

Industrial Systems Policy Statement

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1.0 INTRODUCTION

The purpose of this statement is to clarify the definition of industrial systems, and the policy objectives and implications of exempting such systems from the *Electric Utilities Act* (EUA).

2.0 OBJECTIVE OF INDUSTRIAL SYSTEM EXEMPTION

- The industrial system exemption has an objective (similar to the EUA section 2(b) self-generation exemption), to provide the correct economic signals which enable integrated industrial processes to develop their own internal electricity supply where that is the most economic source of generation. The exemption should support:
 - development of economic generation to supply the requirements of integrated industrial processes;
 - efficient exchange, with the interconnected electric system, of electric energy that is in excess of the industrial system's own generation or consumption; and,
 - generation and load location decisions which improve the efficiency of the interconnected electric system (e.g., voltage stability, reduction offline losses and congestion, etc.).
- The exemption is not intended to facilitate development of independent electricity systems driven by avoidance of system costs, therefore administration of the industrial system exemption should avoid un-economic system by-pass.

- Duplication of the interconnected electric system should be avoided where it is more economic to use utility-owned transmission or distribution facilities.

3.0 INDUSTRIAL SYSTEM

An industrial system fits in a continuum between "self-generation" (Section 2(b) of the EUA) and a distribution system. All facilities that are electrically interconnected by an industrial system are integral parts of the same industrial process. An industrial system involves the production of electric energy as one element of the integrated industrial process and provision of the electricity to the associated components and facilities of that process.

A range is possible between what is clearly an industrial system, which the EUB could exempt under EUA section 2(d) without close scrutiny, and what is clearly not an industrial system. Between these clearly "white and black" extremes lies a "grey area" which would require close scrutiny by the EUB to determine whether an exemption could be provided under EUA section 2(d). The following list of characteristics describes the spectrum (white, grey and black areas, as illustrated in the attached charts).

An industrial system has the following characteristics:

3.1 Strong Industrial Process Linkages

- The clearest case of an industrial system involves integrated industrial processes utilizing shared equipment and continuous product flow. Facilities are interconnected by substantial items of common site infrastructure, directly required by the industrial process, such as: process piping, and raw material and finished product lines or conveyors.
- Where the operations draw on a geographically contiguous resource (oil, gas or mineral pool), there is a strong indication of an integrated process if: ownership of the oil, gas or mineral reserves is the same, and there exists substantial common site infrastructure.
- Linkages based only on electric or thermal energy supply are not sufficient to define an integrated process which could be served by an industrial system.
- A new application for an industrial system exemption would normally demonstrate significant investment in both the expansion (or extension) of the industrial process and the development of electricity supply.
- Operations which are independent or have no process linkage are evidence that a system is not an industrial system.

3.2 Industrial Customer

- To be eligible to be designated as an industrial system the integrated operations must process a feedstock, produce a primary product or manufacture a product.
- If no operations meet this criterion an application for exemption under EUA section 2(d) could not be approved.

3.3 Common Ownership of Facilities

- The clearest example of an industrial process involves common ownership, which is suggestive that the process may be integrated.
- Common ownership means that the various operations of the integrated process may be owned by a single person, including a joint venture or partnership. The term "multiple ownership," as used in this document, means that the different operations are owned by different persons.
- Generating facilities which produce electric energy for use by an industrial system may be owned by a person other than the owner of the various operations of the integrated process.
- Multiple ownership of operations is suggestive that the operations are distinct and non-integrated, and that a supplier-customer relationship exists rather than an integrated industrial process. While it is possible for an industrial system to have multiple owners, there is a greater burden on demonstrating that the assets are, in fact, all components of an integrated industrial process, and not simply examples of supplier-customer relationships.
- For operations with multiple owners to be considered an integrated process, the outputs and management of the operations must be coordinated in a way that contributes to the production of the final output(s) of the process. A system which has multiple owners with a supplier-customer relationship between all operations is not an industrial system.

