers to switch energy providers?**

**8.3.2 Are there economic barriers for these customers to switch to another service provider/energy source for thermal energy?**

**Response:** A competitive market for TES exists at the selection phase where tendering processes are frequently used to select the preferred candidate to develop the energy system. It is at this stage that the competitive market, if allowed to operate, can provide the most efficient solutions for TES customers by providing choice and cost advantages. This is in contrast to the business model for natural monopoly services characterized by a single service provider and economies of scale.

Once the TES system is chosen, the ability to switch may be more difficult because of the commitment to physical plant. The regulated utility model may then be the most appropriate method so that the now-captive customer benefits from regulated oversight.

**9.0 Reference: FEI's Visibility; Exhibit C12-6, pages 1 and10; Attachment 1 - Corix Utilities webpage – "Corix Companies"; "Multi-Utility Service"**

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- Preamble:** On page 10 of Exhibit C12-6, Corix states: “The TES business shares a common branding and corporate platform with the existing natural gas distribution business.”
- 9.1 Request:** Please confirm that the name “Corix” is used for both regulated and non-regulated business across multiple jurisdictions.
- Response:** Confirmed.
- 9.2 Request:** Given that the “Corix” name is used in “distributing utility products from 41 locations across North America” (page 1 of Exhibit C12-6), and that the “Corix” name is used in conjunction with utilities “operating in three Canadian provinces and three US states”, would you agree that the “Corix” name is more widely used in conjunction with non-regulated businesses? Please explain your answer.
- Response:** Yes, the Corix name is likely more associated with non-regulated business.
- 9.3 Request:** Please confirm that there is no reference to the legal name of Corix Utilities Inc. on the “Corix Group of Companies” Home Page at [www.corix.com](http://www.corix.com), the sub-page on “Corix Companies”, or the sub-sub-page on “Multi-Utility Service” (included in Attachment 1) that would distinguish for visitors to the site the company Corix Utilities Inc. from non-regulated entities within the Corix Group of Companies?
- Response:** Confirmed.
- 9.4 Request:** Is Corix aware of any consumers interested in TES being confused by the fact that Corix also offers water, wastewater, conventional energy and other utility services, and non-utility services? Please provide details.
- Response:** No. Corix is recognized as a multi-utility service provider.
- 9.5 Request:** Is it Corix Utilities Inc.’s position that the customers of its regulated utilities have acquired an ownership interest in the name “Corix” by virtue of taking utility service? Please explain your answer.
- Response:** No. The customers are buying utility service from Corix, not the name Corix.
- 9.6 Request:** Should the BCUC impose limitations on the ability for the name “Corix” to be used in conjunction with services other than TES? Please explain your

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**answer.**

**Response:** It would be open for the BCUC to impose limitations on the use of a public utility name if there was evidence of ratepayer harm, or a reasonable apprehension of ratepayer harm. This is the approach discussed in the California Public Utilities Commission’s (CPUC) “Order Instituting Rulemaking to Establish Standards of Conduct Governing Relationships Between Energy Utilities and Their Affiliates” – please see Exhibit A2-17 at pp. 41-47.

In the case of Corix, there is no evidence of ratepayer harm or confusion. Please see Corix’s response to FEU IR 1.9.4.

**9.7 Request: Does Corix believe that the Commission can preclude Corix from using the name “Corix” in conjunction with TES? Would doing so ensure that Corix Utilities Inc. is not able to trade on the Corix name in marketing TES?**

**Response:** Please see Corix’s response to FEU IR 1.9.6.

**10.0 Reference: Fair Competition**

**10.1 Request: Describe how Corix identifies demand for TES and existing and potential projects.**

**Response:** Corix has a business development group focused on identifying opportunities. These individuals make contact with local community officials, business leaders and developers, including our existing customers, providing information on who Corix is and what we offer. These individuals also monitor the market for potential projects that are being contemplated to ensure Corix is included in any request for proposals that may be issued.

**10.2 Request: Is the information used to identify demand readily available to all market competitors?**

**Response:** Yes, to the extent that other market competitors are willing to invest the time and resources, this information is available.

