

E-Plus Homeowners Group

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August 2, 2016

Attention: Laurel Ross, CPA, CA, Acting Commission Secretary and Director

Dear Ms. Ross:

**Re: British Columbia Hydro and Power Authority (BC Hydro)
Project No. 3698781/G-156-15
2015 Rate Design Application
E-Plus Homeowners Group (EPHG) – Submission of Evidence re: Residential E-Plus Rate
Design (Rate Schedule 1105)**

Further to the EPHG Submission of Evidence dated May 18, 2016 attached are copies of those documents cited as References in that Submission that have not previously been put into evidence by EPHG or that may not otherwise be readily available to the Commission and to interveners.

Yours truly



Gary McCaig – for, E-Plus Homeowners Group

Attachments:

<u>EPHG Evidence Reference</u>	<u>Document Name</u>
References 1, 5	Hansard - May 25, 1987, Afternoon Session
References 3,5,45	BC Hydro Electric Plus Heating Program – October 1987

References 3, 6	BC Hydro Electric Plus Question and Answer Guide – Sept. 1989
References 4,6	BC Hydro Electric Plus Owners Guide – January 1989
References 4	Letter, BC Hydro (John Sheehan) to Individual E-Plus customers – Jan. 1991
Reference 6	BC Hydro – Residential Dual Fuel Interruptible Electric Service Agreement
Reference 6	Letter, BC Hydro (John Sheehan) to Individual E-Plus customers – October 17, 1990
Reference 48	2007 RDA Phase – 1, E-Plus Homeowners Group Final Argument August 17, 2007, page 13 (note page 12 is also provided for context)

Hansard - May 25, 1987
Afternoon Session

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MR. G. HANSON: My question is to the Minister of Energy, Mines and Petroleum Resources. As all members of the House know, in every provincial election since about 1960, the people of Vancouver Island have been promised cheaper energy in the form of natural gas through a pipeline. The present minister was a rational voice, in the sense that he always stated that the Cheekye-Dunsmuir had capacity to bring space-heating over to Vancouver Island and put us in the same status as our friends on the mainland who are on the natural gas pipeline. On Friday the minister announced that there would be power coming to Vancouver Island at discount rates, but the switch is going to flick off and on. Why are we getting interruptible power?

HON. MR. DAVIS: The policy announced on Friday had previously been cleared by the B.C. Utilities Commission for fairness across the province and cost recovery. There is energy currently available; surplus, in other words, which won't be available indefinitely. This surplus energy is being made available provincewide, on the same basis on the Island, for example, as on the mainland. From time to time there will be surplus energy. This energy is priced lower than firm energy. It's half-price energy, but it can't be guaranteed all the time. Hence the interruptible nature of the service and the lower price.

MR. G. HANSON: Mr. Speaker, the minister talks about fair application across the province. Hydro officials tell us that once the program reaches 60, 000 household subscribers, it'll be cut off. There are approximately 200, 000 households that would want to participate on Vancouver Island alone, Mr. Minister.

My question relates to the fact that as the price for our export sale of surplus power increases as the spot market goes up, our industrial customers here in the province of British Columbia can be cut off. Why would you want to afford that opportunity for industrial customers across the line to get an advantage of surplus power and cut off our own Canadian industrial and commercial customers?

HON. MR. DAVIS: Mr. Speaker, that's a strange interpretation. Obviously the export market will be the first to be cut off, then large industrial customers here, then commercial and finally the homeowner, if there is indeed a shortage of energy. But the priorities are well established, and they're the reverse of those suggested by the hon. member.

MR. G. HANSON: The point is that the people of Vancouver Island and everywhere in this province who are not on natural gas want firm juice; they want firm power, Mr. Speaker. The conditions that have been put on this program, in terms of providing a backup heating source . . . For example, if you have an electrical furnace or heat system in your house, you have to install an oil system to take advantage of it. Our numbers are that the amortization or payback period for a

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subscriber . . It would take an average of eight years before you'd start to make that up. Why don't you go on to firm juice for the people of this province?

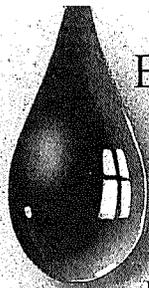
HON. MR. DAVIS: Customers who have a firm supply have to pay for a firm supply, which is a higher price than the interruptible service. Everyone has the opportunity to put in an alternative system. It may be expensive in some cases and very low-cost in others. The low-cost alternatives, particularly in the outlying areas of the province, are the most attractive economically, and they'll be served first. There may well be as many as 100, 000 customers taking advantage of these rates within three or four years' time; I think that Hydro will find it has other surpluses, and the number may be 200, 000 within the decade.

MR. G. HANSON: Supplementary, Mr. Speaker. With the amount of surplus electric power available within British Columbia that could be given to Vancouver Island on a firm basis, the pipeline on the lower mainland and so on - that's not on an interruptible basis; that's firm - will you not give the people of Vancouver Island and the other unserved areas firm power on the same basis that they get firm natural gas?

MR. STUPICH: Supplementary question to the same minister, Mr. Speaker. With one set of transmission lines, how do you interrupt the power to one of two meters?

HON. MR. DAVIS: B.C. Hydro has devoted some nine months to the establishment of this rate, the manner in which interruptions will take place, the two to three months' advance notice for disconnection and so on. The hon. member can rest assured that our public power company knows what it's doing.





