

Commission Members -

I'm making this Final Submission as a citizen of BC, a BC Hydro ratepayer, and a retired mechanical engineer possessing a better than average understanding how BC Hydro's generation/transmission/distribution system, analog ('heritage') meters, and electronic ('smart' - radio on and radio off) meters work, and an intervener in the hearing.

As such, I contend that the fair charge for those choosing to keep their heritage meters cannot be determined at this time. This comes from my understanding that the fair charge per customer choosing a heritage meter has been deemed to be the associated costs divided by the number who opt for heritage meters, combined with my belief that if BC Hydro had provided more complete and less misleading information in the course of its Meters Choice Program there would be many more ratepayers who chose heritage meters; ie - the fair charge per ratepayer would turn out to be much lower than whatever it's going to come out at if a determination is made at this time based on the present numbers.

I further believe that, should it accept my contention, the proper response for the Commission to make at this time is to ask BC Hydro to redo the Meters Choice Program, but this time with more complete and less misleading information.

In support of my belief that ratepayers were inadequately informed as to the pro's and con's of the various meter choices, I have provided below my comments on a few statements taken off promotional material I received by mail from BC Hydro in advance of the Dec 3rd deadline - copies of which I've attached.

As a final comment, for the reasons expressed in this submission I am in full support of the reconsideration motion.

Sincerely

Bob McKechnie,  
Gabriola Island, BC

#### MISLEADING/CONFUSING/INCOMPLETE STATEMENTS TAKEN FROM BC HYDRO PROMOTIONAL MATERIAL, c/w COMMENTS

1. ". . . the \$35 per month fee to retain an old (heritage) meter will be applied to your bill effective December 2nd 2013. . . . The (BC Utilities) Commission has approved this fee on an interim basis." Comment: As other interveners have pointed out, a heritage meter fee potentially as high as \$35/month undoubtedly prompted many ratepayers who wouldn't have otherwise done so to choose a smart meter. [Quote 1, attached]
2. "MYTH: Smart meters are harmful to your health. FACT: Smart meters are safe, as confirmed by health and science authorities including B.C.'s Provincial Health Officer. . . " Comment: By failing to mention the numerous health and science authorities (\*) who have

said electromagnetic radiation is potentially harmful to living organisms, BC Hydro has introduced an obvious bias into the option selection process. (\* For example the recent World Health Organization determination that emr is a possible Class B human carcinogen.) (Quote 2, attached)

3. “MYTH: Smart meters will increase your electricity bill. FACT: “The Smart Metering Program will help keep rates low by creating a more efficient power system and reducing power loss. It will save customers about \$70 million over the next three years through lower rates.” Comment 1 - Based on my understanding that electronic meters read higher than analog meters (because they are more sensitive than analog meters to harmonics higher than 60 Hz, noise, and voltage transients on the line), I contend the “MYTH” statement with accompanying answer is inaccurate. Comment 2 - I have read in the media numerous cases of ratepayers experiencing higher than expected electricity bills following the installation of smart meters, no doubt in part for the reason I’ve cited. (see Quote 6, attached)

4. “(Smart meters will help) get the lights back on faster and more safely during power outages.” Comment: If it is important to increase response times during power outages (and personally I don’t believe it is), to make an informed choice ratepayers ought to have been informed that it is not necessary to put a smart meter on the side of each ratepayer’s house to accomplish this - a smart meter near every circuit breaker on the distribution network will do just as well.

5. “Smart meters will create new opportunities in the green energy field by enabling small, local generation sources - such as wind, solar, biomass and geothermal - to connect to the grid, ensuring our energy remains clean and renewable.” Comment: The implication is that if one doesn’t avail oneself of a smart meter then green energy won’t be ‘enabled’. I find this misleading because customers (such as pulp mills and someone here on Gabriola Island who has a small hydro-generator, for example) have been putting green energy onto the grid for decades without smart meters. (Quote 5, attached)