3.4 Dedicated Output

- The clearest example of an industrial system is where 100% of the output of the facilities and operations are required by, or are the final product of, the integrated process. Each of the operations provides (or uses) inputs to production to (or from) the other facilities or operations that are part of the integrated process.
- Operations which have a supplier-customer relationship or where a substantial portion of the output of any operation is sold outside this arrangement are evidence that an integrated process may not exist.
- Sales of output from all operations (if that output is not the final product of the integrated process) to markets indicates the operations are not part of an integrated process and not an industrial system.

3.5 Integrated Management of the Process

- The clearest demonstration of an industrial system is when operations are under one management, and changes in levels of output for one operation are directly reflected in comparable changes in other operations.
- Where operations are separately managed such that they operate at different levels for sustained periods, the basis for claiming to be an industrial system is weak.

3.6 Proximity

- The closer together the operations and facilities are, the easier it is to identify the electric system as an industrial system.

- Industrial systems may cross a public highway (as defined in the *Hydro & Electric Energy Act*). However, where the site infrastructure extends beyond a single contiguous property, the burden of demonstrating that the system is an integrated industrial process becomes more onerous.
- To be eligible for an industrial system designation where site infrastructure extends beyond a single contiguous property, the applicant must demonstrate that it could provide its own technically feasible distribution and/or transmission facilities to interconnect the integral parts of the industrial process at an overall cost lower than, or equal to, the applicable distribution or transmission tariff(s) of the distribution system(s) in whose service area the integrated operations of the industrial process are located.

4.0 Exemptions Conferred on Industrial Systems

Only electric energy that is generated and consumed by the industrial system is exempt from the EUA. Exemption from the EUA means that for the exempted electric energy the industrial system does not have to:

1. exchange the exempted electric energy through the Power Pool of Alberta if the electric energy produced by the industrial system is not transmitted via facilities of the interconnected electric system;
2. purchase the exempted electric energy from the owner of the electric distribution system in whose service area the industrial system is located;
3. participate in obligations and entitlements (legislated hedges) for the exempted electric energy; or
4. participate in province-wide transmission tariffs for the exempted electric energy. Industrial systems which have a contract with an electric distribution system, or the Transmission Administrator, must either fulfill or pay-out such contracts. The EUB will determine that a pay-out does not result in undue re-allocation of costs to other customers of the interconnected electric system.

Where an application falls in the "grey" area and the preponderance of evidence suggests an integrated process may exist the EUB may take into account, as a final screening criterion, that a process results in a significant increase in energy efficiency. Energy efficiency is suggestive of an overall integrated process relationship but is not sufficient evidence, by itself, of such a relationship. Since the energy efficiency criterion is for projects on the right hand side of the grey area, the EUB may approve a partial sharing of system costs (legislated hedges and/or province-wide transmission) when the energy efficiency criterion moves the project into the white area.

5.0 Relationship of Industrial System to Interconnected Electric System

An industrial system that is interconnected is an eligible person for the purpose of exchanging electric energy or system support services with the interconnected electric system.

An arrangement may be negotiated with the distribution system or Transmission Administrator where it is more economic to use existing facilities of the interconnected electric system to exchange the electric energy produced and consumed by the operations of an industrial system.

- Where a rate or other contract terms are provided by a distribution system it must be transparent and no less favourable than the rate or terms provided affiliate companies.
- If a person has received an industrial system designation and applies to build transmission facilities under the *Hydro and Electric Energy Act*, as part of the industrial system, where the transmission line would cross a public highway but is otherwise situated on property of which that person is the owner or a tenant, the Department's intent is to amend legislation so that crossing a public highway would not prevent that person from being exempted under the *Hydro and Electric Energy Act* section 15(1).