**10.3 Request: Does Corix make customer data from its energy business available to its competitors? If not why not?**

**Response:** No. Customer data is protected by law and is to be kept confidential unless release and use of that data is agreed to by the customer.

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- 10.4 Request:** Is it permissible and fair for Corix to target its existing TES customers for the purposes of selling wastewater, water or other regulated and non-regulated services? Please explain your answer.
- Response:** Yes. As with any competitive business, repeat business from existing customers is one of the targets for the business development group.
- 10.5 Request:** Is it permissible and fair for Corix Utilities Inc. to target its existing customers of one regulated service for the purposes of selling other regulated or non-regulated services that the company offers? Please explain your answer.
- Response:** Yes. Please see Corix’s responses to FEU IR 1.10.1 and 1.10.4.
- 10.6 Request:** Is it permissible and fair for other Corix companies to target Corix Utilities Inc.’s existing utility customers for the purposes of selling other regulated or non-regulated services? Please explain your answer.
- Response:** Please refer to Corix’s response to FEU IR 1.10.5.
- 10.7 Request:** Does Corix make customer data from its wastewater and water divisions available to its competitors in the TES market on the same basis that the data is available to the Corix personnel involved in Corix’s energy business?
- Response:** As discussed in Corix’s response to FEU IR 1.10.3, customer data is confidential and cannot be used without the permission of the customer. Notwithstanding this, Corix is unsure how water and wastewater data would benefit alternative TES energy market participants.
- 11.0 Reference:** FEI’s Visibility; Exhibit C12-6, page 10; Attachment 1 - Corix Utilities webpage – “About Corix Group of Companies”
- Preamble:** On page 10 of Exhibit C12-6, Corix states: “The TES business shares a common branding and corporate platform with the existing natural gas distribution business.”
- Attachment 2 - “About Corix Group of Companies”**  
“Corix delivers safe, cost-effective and sustainable water, wastewater and energy utility infrastructure solutions to communities across North America. As an integrated provider of essential utility infrastructure, we can fulfill virtually any utility need, from supplying products to financing, designing,

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building and managing complete utility systems. This unique, integrated approach enables us to deliver our products and services with exceptional accountability, stability and risk-management to our clients, while allowing them to save time and money.

**Commitment to community.**

Corix is a caring partner to the communities where we live and work, helping to build safe, long-term utility infrastructure solutions that improve service, cut costs, and increase efficiencies. We translate our values into action, employing local people and collaborating with organizations that share our people-first ideals.

**Unparalleled expertise.**

With over 70 years of experience, and a team of more than 2,000 highly skilled people, Corix has the in-house expertise to address any utility challenge. Strong, long-term relationships with top suppliers extend our knowledge base, and ensure the quality of our work is never compromised.”

- 11.1    **Request:**    Does Corix Utilities Inc. agree that, in the above quoted passage from www.corix.com, the “Corix Group of Companies” is selling its TES by leveraging its broader experience in other regulated and non-regulated services? If not, why not?
- Response:**    Yes.
- 11.2    **Request:**    Does the above quoted passage represent fair competition in the context of the BC TES market? Please explain your answer.
- Response:**    Yes. Corix competes in multiple competitive markets for utility services in British Columbia.
- 12.0    **Reference:**    Fair Competition; Exhibit C12-6, page 5
- Preamble:**    “While Corix has not researched the specific size of the TES market in B.C., the potential market for these alternative approaches is nonetheless substantial based on interest shown by municipalities, institutions and developers for information on alternatives to the traditional gas and electric options.”
- 12.1    **Request:**    Does Corix forecast energy demands in the separate markets – the traditional as well as the thermal energy services for the long term? If not, why not?