Electric Plus is Surplus Energy

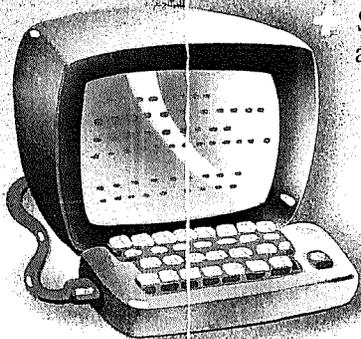
Electric Plus costs less because it is surplus energy, available when there is more than enough water in our reservoirs to provide electricity for the basic needs of British Columbia homes and industry. It is secondary energy, a byproduct of firm hydroelectric generation, and can be supplied without more dams being built.

Surplus secondary energy formerly could only be exported, or else the extra water had to be spilled if there was no market for the energy. Electric Plus now lets B.C. residents and businesses share directly in the benefits of this low-cost energy while developing a stable market for it.

Residential customers will be given priority over other surplus electricity customers and will not be interrupted to export surplus interruptible energy.

Electric Plus is a permanent program, but the number of customers on the special rate will be limited to match the amount of surplus available. This will ensure that each Electric Plus customer gets enough low-cost energy to repay conversion costs and keep saving year after year.

Electric Plus is not available in areas served by local fuel-fired generating plants, nor to customers who now heat with natural gas.



Start Saving Now with

Electric Plus

Your local Hydro office and electrical and heating contractors can help you start saving money with Electric Plus.

The people at your Hydro office can:

Give you a computerized analysis of your possible savings.

Provide additional literature and technical advice.

Sign you up for the Electric Plus service and rate.

Your local contractor can:

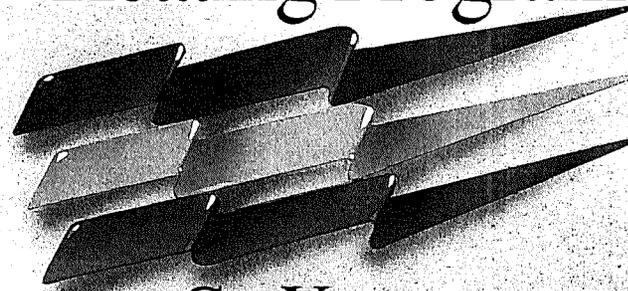
Recommend the best type of heating system for your home or business.

Give an estimate of conversion installation costs. We suggest getting at least two estimates before deciding on a contractor.

Sign you up for low-interest B.C. Hydro financing.

 B.C. Hydro

Electric Plus Heating Program



Cut Your Heating Costs up to

1/2

if you now use oil or propane

October 1987

 B.C. Hydro

B.C. Hydro Electric Plus Heating Program - October 1987 p.1/2

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Cut Heating Costs up to 50%

Our Electric Plus program can cut your fuel bills as much as 50% if you now heat with oil or propane.

Add electric heating, with your fuel-fired system as a back-up, and you can qualify for the low Electric Plus rate of 2.5¢ per kilowatt-hour (kW.h).

the surplus energy that makes Electric Plus is not always available, you'll need to keep present heating system in good working order to take over when necessary. Back-up systems must use fuel stored on your property. Many can be designed to take over automatically when Electric Plus is interrupted.

You'll save an estimated \$200 to \$450 a year over oil or propane on space heating, and another \$110 to \$150 on water heating if you add Electric Plus to your system, too.

We will finance up to \$2,500, at the special interest rate of 8½%, on approved credit. This will usually more than cover the entire cost of converting to dual-fuel Electric Plus, in most cases. And it's conveniently repaid on your Hydro bill.

Businesses can save, too. The same rate of 2.5¢ per kW.h applies to the first 8,000 kW.h a month, with a special rate of 1.8¢ for any additional consumption. Our special financing is also available, with maximum terms similar to commercial loans based on estimated revenue.

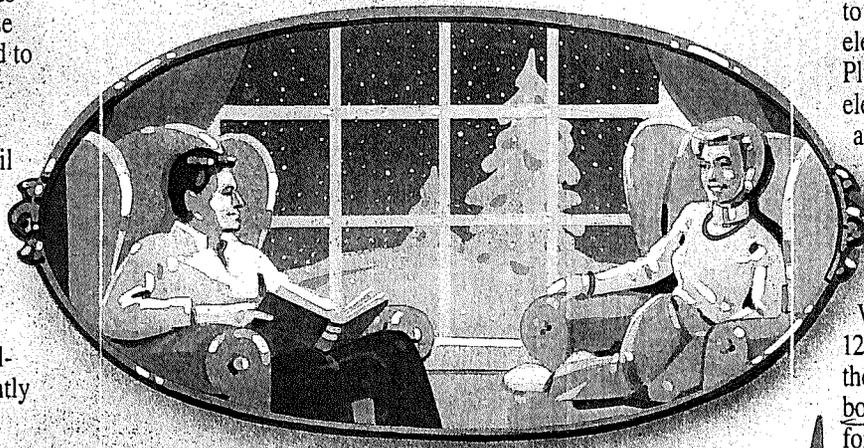
If you already have dual-fuel electric heat, or now heat with wood or coal, you may also be eligible for the Electric Plus program. If you now heat with electricity, you may find it worthwhile to install a fuel-fired back-up system under certain conditions. Heating contractors can offer guidance and an appraisal of the potential savings.