Where the electric energy produced from an industrial system is exchanged through facilities of the interconnected electric system the electric energy produced and consumed by the industrial system must be exchanged through the power pool as required under sections 13(1)(a) and 14 . A pool trading charge and settlement with the Pool Administrator would be based on the net flow of electric energy.

- The settlement bill for the electric energy that is both generated and consumed by the industrial system would net zero if, during the period a pool price is determined, the amount of electric energy generated and exchanged at the pool price is the same as the electric energy consumed.
- For use of interconnected electric system facilities in exchanging through the power pool electric energy that is both generated and consumed by the industrial system, the owner of the industrial system would not be required to pay any charges other than those arising from the arrangement negotiated with the distribution system or Transmission Administrator.
- The industrial system, in its arrangement with the distribution system owner, could choose whether to pay the distribution system for this energy at a pool price pass through rate, or could purchase the energy from the pool as a pool price participant. Any load in excess of the exempted electric energy would be subject to the distribution system's normal tariffs.
- The intent is not to create an onerous burden in allowing industrial systems to use facilities of the interconnected electric system where it is economic to do so. If there is evidence that such a burden is created the Department of Energy will review this aspect of the policy.

6.0 Review Process

The industrial system exemption is designed to be consistent with the overall direction in restructuring the electric industry. A review process is important during the transition, to ensure the purposes of the EUA are met, and the approach to exemption of industrial systems may need to be revised in future. The Department of Energy will continue to review the industrial systems policy to ensure that it is consistent with further developments in electric industry restructuring.

The EUB is asked to assist in the review process by advising the Department of Energy, on an ongoing basis, of any potential reallocation of costs to remaining customers.

Appendix A. **Illustrative Charts**

A.1 Scope of the Industrial System Exemption

As illustrated in Chart 1, the industrial system exemption only applies to what is clearly an industrial system which falls in the "white" area, or is determined an industrial system after close scrutiny by the EUB (see Chart 3).

A.2 Criteria for Determining the Scope of the Industrial System Exemption

Chart 2 illustrates criteria, or characteristics, which the EUB would assess in determining whether an application for industrial system designation would fall in the "white", "grey" or "black" areas. A project which meets all of the criteria of the "white" area, is clearly an industrial system and could receive an industrial system designation. Projects which have all of the characteristics described in the "black" area are clearly not industrial systems. Those projects which have any of the characteristics described in the "grey" area require close scrutiny by the EUB to determine whether they fall in the "white" area and can be designated an industrial system, or fall in the "black" area and not be designated an industrial system.

A.3 EUB Close Scrutiny of "Grey" Area Projects

Chart 3 illustrates possible outcomes of EUB scrutiny for applications which fall in the "grey" area:

- A project would receive the full industrial system exemption if the EUB decided, upon close scrutiny, the project is an industrial system.
- As a final screening criterion, the EUB may consider energy efficiency. The EUB could designate a project as an industrial system and approve a partial sharing if the energy efficiency criterion was required to move a project into the "white" area.
- If the EUB decides the project does not fall in the "white" area after close scrutiny, the project could not be designated as an industrial system.

