Commonwealth of Kentucky
Before the Public Service Commission

In the Matter of:

CONSIDERATION OF THE NEW FEDERAL STANDARDS OF THE ENERGY INDEPENDENCE AND SECURITYACT OF 2007	)))	Case No. 2008-000408

JOINT COMMENTS OF INTERVENORS COMMUNITY ACTION COUNCIL AND ATTORNEY GENERAL

Come now the Joint Intervenors, CAC and the Attorney General, and provide the attached Joint Comments to the Case Participants' Joint Response filed in response to the memorandum of Commission staff entered into the record on May 28, 2010.

Respectfully submitted,

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this 25th day of March, 2011

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CONSIDERATION OF THE NEW FEDERAL STANDARDS OF THE ENERGY INDEPENDENCE AND SECURITY ACT OF 2007
Administrative Case No. 2008-00408

JOINT COMMENTS OF CONSUMER ADVOCATES COMMUNITY ACTION COUNCIL AND ATTORNEY GENERAL TO UTILITYS' REPORT TO PSC

The Attorney General and the Community Action Council [hereinafter "the Joint Intervenors"] tender the following comments to the Utility Working Group's Report ["the Report"]:

1. Introduction

The Joint Intervenors generally agree with the definition of smart grid provided in the Report:

> "The term "Smart Grid" is generally used to describe the integration of the elements connected to the electrical grid with an information infrastructure to offer numerous benefits for both the providers and consumers of electricity. It is an intelligent electricity system that connects all supply, grid, and demand elements through an intelligent communication system." (the Report, p. 3).

However, the Joint Intervenors also agree with the overall cautionary tone of the Report. Due to the enormous costs utility customers could face, with little likelihood of reaping significant savings, the Joint Intervenors believe that timing and gradualism will be key to any roll out of smart grid / smart meter technologies. It appears that at least some Smart Grid ("SG") technology is necessary for electric utilities. Nonetheless, no technologies should be deployed that will prove useless for the utility, its customers or both. It appears there is a real danger of doing just that if great caution is not exercised. What works in one state does not necessarily mean it will work in Kentucky. Furthermore, what works on one Kentucky utility's grid will not necessarily work on another utility's grid in a cost-effective manner. For example, not every utility in Kentucky needs AMI. Those elements of technology that <u>are</u> employed should have negligible detrimental cost and / or other impacts to ratepayers, and should provide measurable benefits to them.

Smart Grid is an evolving technology, not a revolutionary one (the Report, p. 1). In fact, it's a mistake to think that Kentucky's grid is not at least partly "smart." The Report on p. 1 states that the deployment of Supervisory Control and Data Acquisition (SCADA) is partly responsible for producing economic and reliable energy for Kentucky. The Joint Intervenors agree. Accordingly, investments should be incremental

and sequential, "following measurable value to consumers . . . " (Id.). However, the Joint Intervenors believe SG investments should provide value that is not only measurable, but also significant to consumers. Despite the fact that the Kentucky PSC has been requiring electric utilities to provide reliability indices, those indices are not consistent across the Commonwealth. It does not appear that digitalization of data which in many cases is in more or less of a quasi-analog state will reap any significant savings for either utilities or their customers.

2. The Main Issue: Cost

The primary issue facing consumers with regard to SG initiatives is cost. Many utilities around the nation have installed new technologies without first testing them. This is unwise and will make it harder to get public support. As stated in the Report: "Vendor claims have outpaced operational deployment capabilities" (the Report, p. 1). Don McDonnell of the McDonnell Group has even stronger comments, noting, "The hype balloon is starting to let some gas out, and it's gas that needs to be let out."[1] The same article notes that remarkable pushback against smart grid has been occurring on several fronts: (a) An Illinois state court ruled Commonwealth Edison was wrong to pass on smart grid costs to customers; (b) last June, Maryland's PUC denied Baltimore Gas & Electric's smart grid investment plan, which forced the utility to adopt a less ambitious approach; and (c) public protests have been held in opposition to smart grid technology.