6. “Public Safety. If there is anything that will have a single dramatic effect on public safety issues and the risk of fire and electrocution in communities throughout BC, it will be the installation of smart metering” - a quote attributed to Surrey Fire Chief Len Garis. Comment 1: What is this all about??? Is the Fire Chief saying the risk of fire and electrocution is going to go up or down with the installation of electronic meters? Comment 2: For ratepayers to make an informed choice of meter type I contend an answer to this question (which wasn’t provided) is mandatory. By way of explanation, for sure I’ll choose to keep my analog meter if a reputable fire chief is saying electronic meters are going to increase the risk of fire and electrocution at my home. Comment 3: I have read in the media numerous cases of ratepayers experiencing fires which they and others are saying started in the electronic-meter/meter base area, a smart meter having been recently installed. (See for example <http://www.wsbtv.com/news/news/local/family-blames-new-smart-meter-sparking-fire-home/nSDKq/>.) (Quote 6, attache)

7. “For example, (BC Hydro has) . . . confirmed through testing, certified by professional engineers, that the meters use safe technology commonly used in our communities for decades . .

. “ Comment 1: Electronic meter technology hasn’t been around for decades. Comment 2: Because of the combustible nature of electronic meters, the potentially high 220 VAC currents , and meter bases which are the owner’s responsibility to maintain, I can’t imagine any professional engineer certifying that combination of elements as safe. Comment 3: I have read in the media numerous cases of ratepayers experiencing fires which they and others are saying started in the meter base area, a smart meter having been recently installed. (See previous for example.) (Quote 7, attached)

December 11, 2013

Dear Robert Mckechnie,

BC Hydro has received your communication stating your refusal to accept a smart meter at your premises, your rejection of the Meter Choices Program options, and your request to retain an old meter at no cost.

Q1 → Retaining an old meter at no cost is not an option. As the enrolment deadline for the Meter Choices Program has now passed, an old meter will remain in operation at your premises and the \$35 per month fee to retain an old meter will be applied to your bill effective December 2, 2013. BC Hydro has filed an application with the B.C. Utilities Commission requesting determination of the Meter Choices Program fees to be charged. The Commission has approved the fees on an interim basis. If the final fees differ from the interim fees, BC Hydro will adjust customers' bills accordingly.

The BC Hydro Electric Tariff, which has been approved by the B.C. Utilities Commission, governs the terms and conditions under which service is provided by BC Hydro. The Tariff is legally binding on BC Hydro. No terms and conditions which a customer may submit or seek to impose have any legal validity. The Tariff can only be amended by order of the Commission.

As with all services, if you do not maintain payments your account will be passed to collections and you will be at risk of service disconnection.

More information about smart meters is available at [bchydro.com/smartmeters](http://bchydro.com/smartmeters). Should you decide there is a Meter Choices Program option you prefer, BC Hydro will be able to process your requested meter choice and any fees charged will be pro-rated.

Sincerely,



Greg Reimer  
Executive Vice President, Transmission & Distribution

Q.7

Back side of a letter from BCH dated Jan 4,  
2013

**Need more information about smart meters?**

BC Hydro has responded to dozens of questions from customers about the new meters and we would encourage you to read the answers for yourself at [www.bchydro.com/smartmeters](http://www.bchydro.com/smartmeters). For example, we have:

- confirmed through testing by a federal consumer protection agency that the new meters are accurate;
- confirmed through testing, certified by professional engineers, that the meters use safe technology commonly used in our communities for decades; and
- worked with the Privacy Commissioner's office to meet all standards and guidelines.

**Can I relocate the meter?**

As always, you can choose to relocate your meter base to a different location on your property, in accordance with local electrical guidelines, and at your own cost. If you would like to move the meter, contacting a qualified electrician is the first step.

For more information about the new meters or what to expect during installation, visit our website or contact BC Hydro at [smartmeters@bchydro.com](mailto:smartmeters@bchydro.com) or 1-800-409-8199.

Sincerely,



Gary Murphy  
Chief Project Officer, Smart Metering Program

# BC HYDRO'S SMART METERING PROGRAM

Investing in and modernizing BC's electricity grid will help us meet your electricity needs now and in the future. British Columbians are using electricity in new ways – smart phones, computers and big screen TVs all use more power. These gadgets weren't around 50 years ago when our grid was built. Introducing smart meters is a key first step in modernizing BC Hydro's electricity system.

New smart meters will provide many benefits to families and businesses, helping you save money and allowing you to make choices about how you manage your electricity consumption.