Link Reference Index

Chart 1: **Scope of Industrial System Exemption**

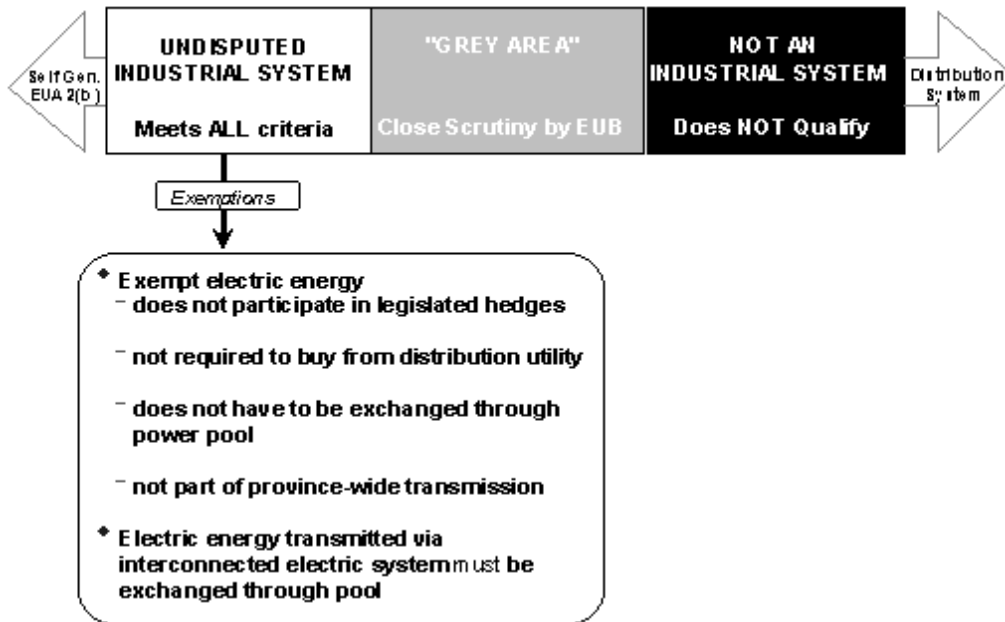
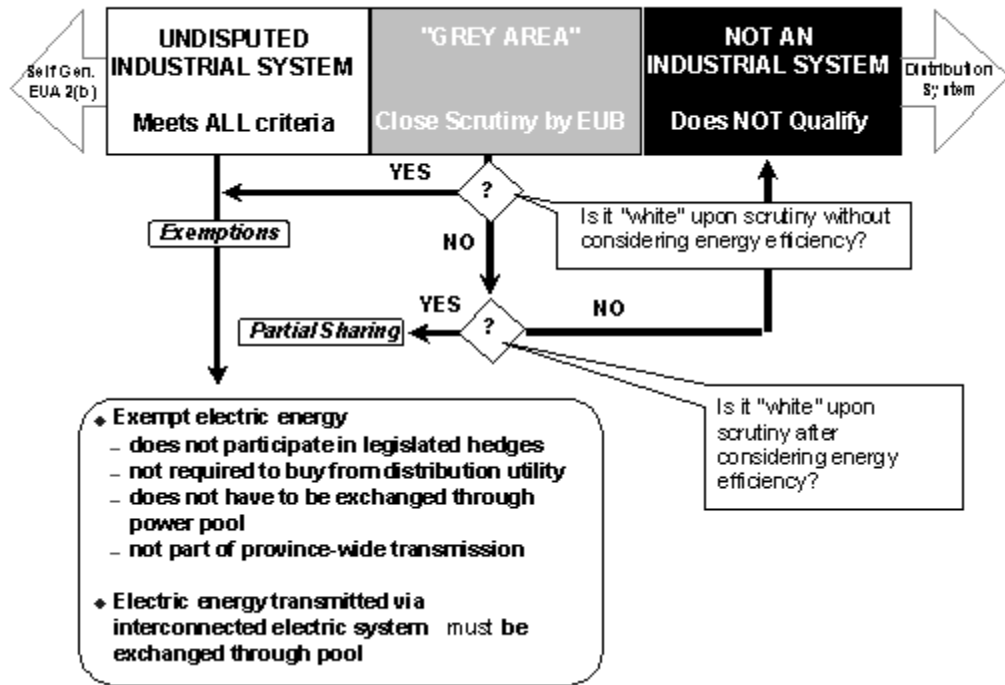


