



July 12, 2010

U.S. Department of Energy
Office of the General Counsel
1000 Independence Ave SW
Room 6A245
Washington, DC 20585

Via E-mail: broadband@hq.doe.gov

Re: National Broadband Plan (NBP) Request for Information: Data Access

Whirlpool Corporation is the world's leading manufacturer and marketer of major home appliances, with annual sales of approximately \$17 billion in 2009, 67,000 employees, and 67 manufacturing and technology research centers around the world. The company based in Benton Harbor, MI, markets Whirlpool, Maytag, KitchenAid, Jenn-Air, Amana, Brastemp, Bauknecht and other major brand names to consumers in nearly every country around the world.

Whirlpool Corporation is honored to have been chosen as a recipient of a U.S. Department of Energy's (DOE) Smart Grid Investment Grant program grant of \$19.3 million over a two year period - which the company will match with its own investments. Whirlpool Corporation recently announced that in 2011 it would deliver one million U.S. manufactured smart dryers capable of reacting intelligently to signals from the smart grid by modifying their energy consumption to save consumers money on their home electric bills. In addition, the funds will complement the company's commitment that by 2015 all of the electronically controlled appliances it produces - everywhere in the world - will be capable of receiving and responding to signals from the smart grid. This commitment is dependent on two important public-private partnerships: the development by the end of 2010 of an open, global standard for transmitting signals to and receiving signals from a home appliance; and appropriate policies that reward consumers, manufacturers and utilities for using and adding these new peak demand reduction capabilities.

The ability to access, analyze and respond to much more precise and detailed data from all levels of the electric grid is one of the major benefits of the Smart Grid, but those benefits could be lost or substantially delayed unless consumers recognize that Smart Grid technologies also respect their reasonable expectations of privacy and data security, particularly when usage data and data extrapolations can be associated with individual consumers or locations.

Whirlpool Corporation is pleased to see that DOE is seeking comments and information from interested parties to assist DOE in understanding current and potential practices and policies for empowering consumers through access to detailed energy information. In order for

consumers to embrace this new access to information, they will need to feel that their information is private and secure.

(1) Who owns energy consumption data?

A key principle is that the consumer “owns” their energy consumption data and should have the power to make decisions on how energy consumption data is collected, stored, shared and used. Of course, electric utility companies must still be given the right to collect, store, and use the data they require to accurately bill consumers for the energy they consume. Traditional electric meters mask a consumer’s energy use within the home and only provide a one dimensional view of overall electricity usage with a 30 day time lag. The potential of the Smart Grid to measure and control individual uses of energy within a home as well as the time of use creates sensitive and personal information that should be in control of the consumer. If consumers do not feel that they own the data and control the privacy of this information, consumer acceptance of this technology will likely be minimal. This is undesirable as smart appliances provide the fastest way to improve grid stability and cut peak demand. This data structure must be very flexible and will need to satisfy most consumers (caveat is minimum level of data needs to be collected and stored to allow basic smart grid functionality).

(2) Who should be entitled to privacy protections relating to energy information?

At a high level, any consumer or homeowner ‘named’ on an electricity bill and/or persons living in a premise with the ability to track energy consumption e.g. a renter should be entitled to privacy protections relating to their energy consumption information. They should also have the ability to opt in / opt out of any 3rd party use of their data. The approved 3rd party should also be subject to privacy protections.

(3) What, if any, privacy practices should be implemented in protecting energy information?

The privacy of a consumer’s energy usage is important and other industries have demonstrated the ability to collect information and ensure the integrity of the privacy of the data while also meeting the needs of their operations. If consumers opt to share their energy usage with a 3rd party entity or utility they need a reasonable expectation that those entities will protect the confidential nature of their usage.

Privacy practices should be closely linked with cyber-security practices and standards to ensure that there is also no physical breach (i.e. home blackout).

On-line banking: Banks store very sensitive information with relatively good security in terms of hacking into this data. More likely that consumer will give up this information unintentionally with phishing scams than with security breaches of bank’s computers.

eCommerce: Websites collect and store financial information securely with clear rules on the use of this information.

(4) Should consumers be able to opt in/opt out of smart meter deployment or have control over what information is shared with utilities or third parties?

Utility companies should have the right to collect basic information to allow them to run their business and bill consumers for electricity consumption. Basic information could include: kWh in total and over time (to enable time-based rates), peak kWh over a specified time period, max kw over a specified time period. This includes the need to install a smart meter in order to meet the obligation of providing electricity to a consumer. Thus, a consumer should **not** be able to opt out of a smart meter deployment. However, consumers should ultimately have control over information beyond the minimum amount needed by the utility to bill consumers and maintain the integrity of the electric grid.

(5) What mechanisms should be made available to consumers to report concerns or problems with the smart meters?

Concerns or problems with smart meters should be reported to state public utility commissions or other state regulatory agencies that currently receive utility complaints. State PUCs or regulators will need to have explicit privacy rules – preferably federally mandated rules. Nonetheless, as part of a smart meter deployment, a utility should engage in an education campaign to educate consumers on smart meters in order to mitigate consumer concerns with new technologies.

(6) How do policies and practices address the needs of different communities, especially low-income rate payers or consumers with low literacy or limited access to broadband technologies?