Special Low Rate

Cut your fuel bills by up to 50% with the dual-fuel rate of 2.5¢ a kW.h

Modern Electric Heat

Enjoy clean, quiet, 100% efficient electric heat, with zone control options



Low-interest Financing

Use 8½% Hydro financing, conveniently repayable over periods up to 4 years

Return on Investment

Earn an attractive, tax-free return while adding to the value of your home

How Electric Plus Works

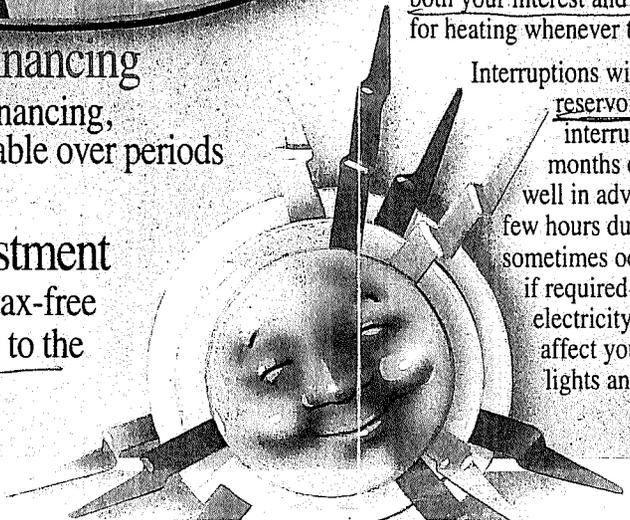
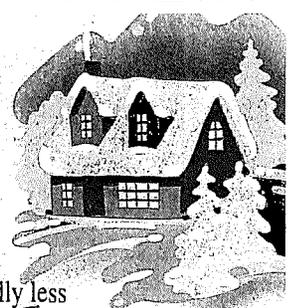
When you convert to dual-fuel Electric Plus, the electricity you use for heating will be metered separately from other electricity use, so it can be billed at the special rate, which we expect will remain fixed until at least March 31, 1991. Even after that, Electric Plus will cost substantially less than your other electricity.

The cost of converting will usually range from \$1,300 to \$2,800. Select from several ways to heat electrically, as described in our pamphlet "Electric Plus Heating Systems." If you already have dual-fuel electric heat, you can install Electric Plus for as little as \$500 to \$1,000.

Your back-up system can be oil, propane, butane, wood or coal, but it must be able to take over heating of the entire area served by Electric Plus when it's necessary to interrupt the latter.

We intend to limit interruptions to no more than 120 days in total prior to March 31, 1991. After that they will still be kept to a minimum, because it's in both your interest and ours to have Electric Plus used for heating whenever there is surplus energy.

Interruptions will sometimes be necessary when reservoir levels are low. These interruptions may last for several months or more, but you'll be notified well in advance. Brief interruptions for a few hours during peak daily use periods may sometimes occur without notice in some areas if required to maintain the supply of firm electricity. Neither type of interruption will affect your other electricity use, such as lights and appliances.



B.C. Hydro Electric Plus Heating Program - Overview 11/91 p. 2/2

BC hydro
Electric
Plus

Question
and
Answer
Guide

BC hydro



proud of our Service

Questions and Answers

This booklet provides answers to some of the most frequently asked questions about Electric Plus that we receive from heating contractors, tradespeople and customers.

Ask us for more information

If you have questions not answered here, contact your local B.C.Hydro office, or write to Energy Management, 6th Floor, 1045 Howe Street, Vancouver, B.C. V6Z 2B1. Or call our toll-free customer advisory numbers:

Lower Mainland	293-7777 or 1-800-663-0431
Vancouver Island	1-800-663-1033
South Interior	Vernon 1-800-663-2723 Cranbrook 1-800-663-4306
Northern B.C.	1-800-663-1689

29. Q. When will service interruptions occur?

A. Minimal interruptions (maximum of 120 days) will occur before March 31, 1991. Interruptions will occur when there is not enough water in our reservoirs to meet B.C.Hydro's basic electricity commitments. A minimum of 30 days' notice will be given for long-term interruptions.

30. Q. How are customers interrupted?

A. During the initial period, B.C.Hydro will be interrupting residential customers by manually operating a switch located on the outside of the house. However, B.C.Hydro reserves the right to interrupt by serving notice to the customer that an interruption is scheduled and asking the customer to operate the disconnect switch himself. This is the same method used for commercial and industrial customers.

31. Q. During an interruption, what stops a customer from switching to firm electricity?

A. The customer signs a Service Agreement assuring B.C.Hydro that he will not switch the load from the Electric Plus program to a firm load during interruptions. B.C.Hydro will be able to detect such a change by noting the significant increase in the firm load of the residence following an interruption. Should a customer try to attempt what is contravention of the terms of the Agreement, B.C.Hydro will discontinue the supply of electricity under the reduced rate schedule and bill the estimated unauthorized consumption at the rate specified during a period of interruption (15¢/kWh). B.C.Hydro has the right to inspect premises to ensure that only authorized loads are connected to Electric Plus and that they are not switched to firm during an interruption.

1. Q. What is meant by *dual fuel*?

A. A dual fuel heating system consists of an electric heating system with an oil, propane, butane or solid fuel back-up system, which takes over the heating function when the supply of electricity is interrupted.

2. Q. What is meant by *interruptible electricity*?

A. It is surplus secondary electricity offered to customers at a reduced rate, the supply of which can be interrupted during periods when no surplus secondary energy is available. B.C.Hydro will not build new dams to supply this interruptible energy.

3. Q. What is *firm electricity*?

A. This is your normal electricity supply from B.C.Hydro. It is always available except during a system failure or planned short-term outages, sometimes required to facilitate system modifications.

4. Q. What are the typical costs and benefits?

A. The benefits depend directly on the amount of fuel displaced by the low-cost electricity. If the customer can provide his current oil consumption, B.C.Hydro can estimate the benefits he will receive. The cost of the installation depends very much on the present wiring in the customer's home and the type of system he chooses to add. B.C.Hydro's recommendation is that two or three quotes be obtained from different contractors who can advise on the most suitable type of equipment needed for conversion to Electric Plus. Most customers should be able to convert to Electric Plus for less than \$2,500 and will be able to save \$200 to \$400 annually. Savings will be even greater in the colder regions.