Chart 2: **Criteria For Determining Scope of Industrial System Exemption**

Undisputed Industrial System	Close Scrutiny by EUB If Any of the Following	Not an Industrial System
<ul style="list-style-type: none"> ♦ Strong Industrial process linkages: <ul style="list-style-type: none"> - Integrated process - common site infrastructure - significant new process investment 	<ul style="list-style-type: none"> ♦ Limited industrial process linkages: <ul style="list-style-type: none"> - not all components integrated - some common infrastructure - limited new process investment 	<ul style="list-style-type: none"> ♦ Independent operation: <ul style="list-style-type: none"> - no process linkages: - no new process investment - no common site infrastructure
<ul style="list-style-type: none"> ♦ All operations eligible as industrial customers 	<ul style="list-style-type: none"> ♦ One operation not eligible as industrial customer 	<ul style="list-style-type: none"> ♦ No operations eligible as industrial customer
<ul style="list-style-type: none"> ♦ One owner or one management 	<ul style="list-style-type: none"> ♦ Different owners or managements 	<ul style="list-style-type: none"> ♦ Different owners with only a supplier-customer relationship and no process relationship ♦ No management coordination
<ul style="list-style-type: none"> ♦ Dedicated output of intermediate products 	<ul style="list-style-type: none"> ♦ Some intermediate outputs sold in the market 	<ul style="list-style-type: none"> ♦ All output sold in the market

Chart 3: **EUB Close Scrutiny of "Grey" Area Projects**



Link Reference Index

The following list provides background on the links established in the Industrial Systems Policy Statement. The intent of the list to provide additional background on the content of some of the terms used in the policy statement. The list should not be interpreted as providing clarification on any part of the of the Industrial Policy Statement.

1. Electric Utilities Act (EUA)

The EUA is the framework for the Alberta's new electric industry structure which came into effect on January 1, 1996.

2. Section 2(b) of the EUA

Section 2(b) of the EUA reads as follows:

This Act does not apply:

2(b) to electric energy produced on property of which a person is the owner or a tenant, for use solely by that person and solely on that property,

3. Interconnected Electric System

Section 1(1)(p)of the EUA defines an interconnected electrical System as follows:

"interconnected electric system" means all transmission facilities and all electric distribution systems in Alberta that are interconnected, but does not include an electric distribution system or a transmission facility that is owned by the City of Medicine Hat or a subsidiary of that municipality unless that municipality passes a bylaw under section 59;

4. Energy Resources Conservation Board (ERCB) and the Alberta Utilities Commission (AUC)

On January 1, 2008, the Alberta Utilities Commission Act split the Energy Utilities Board (EUB) into two new regulatory bodies. The ERCB is responsible for the development of Alberta's oil and gas resources and the AUC is responsible for the distribution and sale of electricity and natural gas to Alberta consumers.

5. Section 2(d) of the EUA reads as follows:

This Act does not apply:

2(d) to electric energy exempted by the Board pursuant to section 73(4).

Section 73(4) reads as follows:

4) The Board may make rules

1. exempting any facility or class of facilities, other than regulated generating units listed in the Schedule, from the definition in section 1(1)(f), and
2. exempting from the operation of this Act the electric energy produced from an industrial system.

6. A Public Highway (as defined in the Hydro and Electric Energy Act)

The Hydro and Electric Energy Act defines a public highway as follows:

"public highway" means any land owned by the Crown or a local authority that is used or surveyed for use as a public highway, road, street or lane, or other public way;

7. Power Pool of Alberta

Section 1(1)(w) of the EUA defines the power pool as follows:

"power pool" means the scheme operated by the persons appointed under section 9(1)b and (c) for the dispatch and exchange of electric energy and financial settlement for the exchange of electric energy.

For more information on the power pool visit the homepage of the Power Pool of Alberta

8. Obligations and Entitlements (legislated hedges)

Alberta's new industry structure ensures that the costs and benefits of Alberta's existing regulated utility generating units are shared by all customers in the province. The mechanism for achieving this objective is a set of legislated financial hedges between distributors and owners of existing generating units.

More information on Alberta's new electric industry structure is available in the Department's guide: *Moving to Competition: a guide to Alberta's new electric industry structure*.