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- Response:** Corix does not do in-house forecasts of energy demand for these markets. Corix makes use of third party data and information related to these and other businesses in which the company is active.
- 12.2 Request:** Does Corix file a resource plan with the Commission? If not why not?
- Response:** No. Given the small size of Corix's energy utility operations in BC, Corix is not subject to this requirement.
- 13.0 Reference:** Rate Structure/Cross Subsidization
- 13.1 Request:** Does Corix consider its commercial arrangements with customers to be confidential prior to being filed as rate schedules? Please explain your answer.
- Response:** Yes. These arrangements are commercial information in a competitive market.
- 14.0 Reference:** Exhibit A2-3, page 16  
**Preamble:** "TerraSource - An alliance between Corix Utilities (formerly Terasen Utility Services) and Geotility, a BC ground- source heat pump company - Pays capital cost of ground-source heat pump loops, charges access fee - Customer pays for, and owns, in-house parts of the system [www.terrasource.ca](http://www.terrasource.ca)"
- 14.1 Request:** What is the nature of the alliance between Corix and Geotility with regard to TerraSource?
- Response:** Corix has no ownership or other interest in TerraSource. The requested information is not relevant to this inquiry into FEI AES.
- 14.2 Request:** If Corix has an ownership position or other interest in TerraSource please identify:
- 14.2.1** The Corix entity that has the interest;
- 14.2.2** The name and location of the geo-exchange or other utility projects that Corix has an interest in through its relationship with TerraSource;
- 14.2.3** Whether TerraSource sought and obtained a CPCN for any of these projects? Why or why not?
- 14.2.4** Whether Corix and TerraSource have any protocols or policies in

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**place regarding the transfer of customer information between TerraSource and Corix? If so please provide the documentation. If not, why not?**

**Response:** Please see Corix's response to FEU IR 1.14.1.

**15.0 Reference: Corix Projects - Sun Rivers**

**15.1 Request: Please provide a complete description of the various services provided by the Corix Utilities to its customers at Sun Rivers, including natural gas, electricity, thermal energy (e.g. geo-exchange), water, wastewater, telecommunications and other.**

**Response:** Corix provides electricity, natural gas, water, wastewater, geo-exchange, storm water management services and certain public works services to the community of Sun Rivers. Services provided are part of an agreement between Corix and Kamloops Indian Band.

**15.2 Request: Please describe the metering and billing arrangements for each type of service.**

**Response:** The requested information is not relevant to this inquiry into FEI AES.

**15.3 Request: Describe the rate structure that applies to each of the above services.**

**Response:** The requested information is not relevant to this inquiry into FEI AES.

**15.4 Request: Has Corix received approval from the BCUC to provide electric and natural gas service to Sun Rivers? If so, please provide a copy of the Order.**

**Response:** Yes. Please refer to the CPCN provided in Attachment 1.1.3-B.

**15.5 Request: Has Corix received approval from the BCUC for any of the energy or utility services to Sun Rivers other than natural gas service or electricity service?**

**15.5.1 If so, please provide a copy of the Order.**

**15.5.2 If not, why not?**

**15.5.3 Did Corix apply for an exemption from the UCA for these services?**



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- Response:** The requested information is not relevant to this inquiry into FEI AES.
- 15.6 Request:** **Has Corix obtained a CPCN under the *Water Utility Act* for Sun Rivers?**
- Response:** The requested information is not relevant to this inquiry into FEI AES.
- 15.7 Request:** **Were the customers made aware that any of the services they were receiving from Corix are utility services subject to regulation?**
- Response:** The requested information is not relevant to this inquiry into FEI AES.
- 15.8 Request:** **Were the customers made aware that components of the service they purchased from Corix are not regulated?**
- Response:** The requested information is not relevant to this inquiry into FEI AES.
- 15.9 Request:** **If such information has been conveyed to Corix customers at Sun Rivers please list the energy and utility services that have been identified as regulated and which ones have been identified as non-regulated.**
- Response:** The requested information is not relevant to this inquiry into FEI AES.
- 15.10 Request:** **Do all Corix customers at Sun Rivers take all of the services offered by Corix at Sun Rivers?**
- Response:** The requested information is not relevant to this inquiry into FEI AES.
- 15.11 Request:** **Has Corix ever used customer information to sell Sun Rivers customers on the other services offered by Corix at Sun Rivers? Please explain your response.**
- Response:** No. As discussed in Corix's response to FEU IR 1.15.1, Corix has an agreement with the Kamloops Indian Band to provide utility services to the Community of Sun Rivers.
- 16.0 Reference:** **Corix Projects- UniverCity**
- 16.1 Request:** **Please confirm that the energy source for the initial phase of UniverCity is a natural gas boiler downstream of the natural gas meter.**

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**Response:** Confirmed. The natural gas meter is owned by FortisBC.