## HOW WILL SMART METERS BENEFIT YOU?

### Keeping rates low

BC Hydro can operate more efficiently with smart meters by reducing power loss, which will benefit you by helping to keep your rates among the lowest in North America. They will deliver about \$70 million in rate savings over the next three years alone.

### New customer tools to manage your energy use and save money

You will have access to new smart meter enabled tools, such as a secure online account, that you can use to manage and conserve your energy use, and help you save money.

### Get the lights back on faster and more safely during power outages

Right now, when your power is out, you need to call BC Hydro to let us know. Smart meters will automatically send an alert to BC Hydro when your power goes out, so that our crews can get to the outage and restore power faster.

### Support innovative new uses of clean electricity

Smart meters will create new opportunities in the green energy field by enabling small, local generation sources – such as wind, solar, biomass and geothermal – to connect to the grid, ensuring our energy remains clean and renewable.

## DID YOU KNOW THAT SMART METERS...

- Help keep your rates low by reducing rate pressures by \$70 million over the next three years alone and by delivering \$1.6 billion in benefits in the longer term.
- Help you reduce your energy use – new conservation tools enabled by smart meters can help you conserve up to 15 per cent of your energy.
- Are the new global standard for a modern power grid – about one billion smart meters will be installed worldwide by 2020.
- Will save enough energy every year to power 74,000 homes in B.C.
- Will create more green jobs and provide a commercial basis for local suppliers of green goods and services.
- Will help accommodate the wide-scale adoption of electric vehicles.



### Public Safety

*"If there's anything that will have a single dramatic effect on public safety issues and the risk of fire and electrocution in communities throughout B.C., it will be the installation of smart metering."*

**Len Garis,**  
Surrey Fire Chief

### Choices

*"Our research has shown that the deployment of innovative clean technologies such as smart meters allows consumers to make choices about their use of energy. Today's enlightened consumers want to make a difference, and this type of technology allows them to do so."*

**John Wiebe,**  
CEO, GLOBE Foundation

### Sustainable Clean Energy Future for Generations

*"We are very fortunate that B.C. is one of the places in the world where the use of new technologies, such as electric vehicles, will really make the most difference. That's because electric vehicles operating in B.C. will be using clean, hydroelectric energy, not electricity made from burning coal. Smart metering will enable us to incorporate new renewable energy sources and advanced technologies, arming us for the inclusion of 21st century innovations."*

**Dr. Brian Natrass,**  
Sustainability Partners

**Fact 4: Smart meters will provide automated, real-time notification of power outages.**

For the first time ever, BC Hydro will receive automated, real-time notification of power outages in specific locations instead of relying on customers to call in to report the outage. This will enable BC Hydro to restore your power faster. Instead of endangering crews by sending them out to search for the outage in often stormy and dangerous conditions they will be dispatched straight to the problem.

**Fact 5: Conservation tools enabled by smart meters can deliver direct energy savings for you.**

Customers will be able to access timely information about their electricity consumption through a secure BC Hydro website, mobile applications, or optional in-home display devices. BC Hydro estimates that BC Hydro customers using in-home feedback tools of their choice will realize up to 6 per cent in energy savings. Market research indicates that customers using in-home feedback tools can reduce their energy consumption by up to 15 per cent.

**Fact 6: The Smart Metering Program will create new economic opportunities in B.C.**

Modernizing our electricity grid will create new technology based jobs to maintain and operate the smart metering system. Installation of the new smart meters will create approximately 350 jobs and generate \$30 to \$40 million in direct wages throughout B.C. Smart meters will create opportunities for customers and communities to sell power back to the grid from clean sources, such as solar panels, wind, biomass and geothermal generation. The Smart Metering Program also provides the infrastructure to support long-term economic development initiatives such as micro-grids, electric vehicles and small-scale customer generation.

**Fact 7: Your smart meter installation will only take a few minutes.**

Most customers will not need to be home when their old meter is removed and a new modern meter is installed. Individual communities will be advised of their installations dates well in advance. Information will be delivered to each customer including how to prepare your home for installation and customer service contact information.