9. Transmission Administrator

The Transmission Administrator is responsible under the EUA for the overall coordination of the transmission system. As discussed in the Department's guide: *Moving to Competition: a guide to Alberta's new electric industry structure*, some of these functions include:

- Contracting with individual transmission owners to provide services.
- Acting as the financial clearing house between the buyers of transmission services (generators, distributors, importers and exporters) and the transmission owners.
- Setting province-wide tariffs for system access.
- Interacting with the power pool on issues such as the generation required for operating reserve.

Information about other functions of the Transmission Administrator is available from the Recommendations and Final Report on The Alberta Transmission Administrator Function.

10. Hydro and Electric Energy Act section 15(1)

Section 15(1) of the Hydro and Electric Energy Act reads as follows:

Exemption

15(1) Sections 12 to 14 do not apply to a person transmitting or proposing to transmit over his own land electric energy solely for his own use by means of a line that does not cross a public highway, unless the Board otherwise directs.

(2) Notwithstanding subsection (1), a person transmitting or proposing to transmit electric energy solely for his own use shall, where required by regulation to do so, immediately notify the Board of the use or proposed use and provide any details of the transmission and use that the Board requires.

RSA 1980 cH-13 s15

Section 12 of the Hydro and Electric Energy Act reads as follows:

Permit

12(1) No person shall construct a transmission line or any part of a transmission line, or undertake any operations preparatory to the construction of a transmission line, unless he is the holder of a permit issued by the Board.

(2) No person shall make a significant extension or alteration of a transmission line unless the Board has amended his permit or issued a new permit to cover the extension or alteration.

(2.1) Where the Board is considering an application under subsection (1) or (2), the Board shall consider whether the facility for which approval is sought is and will be required to meet present and future public convenience and need.

(3) This section does not preclude a person proposing to apply for a permit or his agents from

1. entering on any Crown or other land lying in the intended route of the transmission line to make surveys or examinations, or
2. negotiating for the acquisition of interests in land that may be required for the transmission line. RSA 1980 cH-13 s12;1995 cE-5.5 s82

Section 14 of the Hydro and Electric Energy Act reads as follows:

Licence 14 No person shall operate a transmission line unless he is the holder of a subsisting licence to operate the transmission line, issued by the Board.

RSA 1980 cH-13 s14

11. EUA sections 13(1)(a) and 14

Section 13(1)a of the EUA reads as follows:

Participation in power pool after December 31, 1995

13(1) After December 31, 1995,

(a) all electric energy entering or leaving the interconnected electric system shall be exchanged through the power pool,

Section 14 of the EUA reads as follows:

Prohibition

14 After December 31, 1995, no person shall intentionally cause or permit electric energy or system support services produced by a generating unit in Alberta to enter the interconnected electric system except in accordance with dispatch.

12. Pool Trading Charge

In Alberta, only a pool participant (eligible person) can buy and sell electricity through the power pool. Anyone wishing to participate must: pay a trading charge (proportional to volume of activity)

More information about how to participate in the power pool is available from the Power Pool's web site.

A description of the pool charge is located in the Power Pool rules.

An "eligible person" is defined in section 1(1)(h) of the EUA

13. Power Pool Administrator

The Power Pool Administrator is responsible for carrying out the financial transactions and general operations of the pool. Some of the duties of the Power Pool Administrator, as discussed in the Department's guide: Moving to Competition: a guide to Alberta's new electric industry structure, include:

- Managing the bid-offer process, in which participants submit their prices for supplying to and receiving power from the pool.
- Determining the — merit order the ranking of units according to the price they offer into the pool — and working out the overall schedule for which units should run when.
- Scheduling units to provide system services, such as operating reserve.
- Carrying out all the financial settlements, so that distributors pay for the power they purchase and generators receive their payment.
- Determining the costs of running the pool and recovering these costs through membership fees charged to pool participants.