**16.2 Request:** **Why did Corix apply for a CPCN for a natural gas boiler downstream of the natural gas meter?**

**Response:** Corix applied for a CPCN to develop a district energy system to provide service to new residents of UniverCity on Burnaby Mountain. As part of the development of this service, a temporary gas boiler facility was approved for service to the initial customers until such time as sufficient load develops to warrant the construction of a permanent biomass facility.

**17.0 Reference:** **Evidence of Dr. Jaccard; Exhibit C12-5**

**17.1 Request:** **Excluding any experience and knowledge gained during your tenure as Chair of the British Columbia Utilities Commission, please describe your experience and expertise in respect of rules of conduct between different classes of service within a utility, and specifically your experience relating to transfer pricing policies and codes of conduct. Please include with your description a list of your publications in this area and provide copies, a description of any teaching experience you have in these areas, a description of the extent to which you have been involved in the development of other such policies or codes prior to your retainer with Corix, a list of the other public utilities or regulatory bodies you have acted for in this capacity, copies of any other publicly available policies or codes that you have previously developed, and a list of any journals or other periodicals you review to stay up to date on developments in this area.**

**Response:** I am not a researcher or utility witness in the field of "utility transfer pricing policies and codes of conduct" so I do not publish or appear before utility commissions on this issue.

I am appearing as an expert witness on behalf of Corix because, in reading the terms of reference for this proceeding, it quickly became obvious to me that I might be able to provide some assistance to the Commission. The issue at hand is similar to the affiliate transactions issue I dealt with as Chair of the Commission. Happily, the RMDM Guidelines the Commission issued at that time have withstood the test of time.

Moreover, I note that I do have significant research, publication and policy-making experience in two areas that are highly relevant to this proceeding: the market failures of natural monopolies, and addressing environmental externalities. Almost all of my publications cover one or both of these areas.

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**17.2 Request:** Please identify the publications listed in your CV that address as the primary subject matter the regulation of public utilities and provide copies of these publications.

**Response:** Below is a list of some of my refereed publications related to the regulation of public utilities. None of them address "the regulation of public utilities" as "their primary subject matter," but almost all are relevant to the general comments I have made about the approach that utility regulators might take as they regulate different types of energy systems. Given the substantial number of publications and their length, copies are not provided with this response. Individual copies of specific articles will be provided upon request.

- Jaccard, M. (convening lead author) et al., "Energy Policies: Objectives and Instruments," In Johansson, T., Patwardhan, A., Nakicenovic, N. and L. Gomez-Echeverri (eds.) *The Global Energy Assessment: Towards a Sustainable Future*, Cambridge: Cambridge University Press, 2011 (in press)
- Jaccard, M., Melton, N. and J. Nyboer, "Institutions and processes for scaling up renewables: Run-of-river hydropower in British Columbia," *Energy Policy*, V.39(7), 2011, 4042-4050.
- Rivers, N. and M. Jaccard, "Retrospective evaluation of electric utility demand-side management programs in Canada," *The Energy Journal*, V.32(4-5), 2011, 93-116.
- Jaccard, M., "Modeling energy use and technological change for policy makers: Campbell Watkins' contribution as a researcher-practitioner." Special Issue in Memory of Campbell Watkins, *The Energy Journal*, 2008, pp.31-41.
- Jaccard, M. "Renewable Portfolio Standard," In C. Cleveland (ed.) *Encyclopedia of Energy*, New York: Elsevier, V.5, 2004, 413-421.
- Jaccard, M., "Energy Planning and Management: Methodologies and Tools," in *Encyclopedia of Life Support Systems*, Oxford, UK: UNESCO, EOLSS Publishers, 2002.
- Jaccard, M. and Y. Mao, "Making Markets Work Better," in Johansson and Goldemberg (eds.) *Energy for Sustainable Development: A Policy Agenda*, New York: United Nations Development Program, 2002, 41-77.