Many SG technologies are simply not worth the cost. The Joint Intervenors agree with that portion of the Report recommendation that states, "Projects should be prioritized by . . . standard financial evaluation methods," (the Report, p. 2), however, they believe this recommendation does not go far enough. The Joint Intervenors also believe the decision-making process should include a rigorous cost-benefit analysis from the consumers' perspective. The need for smart grid technology must be justified based on real, readily demonstrable, predictable and quantifiable operational benefits. SG investments need to be reasonable, prudent, verifiable and transparent, and utilities should be held accountable for the costs they want customers to pay and the benefits they promise to deliver. Additionally, utilities installing smart meters should be required to credit the estimated operational benefits against costs passed on to consumers. Absent these measures, the smart grid infrastructure alone will likely increase utility rates markedly, and the savings achieved will not offset these additional costs.

Approximately 100 utilities around the nation have received funding under the "American Recovery and Reinvestment Act" ("Stimulus") to promote and initiate SG projects. However, Stimulus funding provided only $6 billion of the estimated ***$1.5 to***

[1] "Saving the Smart Grid," *Public Utilities Fortnightly*, Jan. 2011, p. 33.

$3 trillion necessary to construct the SG and Smart Meter ("SM") projects proposed to date, and Stimulus funds are now winding down. At a time when utility bills are skyrocketing due to demands for renewable fuels and new environmental controls, it has become abundantly clear that ratepayers cannot afford both a full-fledged roll-out of SG and SM on top of dramatic price increases already in the proverbial pipeline. In fact, most SG and SM technologies will ***not*** reduce costs for either the customer or the utility. This is also a time of great economic vulnerability for thousands of Kentuckians with an unemployment rate that remains high following the Great Recession, stagnant wages, and gradually increasing costs for necessities ranging from medicine to food and clothing. The timing makes it even more important to proceed cautiously.

Utilities must bear some of the risk of less-than-predicted benefits or payback, so that customers are assured that the predicted savings actually occur. Without such risk-sharing, utilities would have little incentive to engage in the rigorous cost-benefit analyses necessary to make sound decisions. While the Report at p. 33 properly states, "the allocation of cost and risk between all stakeholders must be done in an equitable fashion," the Joint Intervenors believe the term "equitable" may need more refinement. For example, one comment made at the informal conference during which the Report's draft was discussed indicated that the utilities believed the customers "owned" all risk with deployment of SG technology. To place all risk on consumers for the roll-out of SG technology would be wholly unacceptable. The Maryland Public Service Commission recently denied the initial proposal of Baltimore Gas & Electric to place all technological and financial risks associated with the build-up of an AMI system upon its customers.[2] That Commission found that had it approved the utility's request, " . . . BGE would have been bound to build a functioning AMI system, but would still have been entitled to full cost recovery, and a full rate of return, whether or not customers received any of the projected benefits. . . . the Initial Proposal was designed to maximize the certainty and timeliness of cost recovery for the Company and its shareholders, and it was clear that the Company did not expect to be accountable to this Commission or its customers to deliver anything beyond a system of new meters that communicated data to the Company's computer systems."[3] Utilities should also bear the risk that their project design was faulty or that the chosen technologies fail to conform to pending national interoperability and cyber-security standards. Accordingly, the Joint Intervenors recommend: (a) Proposed investments in smart metering and SG technologies should be justified by a robust cost-benefit analysis; (b) The implementation of smart metering and SG investments should be accompanied by measurable and enforceable performance metrics; and (c) SM and SG investments must be subject to prudency reviews and audits to determine if the consumer benefits have been delivered as promised.

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[2] *In Re: Application of Baltimore Gas & Electric Co. for Authorization to Deploy a Smart Grid Initiative and to Establish a Surcharge for the Recovery of Cost*, Public Service Comm'n of Maryland, Case No. 9208, Order dated Aug. 13, 2010, pp. 44-49.

[3] *Id.* at 44, 45.