**Fact 8: Smart meter signals are short, infrequent and will last less than one minute per day.**

Smart meters communicate using radio frequency signals 4 to 6 times a day—for a total average of one minute per day. The cumulative exposure to radio frequency from a smart meter—over its entire 20-year life span—is equivalent to the exposure during a single 30 minute cell phone call.

**Fact 9: Your consumption data will remain secure and private at all times.**

Protecting your privacy is our top priority and extensive security and privacy provisions are in place for the Smart Metering Program. BC Hydro will use data encryption like online banking systems. In addition, our security methodology includes 'ethical hacking' testing by an independent security services firm. All personal information will be handled in accordance with the British Columbia Freedom of Information and Protection of Privacy Act.

**Fact 10: Smart meters are more accurate than existing mechanical meters.**

Independent studies of smart meter accuracy in several jurisdictions prove that smart meters are much more accurate than older meters. Federal regulations from Measurement Canada require that all meters in service in Canada, including new smart meters, are within a 1 per cent accuracy tolerance.

For more information, visit [bchydro.com/smartmeters](http://bchydro.com/smartmeters)

# BC HYDRO'S SMART METERING PROGRAM

Q.3 & Q2



## MYTH VS. FACT

Q2 **MYTH:** Smart meters are harmful to your health

**FACT:** Smart meters are safe, as confirmed by health and science authorities including B.C.'s Provincial Health Officer.

- Smart meters communicate for a total average of one minute per day.
- Exposure to radio frequency during a 20-year life span of a smart meter is equivalent to the exposure during a single 30-minute cell phone call.
- BC Hydro's smart meters are well below Health Canada's exposure limits and the precautionary limits set by Switzerland, the country with the most rigorous standards in the world.

Q3 **MYTH:** Smart meters will increase your electricity bill

**FACT:** The Smart Metering Program will help keep rates low by creating a more efficient power system and reducing power loss. It will save customers about \$70 million over the next three years through lower rates.

**MYTH:** Smart meters will reveal your personal behaviour or habits

**FACT:** Smart meters do not capture real-time usage – they only record total energy consumption on an hourly basis and cannot identify the specific appliance or activity that used the energy. This is the same type of information that the old meters have always collected.

**MYTH:** Smart meters will allow the sale of your personal information

**FACT:** All information BC Hydro collects is handled in accordance with B.C.'s *Freedom of Information and Protection of Privacy Act*. BC Hydro does not share personal information with third parties, unless required by law. We have also been working with the Office of the Information and Privacy Commissioner to help ensure your personal information remains secure.

**MYTH:** Smart meters can be easily hacked

**FACT:** It is an industry best practice to use multiple layers of security and ensure there are no single points of vulnerability in a system. BC Hydro's smart meters use multiple layers of security: the data is encrypted, transmitted through secure channels, processed in secure facilities and managed by strict access control policies – much like online banking.

**MYTH:** Smart meters will make your appliances malfunction

**FACT:** Installation of a smart meter at a residence generally results in a one-minute power outage. Household appliances are designed to withstand simple power interruptions, such as those caused by storms. Replacing an old mechanical meter with a smart meter is no different.

**MYTH:** Smart meters will not help you conserve electricity

**FACT:** Smart meters will provide you with access to new tools to manage your energy use, helping you save money and conserve electricity. Conservation tools can help you reduce your energy use by up to 15 per cent.

**MYTH:** The Smart Metering Program is too expensive

**FACT:** The Smart Metering Program will pay for itself by helping BC Hydro manage the electricity system more efficiently and cost-effectively. For example, the program allows a more accurate measurement of the amount of electricity on the system to help reduce wasted electricity. Another example is that we will be able to more efficiently dispatch crews during power outages, thereby reducing the number of repeat trips to a neighbourhood and streamlining the restoration process.

**MYTH:** Smart meters contain mercury

**FACT:** The Itron OpenWay CENTRON meters that are being installed in B.C. do not contain mercury. This myth stems from a product disposal manual for older Itron products that are no longer manufactured, and are not used by BC Hydro.

You can count on us to continue to provide important Smart Metering Program information.  
Learn more at [bchydro.com/smartmeters](http://bchydro.com/smartmeters) or e-mail us at [smartmeters@bchydro.com](mailto:smartmeters@bchydro.com)

BC Hydro | 50  
REGENERATION