5. **Q. For residential service, what does the homeowner pay for and what does B.C.Hydro pay for?**
 A. The homeowner is responsible for installing his dual fuel heating system with the electric portion wired so that B.C.Hydro can meter it separately from other electricity uses. This includes providing an approved meter base and disconnecting means. The homeowner must also pay B.C.Hydro's standard charges of \$10 for the installation of one meter or \$13 for the installation of two meters.
 B.C.Hydro provides its own meter and makes necessary changes to its system to accommodate the added consumption. If required, B.C.Hydro will provide a new overhead service drop up to 30 m (100 ft.).
 If an underground service is upgraded, the customer must pay costs over the equivalent cost of an overhead service upgrade.
 B.C.Hydro will make transformation improvements required to provide service for additional consumption at no cost to the customer. Where additional upgrading beyond transformation is required, B.C.Hydro will make improvements costing up to \$1,000 on public property and the customer will be responsible for any additional costs.
6. **Q. What about existing electric customers?**
 A. Existing customers with "firm electric" heating are eligible for the program. They can still become "dual fuel" customers if the economics are acceptable to them. They must, however, install an additional heating system as back-up to their existing electric system. In many cases the cost of doing this is prohibitive.
26. **Q. Where can the sub-panel be located?**
 A. The sub-panel must be located in accordance with the local electrical code. There will obviously be some consideration given to the meter's effect on the appearance of the dwelling and where it might be most conveniently accommodated. In most cases, the sub-panel would probably be close to the existing panel.
27. **Q. What is the means of disconnection for residential customers?**
 A. Currently the method of disconnection used is a manually switched circuit breaker or disconnect switch. Separately mounted circuit breakers, unfused disconnect switches (in weather-proof enclosures) located next to the interruptible meter base or a combination meter base/circuit breaker can be used. The weatherproof enclosure must have a lockable cover unless the circuit breaker or disconnect switch can be locked in both the on and off positions. An appropriately sized circuit breaker, preferably of non-automatic type where available, should be used. Currently, three manufacturers have acceptable combination meter base/circuit breaker units: Commander Electrical Equipment #RC1-2100 and #RC1-2200; Murray Jensen #JA000PW and #JA000PWSD (100A), #JA402P and #JA402PSD (200A); Microelectric #C01-100, #C01-125 and #C02-200.
28. **Q. How are wood/electric furnaces connected to the Electric Plus power supply?**
 A. The heating elements should be connected through the Electric Plus panel. However, the power for the fan/blower should be on the firm power supply off the main panel, in order to continue operating during an interruption.

21. Q. Is a diesel generator acceptable for back-up?
 A. Yes, an approved diesel generator is acceptable as back-up, provided it meets all code requirements, is suitable for continuous duty, has a proper transfer mechanism and can also meet the local requirements for noise and air pollution.
22. Q. Can the exhaust heat recovered from a diesel generator be included in the total heating capacity of the back-up system?
 A. Yes, provided the necessary hardware (heat exchanger, piping, etc.) to supply the recovered heat is installed and the heat is available during interruption periods.
23. Q. Is solar heating acceptable as a back-up for outdoor swimming pool heating, domestic hot water heating or space heating?
 A. No.
24. Q. What is the maximum consumption that can be placed on a 100A meter base?
 A. A single load (furnace, plenum heater or boiler) of 20 kW supplied from a single branch circuit can be supplied through a 100A meter base, 100A safety switch or a 125A circuit breaker. However, 20 kW of baseboard heating supplied from a branch circuit of a sub-panel requires a 200A meter base (125A meter base when it becomes available), 125A safety switch, 125A wiring to the sub-panel and 125A circuit breaker.
25. Q. What is the maximum permitted kW capacity of baseboard heaters on a 100A meter base with a 100A lockable breaker?
 A. An aggregate baseboard heater load of 19 kW can be supplied from a 100A meter base and breaker using the 80% rule in the Canadian Electrical Code.
7. Q. How is the interruptible electricity metered for residential customers?
 A. The interruptible electricity is metered by a second meter on a separate heating circuit, usually off the main electrical panel. The electrical consumption on this second Electric Plus meter is billed at the Electric Plus rate. When the Electric Plus meter is fed from the main meter, your normal electricity consumption will be calculated by subtracting the Electric Plus consumption from the main electrical billing meter.
8. Q. Can customers in a mobile home park have Electric Plus?
 A. Yes, as long as the park distribution system has the capacity available to handle the additional electrical load "set aside" for Electric Plus.
9. Q. What are the Electric Plus interruptible rates?
 A. Residential: 2.5¢/kW.h
 Commercial/Industrial: 2.5¢/kW.h for the first 8,000 kW.h per month, 1.8¢/kW.h for the remainder. Rates are fixed until March 31, 1991.
10. Q. How long will the Electric Plus rates be available?
 A. Once our targets have been achieved, the rates will be closed. At that point new customers will not be accepted on the Electric Plus program, but those customers who already have the rate will keep it.
11. Q. What are the financing limits for residential customers?
 A. The minimum amount that can be financed is \$500, and the maximum is \$2,500. Financing is subject to credit approval, which may have a security deposit requirement. The annual interest rate is 8.5%. Repayment is made on the customer's Hydro bill over periods up to four years.