As discussed in a white paper issued jointly by NASUCA and other consumer groups entitled "The Need for Essential Consumer Protections: Smart Metering Proposals and the Move to Time-Based Pricing,"[4] a variety of ways exist in which risks can be properly allocated between consumers and utilities with traditional rate-making policies. For example, the California PUC has required utilities implementing smart meters to credit the operational benefits as it estimated would occur with each meter that it puts into service. The Southern California Edison Co. is required to credit $1.42 of operational benefit per month beginning eight months after the meter is reflected in rate base.[5] Similar approaches have been adopted for PG&E and SDG&E's smart metering deployments. As a result, the utility's estimated operational costs are required to be booked as the meters are deployed and the risk that the operational benefits will not occur rests primarily with the utility. Any utility revenue enhancement opportunities stemming from advance metering (theft protection, less and shorter outages, more accurate meter read) must be shared with consumers.

As recognized on p. 34 of the Report, utilities will be incentivized to minimize costs if SG and SM technology is treated as capital expenditures. We agree that, where the cost of SG / SM projects is justified and cost-effective, base rate treatment prevents burdening customers with excessive rates.[6] Furthermore, trackers would only serve to incentivize utilities to proceed full-tilt with as much deployment of SG / SM technology as possible in order to increase their rate base and return on equity. Such would be contrary to the overall very cautious tone the Report puts forth.

a. Avoidance of Stranded Costs

To the greatest extent possible, utilities and the PSC should avoid situations in which there are stranded costs left for ratepayers to pay, unless the benefits to ratepayers are quite significant and result in significant, real monetary savings. If there is a chance stranded costs could arise, the utility should be prepared to convincingly establish that the benefits to be obtained will indeed outweigh those costs. Utilities must strive to obtain hardware that can use upgrade-able software to minimize costly hardware replacements, and the potential for stranded costs.

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[4] Published September 1, 2010 by NASUCA, AARP, National Consumer Law Center, Consumers Union, and Public Citizen.

[5] California PUC Decision No. 08-09-039 (September 18, 2008). It should be noted that the California utilities submitted a business case for smart metering that included over 80% of the benefits in the form of reduced operational costs.

[6] See, e.g., *In Re: Application of Baltimore Gas & Electric Co. for Authorization to Deploy a Smart Grid Initiative and to Establish a Surcharge for the Recovery of Cost*, Public Service Comm'n of Maryland, Case No. 9208, Order dated Aug. 13, 2010, p. 35 (" . . . AMI deployment is analogous to an investment in a power plant, an investment of similar (or greater) magnitude that historically would be recovered through traditional ratemaking"); and further, 15 of the 26 utilities that are rolling out AMI projects are recovering their costs without a tracker, Id. at p. 36.

3. TOU (Time-of-Use) Rates

Industry results for TOU rates are mixed, at best. The Kentucky PSC should never require mandatory TOU rates; rather, such rates should always be no more than an option for ratepayers, except for the possible exception of areas where incremental costs are low because a new meter must be installed for other reasons, such as is the case with new single-family dwellings. Many residential customers are not in a situation where they can make effective use of TOU – most of them work schedules that return them to home during on-peak times. Much if not most of their consumption cannot be curtailed to off-peak times. Imposition of mandatory TOU rates could in some instances lead to illness or even deaths from extreme weather -- especially among the elderly, those with medical-related energy needs, the poor,[7] or the infirm, because TOU usage implies a certain degree of sophistication to be able to take advantage of off-peak savings, and those incapable of understanding would continue normal usage patterns, leading to such large bills and increased frequency of cut-offs for non-payment. The impact that TOU rates would have on vulnerable groups has not been adequately studied.[8]

In order to achieve maximum savings from smart grid technology, very significant segments of the residential ratepayer base would have to agree to be placed onto TOU rates. In order for residential TOU ratepayers to take full advantage of savings incentivized under TOU rates, many consumers would be forced to purchase energy efficient appliances capable of timer settings to restrict usage to off-peak hours. Although newer appliances doubtlessly are more energy efficient for the most part, the cost -- especially in the current hard economy -- will be so prohibitive that few could afford them. Furthermore, savings realized from usage of modern appliances under a TOU regime will not likely be sufficient to recoup the costs of the new appliances during the expected life span of many of the appliances. Some commentators will doubtlessly suggest that utilities should make the newer appliances available to their ratepayers through DSM programs. However, socialization of such massive costs throughout the rate base would hardly be efficient because the utility would not only recapture the debt but also a return on equity. One would be hard-pressed to find a more inefficient means of achieving energy efficiency.