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- Jaccard, M., *California Shorts a Circuit: Should Canadians Trust the Wiring Diagram?* Toronto: C.D. Howe Institute, 2002, 28 pages.
- Jaccard, M., "Caught in the Headlights of Electricity Market Reform," *Energy Studies Review*, V 10, N 1, 2001, 57-61.
- Berry T. and M. Jaccard, "The Renewable Portfolio Standard," in Jackson (ed.) *Mitigating Climate Change: Flexibility Mechanisms*, London: Elsevier Science, 2001, 216 pages.
- Jaccard, M., Chen, H. and J. Li, "Renewable Portfolio Standard: A Tool for Environmental Policy in the Chinese Electricity Sector," *Energy for Sustainable Development, Special Issue on China*, V.5, N.4, 2001, 113-121.
- Jaccard, M. "The California Electricity Reform Debacle," *Revue de l'Energie*, No528, 2001, 380-389.
- Jaccard, M. "Deconstructing Hydro: The BC Electricity Sector in this Decade," *B.C. Studies*, No129, Spring 2001, 51-78.
- Berry, T. and M. Jaccard, "The Renewable Portfolio Standard: Design Considerations and an Implementation Survey," *Energy Policy* V29, 2001, 263-277.
- Jaccard, M., "The Movement Toward Greater Competition in Energy Markets," in Jaccard and Mao (eds.) *Mechanisms of Resource Allocation for Sustainable Development of the Energy Sector*, China Council for International Cooperation on Environment and Development / Unirule Institute for Economics, Beijing, 1998, 51-54.
- Jaccard, M., "Social Costing and Energy Planning," in Jaccard and Mao (eds.) *Mechanisms of Resource Allocation for Sustainable Development of the Energy Sector*, China Council for International Cooperation on Environment and Development / Unirule Institute for Economics, Beijing, 1998, 46-50.
- Jaccard, M., Failing, L. and T. Berry, "From Equipment to Infrastructure: Community Energy Management and Greenhouse Gas Emission Reduction" *Energy Policy*, V.25, N.13, 1997, pp.1065-1074.
- Jaccard, M. "La Evolucion de los Principios de la Intervencion Gubernamental en los Mercados de Electricidad", in Jardon, J., (ed.) *Los*

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Procesos de Regulacion en Energia y Medio Ambiente: Experiencias Nacionales e Internacionales, Editorial Porrúa, Mexico, 1997.

- Jaccard, M., "Reforming the Electricity Industry: A British Columbia Perspective", Policy Options, V.17, N.3:21-25, 1996, pp.21-25.
- Jaccard, M., "Finding the Right Climate for Competitive Electricity and Natural Gas Markets," Ecodecision, V.19, 1996, pp.48-51.
- Jaccard, M., "Oscillating Currents: The Changing Rationale for Government Intervention in the Electricity Industry," Energy Policy, V.23, N.7, 1995, pp.579-592.
- Jaccard, M., "Changing Canadian Electricity Markets and the Future Role of Government," Energy Studies Review, V.6, N.2, 1994, pp.103-126.
- Jaccard, M., "Do Canadian Electricity Prices Reflect Costs?" (a communication) Canadian Public Administration, V.37, N.1, 1994, pp.1-4.
- Jaccard, M., "Les Compagnies Electriques aux Etats-Unis et au Canada: Tendances Observees dans la Gestion et le Controle Reglementaire", in Les Variantes Institutionnelles pour les Societes d'Energie: le Cas du Secteur Electrique, Institut De l'Energie des Pays ayant en Commun l'Usage du Francais (IEPF), Quebec, 1994, pp. 47-60.
- Jaccard, M., "Regulation of Energy Utilities in Canada: Where Do We Go From Here?" Energy Studies Review, V.4, N.3, 1992, pp.297-304.
- Jaccard, M., J. Nyboer, and T. Makinen, "Managing Instead of Building: B.C. Hydro's Role in the 1990s," B.C. Studies, Winter/Spring 1991/1992.
- Jaccard, M. and D. Sims, "Employment Effects of Electricity Conservation: The Case of British Columbia," Energy Studies Review, V.3, N.1, 1991, pp.35-44. +
- Jaccard, M., "Les Compagnies Electriques: Nouvelles Contraintes et Nouvelles Strategies," Energie Internationale, October, 1988, Vol 2, pp.155-168.