12. **Q.** Are new homes eligible for Electric Plus financing?
A. Yes, B.C.Hydro will finance the incremental cost up to a maximum of \$2,500 for either the electric or back-up heating system, provided contractors eligible to offer the Electric Plus finance plan install the system. The financing is available to the homeowner only through the contractor.
13. **Q.** Can wood, oil, propane or butane space heaters be used as back-up?
A. Yes, provided they can heat the entire area that is heated by the Electric Plus heating system.
14. **Q.** How do I ensure that the back-up heating system will function when the Electric Plus power is interrupted?
A. Every electrical component of the back-up system (controls, fans, pumps) must be supplied from the main (firm) panel. We recommend testing the back-up system periodically with the Electric Plus interruption switch open.
15. **Q.** What about problems with the back-up system, for example, an old oil furnace?
A. The customer, in his contract with B.C.Hydro, undertakes to keep his back-up system in good working order. He is responsible for seeing that regular maintenance is conducted and that the system is checked periodically for correct operation. B.C.Hydro reserves the right to interrupt power specifically to ensure that such back-up systems are in complete working order.
16. **Q.** Does the customer have to have a permanent back-up for applications other than space heating?
A. Yes, for any application, there must be a suitable system to provide satisfactory back-up during an interruption.
17. **Q.** Do you need a back-up system even for non-essentials like swimming pool or spa heating?
A. Yes. B.C.Hydro must be able to interrupt the electricity supply to the Electric Plus heating application. Therefore, there must be a working system to back it up. While it might appear that a particular use is non-essential, it could be that in a particular instance, when the interruption actually occurs, such a use has become very important to the customer and he would have considerable difficulty in accepting the fact that the load must be cut off.
18. **Q.** What is the minimum on-site storage of back-up fuel?
A. Minimum acceptable on-site fuel storage is the equivalent of 50 hours' consumption based on the maximum firing of properly sized and installed back-up heating equipment.
19. **Q.** Does the Electric Plus program allow the use of wood as a back-up fuel?
A. Yes, but only if the heating equipment is designed for continuous heating rather than for decorative or intermittent use. All equipment used as back-up must be certified and labelled to meet the appropriate CSA, ULC or UL standards of safety. Moreover, the wood-fired system must have the capacity to heat all the areas of the house that are going to be heated by the Electric Plus system.
20. **Q.** Is a customer who has an electric water heater hooked up to Electric Plus with wood back-up allowed to switch this load to the firm electric panel during non-interruption periods?
A. Yes, any customer may choose to switch any Electric Plus load to his firm power panel by giving B.C.Hydro a three-month notice of such a transfer. However, the transfer cannot occur during or three months prior to a planned interruption period, and this load can never be transferred back to Electric Plus.

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• The area heated by *Electric Plus* must not be heated by firm electricity or natural gas during the period of interruption.

• You should maintain a fuel supply adequate for at least 50 hours of operation of your fossil-fuel or wood back-up system.

• The minimum recommended fuel storage for 50 hours of full furnace or boiler operation is:

Oil furnace (168,000 BTU/hr input)	50 Imp. gal. or 228 litres of oil.
Propane furnace (110,000 BTU/hr input)	50 Imp. gal. or 228 litres of propane.
Wood stoves	1/2 a cord or 64 cu. ft. of wood.

Helpful Hints on Back-up Systems

It is your responsibility to test and maintain your back-up system regularly. Upon receiving a notice of interruption, be sure to test your back-up heating system right away so you can be sure it will function correctly when the interruption occurs.

Recommended yearly maintenance schedule for oil and propane systems.

Oil system: *	Feb.	Aug
Clean ignitor tips		x
Replace oil nozzle		x
Check oil for moisture	x	x
Check oil tank	x	x
Fill oil tank		x
Test oil furnace	x	x

* The furnace filter should be checked and cleaned or replaced every 3 months or as required.

Propane System: *	Feb.	Aug.
Check propane tank condition	x	x
Fill propane tank		x
Check for propane leaks	x	x
Light pilot and test furnace	x	x

* The propane gas supply may be shut off after testing to prevent leakage and to save on pilot light consumption.

* The furnace filter should be checked and cleaned or replaced every 3 months or as required.

Wood Stoves and Furnaces: Store an adequate supply of wood and keep it at least 50 feet away from your home. In coastal areas at least six month of air-drying under cover are needed before wood is suitable for use as fuel. Wet or green cut wood, particularly in coastal areas, can produce larger quantities of creosote, creating a real danger of chimney fire. Avoid burning wood containing salt (obtained from ocean beaches), since the resulting corrosion can destroy the wood burner.

If you use wood for heating and need more information, please see the pamphlet 'Safe Installation and use of Solid-Fuel Burning Appliance' available from the Office of the Fire Commissioner or your local B.C.Hydro office.

For More Information

Additional brochures and technical data sheets on *Electric Plus* equipment, savings, and wood back-up are also available through your local B.C.Hydro office.

Electric Plus

Owner's Guide

Welcome to Low-Cost Dual-Fuel Energy for Your Home



January 1989

p.1/2



Owner's Guide p.1/2

Electric Plus Owner's Guide

January 1989

Welcome to **Electric Plus**, a program designed to provide you with low-cost energy to meet your heating needs. **Electric Plus** also helps B.C.Hydro because it provides an attractive British Columbia market for this energy.

This pamphlet is designed to help you better understand **Electric Plus**, what your obligations are, and what our obligations are. It also provides some tips on how to get the best from your dual-fuel heating system. If, after reading this pamphlet, you have further questions, please call your local B.C.Hydro office for answers.

Thank you for joining us in this new program. I'm sure you will enjoy saving on your heating costs for many years to come.

Sincerely,



John Sheehan
Vice-President, Customer Services
B.C.Hydro

January 1989 p 2/2

Electric Plus is an innovative program offered by B.C.Hydro to residential, commercial and industrial customers so they may purchase surplus interruptible secondary energy at reduced rates.