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[7] See, e.g., See, e.g., Alexander, Barbara, Smart Meters, Real-time Pricing, and Demand Response Programs: Implications for Low Income Electric Customers (May 2008), available at: http://www.pulp.tc/Smart_Meter_Paper_B_Alexander_May_30_2007.pdf); Brockway, Nancy, Advanced Metering Infrastructure: What Regulators Need to Know About Its Value to Residential Customers, NRRI 08-03 (February 13, 2008), available at: www.nrri.org .

[8] See, e.g., Snyder, Lynne and Baker, Christopher, Affordable Home Energy and Health: Making the Connections, AARP Public Policy Institute, #2010-05 (June 2010), Executive Summary at 1; available at www.aarp.org/ppi .

The Joint Intervenors believe it would be wrong to place too much reliance on TOU rates. Studies are proving TOU rates to be unpopular among consumers, who prefer to have at least some flexibility in when they can use electricity. Instead, the Commission should fully investigate the use of alternatives to TOU rates, SG and SM initiatives that would at least assist in reaching the same load management goals in a more cost-effective manner. These include, but are not limited to:

(a) the promotion of traditional conservation by consumers, and enhanced weatherization and energy efficiency measures including low-income programs, which are likely to result in greater conservation of electricity than the imposition of TOU rates. Additionally, consumers respond best to monetary pricing incentives present in traditional peak/off-peak pricing differentials. It would thus likely prove more cost-effective to continue consumer education efforts to delay whatever electrical usage is possible to off-peak hours;

(b) electric air and water heating customers should be educated about alternatives to heating through electricity, such as natural gas, where possible. The Kentucky PSC has frequently advised consumers that natural gas air and water heating is often more efficient and economical than electric heating. These education efforts should be expanded and enhanced, especially in service territories of winter peaking electric utilities if it can be shown that increased natural gas usage would serve to reduce load on the electric utility.

(c) expanded use of air conditioning load control devices, which have proven quite effective at delaying and/or shedding significant portions of summer cooling load. Consumer response has been quite favorable, with many customers not even noticing when the device delays their air conditioner's cycling schedule. However, the effectiveness of this particular measure will diminish over time due to the fact that the air conditioner fleet will become more efficient. When this trend starts to become significant, it may prove more cost effective to rely less on load control and more on rebates for new air conditioners made available to low-income customers.

(d) avoiding the imposition of utility rate structures with higher fixed customer charges. Utilities currently tend to pass a greater percentage of their costs on to their customers through higher customer charges rather than energy consumption charges. This trend removes natural pricing incentives designed to promote conservation. There is no greater incentive for conservation than pricing of the energy charge, and that incentive should be encouraged, not diminished. Far more energy could be conserved through pricing of the energy charge than through TOU rates.

While significant caution should be exercised regarding the imposition of TOU rates on the residential class, such concerns are not as great regarding the commercial and industrial classes. Many C & I customers already use TOU or aspects thereof; utilities should be encouraged to expand these offerings to small commercial customers who can make use of them.

4. Basic Consumer Protections; Disconnects

Smart meter investments should result in sustained or enhanced levels of consumer protections, especially relating to the implementation of remote disconnection, and pre-paid electric service options. Traditional billing and dispute rights should be retained. **Remote disconnection may make it much more difficult for low-income energy assistance to be effective.** State and federal policymakers should recognize the health and welfare implications of the use of remote disconnection of service.[9]

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[9] Marty Ahrens, *Home Candle Fires,* National Fire Protection Association (June 2010)(particular risk of fatalities where candles used in absence of electricity), Exec Summary at ii. In 2002, there were 45,500 home heating fires that caused 220 deaths, 990 injuries and $449 million in property damage. http://www.baltimorecountymd.gov/agencies/fire/safety%20education/homeheating.html ; http://www.unioncountyredcross.org/index.php?pr=Fire_FAQ

As discussed in the Consumer Advocate joint white paper "The Need for Essential Consumer Protections: Smart Metering Proposals and the Move to Time-Based Pricing (supra at p. 2):

In early 2008 at the request of a Philadelphia newspaper, the Pennsylvania Public Utility Commission's Bureau of Consumer Services provided its internal compilation of media-reported deaths related to utility terminations across the state. This list documents 71 adult and child deaths since 1989, most related to impact of fires starting in households without electricity or heat or both. These tragic events are not limited to Pennsylvania.