All stakeholders should be treated fairly and equitably. Special protections should only be used as a last resort for those groups at highest risk of abuse. Possible solutions could be a default opt-out with the option to opt-in. In addition, consumer education will be critical to ensure that these options are well understood.

(7) Which, if any, international, Federal, or State data-privacy standards are most relevant to Smart-Grid development, deployment, and implementation?

The draft NISTIR 7628 is a possible starting point as well as the EU privacy rule.

(8) Which of the potentially relevant data privacy standards are best suited to provide a framework that will provide opportunities to experiment, rewards for successful innovators, and flexible protections that can accommodate widely varying reasonable consumer expectations?

This will require more investigation to uncover relevant data privacy standards that are suitable for the Smart Grid. One could look to the Internet and telecommunications industries as well as healthcare (e.g. HIPAA).

(9) Because access and privacy are complementary goods, consumers are likely to have widely varying preferences about how closely they want to control and monitor third-party access to their energy information: what mechanisms exist that would empower consumers

to make a range of reasonable choices when balancing the potential benefits and detriments of both privacy and access?

Consumers realize that in some cases they need to trade some aspects of privacy for additional functionality. Below are two examples of programs where consumers trade some elements of privacy for functionality of a product. This trading of complementary goods requires a brand or service that has the trust of the consumer and as well as a visible and tangible benefit to the consumer for the sharing of this information.

GM's On-Star Program:

On-Star tracks car performance, speed, fuel consumption, location, routes etc. This is potentially a huge invasion of privacy. GM takes the consumer opt-in approach to different levels of service which will satisfy the many different types of consumer and their sensitivity to privacy.

Apple iTunes Genius Bar:

A good example of how this approach works is in Apple's iTunes architecture. Users can store their music in iTunes without registering the product with Apple. If they wish to make purchases on the iTunes store, they need to register by creating an account. At this point, Apple only knows about content that is purchased through the iTunes store. They can then further opt-in to programs like 'Genius' where Apple reviews their content (both purchased from Apple and from other sources) and makes suggestions regarding other content they may want.

(10) What security architecture provisions should be built into Smart Grid technologies to protect consumer privacy?

The draft NISTIR 7628 is a possible starting point.

(11) How can DOE best implement its mission and duties in the Smart Grid while respecting the jurisdiction and expertise of other Federal entities, states and localities?

State-by-state preemption makes it very difficult to get scale economies and drive consumer adoption. Whirlpool Corporation would strongly prefer Federal programs and standards. In the case of privacy and data security NIST could establish an overarching framework with guiding principles e.g. consumer owns the data, opt-in to higher levels of service etc. We would encourage flexibility in the framework and principles to encourage innovation.

(12) When, and through what mechanisms, should authorized agents of Federal, State, or local governments gain access to energy consumption data?

Energy consumption data should only be accessible to authorized agents of Federal, State or local governments if a consumer chooses to share this information or through a court ordered subpoena. This information is not a public good and so there seems to be little reason for Federal, State or Local government access to this information.

(13) What third parties, if any, should have access to energy information? How should interested third-parties be able to gain access to energy consumption data, and what standards, guidelines, or practices might best assist third parties in handling and protecting this data?

The consumer should control which 3rd parties are allowed access to the data. Using an “opt-in” type approach i.e. a menu where consumers select who and what type of data they are willing to share.

It is unlikely that consumers will have home systems capable of reliably storing and managing their data. The data will be stored in the Internet “cloud” by a combination of stakeholders including the electric utility companies, 3rd parties such as appliance companies, software companies and others.

The utility companies should have the right to collect basic information to allow them to run their business and bill consumers for electricity consumption. If consumers allow 3rd parties access to collect and use information then the 3rd parties should be allowed to securely store this information e.g. many Internet sites today have privacy policies that take this into account.

(14) What forms of energy information should consumers or third parties have access to?

Consumers should be able to access all of the data collected about their home energy consumption and to then use this information in home energy management systems or other reporting tools. Most consumers will want the information to be relevant, concise, and presented in a manner that is easily comprehensible.

(15) What types of personal energy information should consumers have access to in real-time, or near real time?

It is not clear that there is an additional cost to real-time (near real-time) vs delayed information. The same or very similar infrastructure is required to collect and distribute information. From an accuracy point of view – consumers need directional information e.g. like a “how many miles to empty gauge in a car” not absolute precision.

Consumers will demand near real-time information and this type of information will lead to appropriate behavior changes. Consumers need to be able to link changes in behavior to immediate results in consumption e.g. turning off a pool pump or increasing temperature on an HVAC system by 2 degrees.

(16) What steps have the states taken to implement Smart Grid privacy, data collection, and third party use of information policies?

N/A

(17) What steps have investor owned utilities, municipalities, public power entities, and electric cooperatives taken to implement Smart Grid privacy, data collection and third party use of information policies?

N/A

(18) Should DOE consider consumer data accessibility policies when evaluating future Smart Grid grant applications?

Yes. Access and ownership of information by consumers is vital to recognizing the potential of the Smart Grid.

Conclusion

Whirlpool Corporation thanks the DOE for the opportunity to comment on what policies and practices should guide policymakers in determining who can access consumers' energy information and under what conditions. In order for consumers to embrace this new access to information, they will need to feel that their information is private and secure and that they ultimately control the flow and usage of their energy consumption data.