You can use **Electric Plus** for space heating and water heating applications but must have a complete propane, butane, oil, wood or coal back-up heating system in good operating condition for each application. The back-up heating system must operate when the secondary **Electric Plus** energy is interrupted and is not available.

What is Surplus Secondary Energy?

B.C.Hydro's electric generation capacity is based on water flow rates and the amount of water stored in our reservoirs. The snowpacks and stored water represent stored kilowatt-hours of electricity. We evaluate this potential continuously.

Our hydroelectric system is designed to serve B.C.Hydro's **firm** energy commitments even during a series of years when rainfall and snowpacks are substantially less than normal. In most years, however, precipitation is substantially above these minimum levels. This gives us surplus secondary energy, which we can sell at a much lower cost than firm energy because it can be supplied without requiring new dams to be built.

Why Must **Electric Plus** Electricity Be Interruptible?

Secondary energy is only available when there is more than enough water in our reservoirs to produce electricity for the needs of B.C.Hydro's **firm** customers. When the secondary energy is not available, therefore, secondary energy users (including export customers) must switch to another energy source.

For **Electric Plus** customers such interruptions are expected to be infrequent, but may last for up to one heating season when they do occur. Customers are notified well in advance of any long-term interruptions.

What can **Electric Plus** Be Used For?

The low **Electric Plus** rate is available for space heating and water heating in homes or parts of homes and buildings where a full back-up heating system exists. The back-up system may not use firm electricity or natural gas. A separate meter measures consumption on the special **Electric Plus** rate.

Electric stoves, fridges, other appliances or lighting may not be connected to the **Electric Plus** meter. Should B.C.Hydro find these connected or find that space or water heating is cross-connected to the regular meter, then the **Electric Plus** rate will be cancelled and its meter removed. In such a case the total amount of energy used through the **Electric Plus** meter will be billed at the regular rate back to the date of installation.

Our Obligations

- B.C.Hydro will endeavor to limit interruptions to a total of 120 days up to March 31, 1991.
- **Electric Plus** customers will receive written notice at least 30 days before a scheduled interruption. This notice will ask you to shut off your main breaker to the **Electric Plus** sub-panel and start using your back-up fuel. Also, our meter reader will turn off the locked outdoor **Electric Plus** switch on a specified day. **NOTE:** Electric energy recorded on your **Electric Plus** meter during an interruption would be billed at the **penalty rate**.

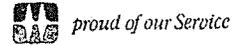
- The special low **Electric Plus** rate is expected to remain fixed until March 31, 1991. After that we will keep the **Electric Plus** rate at least one third lower than the firm electric rate, subject to B.C.Utilities Commission concurrence.

- To ensure a good level of service to **Electric Plus** customers and to avoid overselling the surplus, B.C.Hydro will limit the number of customers on the **Electric Plus** rate.

Your Obligations

- You must provide and maintain a back-up heating system for all areas heated by **Electric Plus**.
- You must switch to your back-up heating system when notified.

When called p. 2/2



John P. Sheehan
Vice-President, Customer Services

7 January 1991

File: 430.1

Dear Electric Plus Customer:

ELECTRIC PLUS ELECTRICITY

In our previous letter of 17 October 1990 concerning Electric Plus, we outlined some of the background to the program and specifically discussed our intention to apply for an increase in the rates in April, 1991.

We had previously indicated when the program was introduced in 1987 that the Electric Plus rate would be fixed until at least 31 March 1991 and thereafter the rate WOULD NEVER EXCEED two thirds of the regular price of electricity. Naturally, WE STAND BY THAT COMMITMENT. Ⓢ

The response from our customers to the 17 October letter indicates confusion about the program. We will therefore delay any action with respect to the rates pending further communication with customers and the British Columbia Utilities Commission. We plan to take steps to ensure customers are very clear about the program and their options for the future.

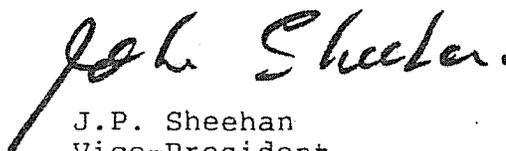
Our original Electric Plus program offered from the launching date in 1987 to March 1991, fixed Electric Plus rates and to limit interruptions to a total of 120 days. The fixed rates were natural gas equivalents which offered savings of up to 50% over oil or propane. These features were designed to ensure customers would have sufficient time to recover costs of converting to Electric Plus. Electric Plus rates have remained fixed and there have been no interruptions. Nonetheless, some customers, particularly those who joined the program later, indicated concern about having their investment returned if rates were increased at this stage. The delay in application for rate changes will allow time to address this concern. Electric Plus savings and return on investments is determined by the amount of Electric Plus electricity used to displace the original heating fuel.

Originally the Electric Plus rate was 56% of the regular rate and it appears that customers feel the rate should not now increase all at once to the level of two thirds of regular rates. One alternative is to phase this increase over two or three years and this delay will allow time to review these possibilities.

Over the next several months we will be exploring options with our regulator, the B.C. Utilities Commission (BCUC), and with customers to see how Electric Plus can be best administered and to deal with specific situations in some areas such as the upcoming gas supply to Vancouver Island, the Sunshine Coast and Squamish. Any increase in rates will be by way of an application to the BCUC and customers will be advised in advance. The BCUC will determine whether or not a hearing is held to consider the application.

I am sorry for any confusion which may be caused by my letter of 17 October. We do appreciate the feedback from customers and wish to assure you that your voices are heard.

Sincerely,

A handwritten signature in black ink, appearing to read "J.P. Sheehan". The signature is written in a cursive style with a long, sweeping underline that extends to the left.