- The tragic 2006 death of six Chicago children in an apartment without electricity, where candles apparently had been used for months, illustrates a horrific example of the dangers associated with disconnection of essential electric service.

- Fire officials said a fire that killed a woman and a 7-year-old girl early Saturday in east Baltimore was started by candles. The fire happened shortly before 2 a.m. in the 1400 block of North Broadway Street. Investigators said the occupants of the home didn't have electricity. A third person attempting to escape the fire is being treated at Shock Trauma, officials said. Fire investigators said candles started the fire. ... No one at the address applied for energy assistance through the city. So far this year, 11 fire deaths have been reported in Baltimore, three of which have been in homes without electric. Two weeks ago, a woman died at a fire in her home that was caused by candles. Officials said she didn't have electric and no one at the home sought energy help. — *WBAL-TV* and *Baltimore Sun,* April 19-20, 2009 See: http://www.wbaltv.com/news/19233387/detail.html and http://www.baltimoresun.com/news/local/bal-md.regiondigest190apr19,0,3582882.story

5. Cyber Security and Privacy

Utilities should complete security plans and standards, and upgrade necessary communications prior to or at the same time as the installation of smart meters. The Report states utilities need to "continue to address the expense and complexity of cyber security issues" (Id. p. 2). The Joint Intervenors agree with this statement. Utilities maintain a large volume of highly confidential information pertaining to their customers, often including Social Security numbers and bank account information. Accordingly, utilities should never disclose a customer's data – of any type or sort – to any party, including third-party vendors, without the customer's prior written consent. However, companies should generally be permitted to disclose de-identified aggregated information, as long as doing so does not violate any existing statutes, regulations or common law precedents.

As the Report indicates, cyber security is a rapidly evolving area. Nonetheless, the National Institute of Standards and Technology ("NIST") has developed guidelines to help insure that utility customers' data and privacy are safeguarded in the deployment and usage of any SG technologies.[10] The Joint Intervenors urge the Commission to carefully consider these guidelines, at a minimum, and require utilities to adhere to them prior to the approval of any SG technology deployment.

- An August, 2006 fire in a candle-lit Rochester, New York home without electricity: Candles left burning caused an overnight fire. It was not an act of carelessness on the part of the homeowner, but one of necessity. [The homeowner] was laid off, and unable to keep up with bills. She spent the summer without electricity.

- The 2005 death of a New York City child in a fire started by a candle while power was shut off. It was reported that the customer had made payment arrangements sufficient to be reconnected, the reconnection was scheduled for the next day, but the fire occurred during the intervening night:

  "[A] Con Ed spokesman ... confirmed electricity to the apartment had been cut off at 1:45 p.m. Monday. Two hours later, [the customer] appeared at a local Con Ed branch to pay $700 - almost half the outstanding bill. [A]n order to restore electricity within 24 hours was issued two hours later. Tragically, it was not in time - firefighters responded to the scene of the fatal fire at 10:45 p.m."

- In a 2003 Syracuse, N.Y. incident, "A Syracuse mother and her three children, who have been using candles to light their home since the power was shut off earlier this month, escaped unharmed when a candle ignited a blaze in a second-floor bedroom Friday morning.... [A] NiMo spokesman said the company disconnects the power when a customer is unresponsive to letters, calls and offers of payment agreements. He said company officials had a phone conversation with the customer Thursday to discuss the bill.

[10] "Guidelines for Smart Grid Cyber Security: Vol. 2, Privacy and the Smart Grid," published by NIST in August, 2010. http://csrc.nist.gov/publications/nistir/ir7628/nistir-7628_vol2.pdf

The Joint Intervenors believe the Commission should also consider other cyber security standards, such as the Global Privacy Standard developed by the 27th International Data Protection Commissioners Conference.[11] Those standards are as follows:

1. Consent: The individual's free and specific consent is required for the collection, use or disclosure of personal information, except where otherwise permitted by law. The greater the sensitivity of the data, the clearer and more specific the quality of the consent required. Consent may be withdrawn at a later date.

2. Accountability: Collection of personal information entails a duty of care for its protection. Responsibility for all privacy related policies and procedures shall be documented and communicated as appropriate, and assigned to a specified individual within the organization. When transferring personal information to third parties, organizations shall seek equivalent privacy protection through contractual or other means.

3. Purposes: An organization shall specify the purposes for which personal information is collected, used, retained and disclosed, and communicate these purposes to the individual at or before the time the information is collected. Specified purposes should be clear, limited and relevant to the circumstances.

4. Collection Limitation: The collection of personal information must be fair, lawful and limited to that which is necessary for the specified purposes. Data Minimization – The collection of personal information should be kept to a strict minimum. The design of programs, information technologies, and systems should begin with non-identifiable interactions and transactions as the default. Wherever possible, identifiability, observability, and linkability of personal information should be minimized.

5. Use, Retention, and Disclosure Limitation: Organizations shall limit the use, retention, and disclosure of personal information to the relevant purposes identified to the individual, except where otherwise required by law. Personal information shall be retained only as long as necessary to fulfill the stated purposes, and then securely destroyed.

6. Accuracy: Organizations shall ensure that personal information is as accurate, complete, and up-to-date as is necessary to fulfill the specified purposes.

[11] http://www.ipc.on.ca/images/Resources/gps.pdf

7. Security: Organizations must assume responsibility for the security of personal information throughout its lifecycle consistent with the international standards that have been developed by recognized standards development organizations. Personal information shall be protected by reasonable safeguards, appropriate to the sensitivity of the information (including physical, technical and administrative means).

8. Openness: Openness and transparency are key to accountability. Information about the policies and practices relating to the management of personal information shall be made readily available to individuals.

9. Access: Individuals shall be provided access to their personal information[12] and informed of its uses and disclosures. Individuals shall be able to challenge the accuracy and completeness of the information and have it amended as appropriate.

10. Compliance: Organizations must establish complaint and redress mechanisms, and communicate information about them to the public, including how to access the next level of appeal. Organizations shall take the necessary steps to monitor, evaluate, and verify compliance with their privacy policies and procedures.

Finally, in June, 2010 the Canadian government convened a "Smart Grid Operability Summit," which noted that U.S. utilities are investing billions of dollars without any standards or best practices having been developed with regards to the protection of consumer privacy. The Canadian government thus recommended the following "best practices" be adhered to for safeguarding privacy in the use of SG technologies:[13]

1. Smart Grid systems should feature privacy principles in their overall project governance framework and **proactively** embed privacy requirements into their designs, in order to **prevent** privacy-invasive events from occurring;

2. Smart Grid systems must ensure that privacy is embedded as the default – the "no action required" mode of protecting consumers' privacy – and its presence ensured;

3. Smart Grid systems must make privacy a core functionality in the design and architecture of Smart Grid systems and practices – an essential design feature;

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[12] The Joint Intervenors believe utility customers should be provided access to this information without incurring any cost.

[13] http://www.ipc.on.ca/images/Resources/2010-06-16-Smart_Grid_Interoperability_Summit.pdf

4. Smart Grid systems must avoid unnecessary, zero-sum trade-offs between privacy and legitimate objectives of Smart Grid projects – go positive-sum;

5. Smart Grid systems must build in privacy end-to-end, throughout the entire life cycle of any personal information collected;

6. Smart Grid systems must be visible and transparent to consumers – engaging in accountable business practices – ensuring that new systems operate according to open stated objectives;

7. Smart Grid systems must be designed with respect for consumer privacy, ***as a core foundational requirement***, to enhance consumer confidence and trust.

The Joint Intervenors maintain it would be wise for the Commission to consider the NIST guidelines, the Global Privacy Standard, and the Canadian Best Practices, and to require utilities to develop plans for adhering to them before they are authorized to deploy SG technologies.