J.P. Sheehan
Vice-President
Customer Services

cc: B.C. Utilities Commission

RCM



British Columbia Hydro and Power Authority

RESIDENTIAL DUAL FUEL INTERRUPTIBLE ELECTRIC SERVICE AGREEMENT made the 25 day of JANUARY 19 88.

p-1/2

BETWEEN:



AND:

British Columbia Hydro and Power Authority
970 Burrard Street
Vancouver, B.C. V6Z 1Y3
("B.C. Hydro")

1. In this Agreement the Customer's premises means the premises located at 9277 FABEK RD.
2. B.C. Hydro will deliver interruptible electricity for use on the Customer's premises and the Customer shall pay according to the terms of this Agreement.
3. Electricity is supplied and taken upon and subject to the terms and conditions from time to time contained in B.C. Hydro's Electric Tariff and at the rate set out in Rate Schedule 1105, or any replacement thereof, in the said Electric Tariff which is available for inspection at any general office of B.C. Hydro. A copy of Rate Schedule 1105 in effect as of the date of this Agreement is attached.
4. B.C. Hydro owns, and is responsible for the maintenance of, only the following electrical equipment installed or to be installed on the Customer's premises:
 - meters and metering transformers for the purpose of billing. (Insert list of applicable equipment.)
METER # 1760637 B263.
5. The load shall be limited to 20 kW of connected load consisting of the following equipment and shall not be increased or added to without the prior written approval of B.C. Hydro. The listed equipment shall be energized only through the metering equipment applicable to this rate.

Space heating	<u>20</u>	kW
Water heating	<u>0</u>	kW
6. The Customer confirms that he has a backup heating system which is certified or inspected and rated for continuous operation and which satisfactorily heats the entire area heated by the Electric Plus interruptible electricity. The Customer also agrees that during a period of interruption, the area heated by Electric Plus will be heated entirely by his backup system and no electricity from B.C. Hydro's system will be used for this purpose.


Customer's initials

Customer's initials

- 7. The Customer understands that, in addition to normal system interruptions generally applicable to all classes of Customers, interruptions in service under the Electric Plus (Rate Schedule 1105) rate will be of two types:
 - (a) infrequent interruptions of long duration (possibly several months), following advance notice;
 - (b) interruptions of short duration (usually only hours), without notice, to prevent local system overload.
- 8. The backup heating system(s) is/are [oil] [propane] [butane] [wood] [coal] or [an independent electrical generator]. (Wood or coal will require a Safety Inspection Certificate.)
- 9. The Customer confirms that B.C. Hydro will not be held responsible for any loss or damage which may occur due to interruption of the Electric Plus service.
- 10. The Customer acknowledges his right to inspect a copy of B.C. Hydro's Electric Tariff and agrees that such right is sufficient notice of the rates and terms it contains.
- 11. The Customer agrees to have and to maintain at all times, in working condition and with an adequate supply of fuel, a permanent backup heating system that meets the specifications of Rate Schedule 1105.
- 12. The Customer acknowledges that B.C. Hydro has the right of access referred to in Rate Schedule 1105.

Customer's initials

Customer

PER: [Redacted]

X [Redacted]

British Columbia Hydro and Power Authority

PER: WENDY CHASE
Name (Print)

Wendy Chase
Signature

D.O.C. I.
Position

The following is for B.C. Hydro office use only and does not form part of the Agreement between B.C. Hydro and the Customer.

Name		Service Address		Mailing Address		Customer Account Number		Date of Energization		Electric Service Order No.		Service Details		Connection Charge		Loan Security Required		Rate Schedule		Premises Code		Issuing Office	
Area	Jedger	Folio	W/Day	Area	Jedger	Folio	W/Day	Wires	Amps	Volts	Phase	Amount	Receipt No.	Yes	No	Amount	Irrevocable Letter of Credit	Insurance Indemnity Bond	Rate Schedule	Premises Code	Issuing Office		
95	6910	13921						3	200	120	1A	10		<input type="checkbox"/>	<input checked="" type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	1105	010	PART ALBERNI		
<p>28 JAN 88</p> <p>8330-003035</p> <p>BILLED</p>																							

John P. Sheehan
Vice-President, Customer Services

17 October 1990

Dear Electric Plus Customer:

As one of the 15,000 Electric Plus customers in British Columbia, you enjoy the benefits of electric heating at a reduced price. The rate you pay (which has not changed since May 1987) will be going up on April 2, 1991. However, it will remain 33% below your regular electricity rate. We would like to explain this change to you and take the opportunity to review a few key points of your Electric Plus Agreement.

Please take a minute to read this letter, and if you have any questions, you can call your local Hydro office or 1-800-663-0431.

1. What has happened to the Electric Plus program?

The program is no longer accepting any further applications. The reason for closing the program is to ensure a reasonable level of service to you as one of our existing Electric Plus customers.

2. What is going to happen to the Electric Plus rate?

Currently you are paying 2.5¢ per kilowatt-hour for your Electric Plus consumption. This is virtually half of your regular electricity rate. This rate has remained the same since May 15, 1987. Due to rising costs, B.C. Hydro will apply to the British Columbia Utilities Commission for a rate increase to two-thirds of the regular residential rate on April 2, 1991. That should be approximately 3.3¢ per kilowatt-hour.

3. What will happen during an interruption?

Electric Plus is an interruptible rate, which is why it is cheaper than regular electricity. If there is not enough water and no alternative way to supply electricity economically, we will need to interrupt your Electric Plus service. You will be given at least 30 days' notice of an interruption. After that point, you will have to rely on your back-up heating system to heat your house for the duration of the interruption, which could continue for a whole heating season.

B.C. Hydro will not actually disconnect your Electric Plus service. Instead, you will be notified about an upcoming interruption and asked not to use your electric heating after a specific date. If you use your Electric Plus service during an interruption, you will be charged at the penalty rate of 1.5¢ per kilowatt-hour. In addition, if you use your Electric Plus service during an interruption, we will interpret that to mean your back-up system is not adequate to provide you with necessary heating and you will forfeit your Electric Plus rate.

4. What are my options?

You could switch to natural gas heating when it becomes available in your area. Natural gas really is the fuel of choice when it comes to home heating. If you choose to convert to natural gas or pipe propane, then you must give up your Electric Plus rate.

You may switch to regular electricity service at any time prior to the announcement of an interruption. Once an interruption has been announced, you will have to wait until the interruption is over before you may switch to regular electricity service.

To change from Electric Plus, just get in contact with your local Hydro office and they will show you how easy it is.

"You will be given at least 30 days notice of an interruption"



THOMAS BUTLER
— LLP —

BARRISTERS ♦ SOLICITORS

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August 17, 2007

Mr. Robert J. Pellatt
Commission Secretary
British Columbia Utilities Commission
Sixth Floor – 900 Howe Street
Vancouver, BC V6Z 2N3

Via email: Commission.secretary@bcuc.com

Re: Project No. 3698455 – BC Hydro 2007 Rate Design Application – Phase I

Dear Mr. Pellatt:

Please find enclosed the E-Plus Group's Final Argument with respect to this proceeding.

If you have any questions, please don't hesitate to call me.

Yours truly,



Kelly A. Cairns

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2. The Evidence and weaknesses in BCH's case

Even if the Application has properly invoked s.64 or if the Commission is of the view that it nonetheless has the power to make an order abrogating the EP contracts, the onus is on BCH to provide a compelling evidentiary case for terminating those contracts. BCH has fallen far short of providing such evidence and this has been explained above where each pillar of BCH's argument was analyzed.

The EP contracts were a substitute for spilling water or selling into a low-priced, unreliable export market. They were, and remain, in the nature of trade revenue income which means that in 1987 they were in the numerator (total operating and financing costs less trade revenue = revenue requirement), not the denominator, of the cost of service calculation. BCH has provided no evidence or logical framework capable of persuading the Commission that the cost of service calculation as it relates to EP revenue and consumption should now be changed so that EP revenue no longer appears in the numerator. Furthermore, all incremental costs of the physical infrastructure required to serve EP customers have been paid for by EP customers either up front in the case of the meter or in the form of increased general rates. It is mathematically inescapable that if the EP revenue is placed in the numerator and that revenue covers the incremental costs of EP service, EP customers are not being subsidized by other ratepayers¹⁶.

3. Existing contracts

The key terms of the EP contracts, in EP's view, are:

- Electric Plus was a permanent program¹⁷ (EPlus brochures) and do not contain a clause granting BCH or the Commission the power to abrogate them or unilaterally alter their terms;
- The price would never exceed two thirds of the "regular rate"¹⁸ (the Sheehan letter);

¹⁶ T7: 1063/23 - 1064/25

¹⁷ Exhibit C8-4 pp. 42 ("Residential customers [meaning EP customers] will be given priority over other surplus electricity customers and will not be interrupted to export surplus interruptible energy. Electric Plus is a permanent program, but the number of customers on the special rate will be limited to match the amount of surplus available. This will ensure that each Electric Plus customer gets enough low-cost energy to repay conversion costs and keep saving year after year." [Emphasis added by BCH])

- 1 • Sales of surplus to others would be cut off before sales to EP customers would be cut
2 off (EPlus brochures).
3

4 As accurately described by Mr. McCaig during his testimony¹⁹, EP does not believe it necessary
5 to abrogate the EP contracts to increase EP rates. BCH has some flexibility within the
6 boundaries of the EP contract and RS 1105 (and other EP rate schedules) to increase EP rates.
7 EP customers do not dispute this. In other words, EP customers agree that BCH may impose on
8 EP customers the same general rate increases that the Commission authorizes BCH to impose on
9 all its rate payers. Such increases have been accepted by EP customers for many years.

10
11 Furthermore, EP customers agree that their rates may be increased beyond general rate increases
12 but only if BCH provides compelling evidence that such additional rate increases specific to
13 EPlus are justified and those approved increases do not exceed limits that might otherwise
14 constrain BCH's ability to raise the rates of EP customers (the 2/3's limit in the Sheehan letter
15 and increases that, combined with other general increases, would impose rate shocks on EP
16 customers). The test BCH must meet in order to impose any additional increases, and the extent
17 to which such increases are limited, are explored below.

18
19 And just to be clear, EP is not conceding that the EP rate should automatically rise to two thirds
20 of the residential rate. EP is saying their rates should only rise to levels that can be properly
21 justified. For example, if the incremental cost of servicing EP customers goes up, that would be
22 justification for raising EP rates beyond any general rate increases. EP also continues to submit
23 that the current Application seeking to justify an increase solely because the EP rate is lower than
24 the residential rate has not been made out. Not by a long shot. And as for the future, EP's
25 position is that additional rate increases need to pass two tests. The first test is whether any rate
26 increase specific to EP customers can be justified on logical and substantiated grounds (e.g. have
27 EP customers' incremental costs of service risen)? The second test is, if so would such an
28 increase be considered a rate shock or exceed the two thirds ceiling placed on the price by Mr.

¹⁸ Exhibit B-1, Appendix I, last page ("We had previously indicated when the program was introduced in 1987 that the Electric Plus rate would be fixed until at least 31 March 1991 and thereafter the rate WOULD NEVER EXCEED two thirds of the regular price of electricity. Naturally, WE STAND BY THAT COMMITMENT." [Emphasis added by Sheehan])

¹⁹ T10: 1681/11 - 1683/21