

May 6, 2009

Ms. Donna Williams  
Contracting Officer  
United States Department of Energy  
1000 Independence Avenue, S.W.  
Washington, D.C. 20585

Re: Notice of Intent for the Smart Grid Investment Grant Program (NOI)  
Solicitation DE-FOA-0000058A posted April 16, 2009

Dear Ms. Williams:

I am submitting the following comments on the above NOI on behalf of the Maryland Office of People's Counsel (MD OPC). As People's Counsel for the State of Maryland, I represent the interests of approximately 2.1 million residential electricity customers in the State of Maryland. These consumers are at the "end of the line" with regard to the smart grid envisioned by federal legislation, federal agencies and other stakeholders, and ultimately, are the individuals who will be directly impacted by the development and implementation of any smart grid initiatives. More specifically, these consumers also will be asked to pay via their utility rates for the costs of demonstration projects, pilot programs and initiatives that are not covered by federal grant dollars or absorbed by the local utility. Therefore, they have an important and vital interest in any federal initiative that seeks to promote grid modernization from "soup to nuts," at their expense.

It may be helpful to provide some brief context for MD OPC's comments on the NOI. Maryland is one of the approximately 23 states that "deregulated" its retail electric industry a decade ago. The state is one of thirteen states that participates in the PJM Interconnection, LLC, which operates the wholesale electricity market and transmission system serving our customers. Despite the deregulation of the electric industry, approximately 97% (over 2.1 million) of residential customers received their electricity supply from their investor-owned utilities, cooperatives or municipal utilities. These utilities are under a state legal obligation to provide "Standard Offer Service (SOS)" to

residential customers, in a manner that balances least cost and avoidance of price volatility, and subject to the approval of the Maryland Public Service Commission (PSC).

In 2008, the Maryland General Assembly enacted legislation, known as “EmPower Maryland,” that sets goals of reducing both energy and peak demand by 15% by 2015. Md. PUC Art., § 7-211(b)(2). Maryland also is a signatory to the Regional Greenhouse Gas Initiative (RGGI), which provides for the sale of emissions allowances, and requires the deposit of proceeds from the sale of the Maryland allowances into a Strategic Energy Investment Fund, which is administered by the Maryland Energy Administration (MEA). MEA is directed to use the fund proceeds for specific purposes, including rate relief, energy assistance, energy efficiency, renewables and climate change programs, and related education and outreach. Additionally, for the past two years, there have been ongoing discussions about advanced meter infrastructure (AMI) and smart grid initiatives, precipitated by Maryland electric company proposals filed with the PSC. Thus, Maryland is a state in which stakeholders have been engaged in discussions about smart grid initiatives; it also is a state where alternatives to smart grid “meters” have been adopted as ways to address reductions in energy and peak demand use.

MD OPC offers these comments to provide a utility consumer perspective on the Smart Grid Investment Program and draft NOI. In general, the specific concerns of residential utility customers have not been identified and addressed in the national discussion of deployment of smart grid initiatives. It has been a “top down,” not a “bottom up” initiative, in a manner that strikingly resembles the deregulation discussion of a decade ago. With the availability of federal funding to assist in the development and assessment of various smart grid programs, MD OPC would like to see the DOE application and evaluation process better reflect some of those concerns. In the long run, this should result in the deployment of the most cost-effective smart grid initiatives, that deliver benefits to all stakeholders, including residential customers who will be asked to pay for full deployment of these initiatives.

While the NOI addresses the transmission, distribution and ‘end-use’ aspects of “smart grid,” MD OPC’s comments below primarily are focused on the end-use components of smart grid, because of the controversy over cost-recovery and the direct impacts of AMI and related pricing schemes on customers’ lives and circumstances. This in large part reflects MD OPC’s experience with AMI proposals from regulated utilities, since these proposals’ estimates of costs and purported benefits have not justified cost recovery. However, this focus does not reflect a lack of interest in the other aspects of the NOI and Smart Grid Investment Program. In fact, we believe that customers will likely see valuable results from transmission and distribution program proposals.

### **Costs and Benefits – Application and Evaluation**

The draft NOI states that “[t]he purpose of the Smart Grid Investment Grant Program is to stimulate the rapid deployment and integration of advanced digital technology that is needed to modernize the nation’s electric delivery network for enhanced operational intelligence and connectivity” (p. 2). In relation to that stated

purpose, the NOI states that “DOE desires to evaluate the cost-effectiveness and other benefits of deployed smart grid technology” (p. 1). In assessing benefits, DOE anticipates determining the extent to which:

The technology influences peak demand reduction through the use of smart devices, and how these devices might affect consumer behavior and enable renewable and distributed energy resources;

Generation, transmission and distribution assets are used through improved demand-side management and infrastructure investment deferrals;

Reliability is improved through the application of smarter sensing, communication and control devices; and

Smart grid might lead to reduced emissions of environmental pollutants.  
(p. 8).

MD OPC recommends that DOE state that it desires to evaluate the costs and benefits of the technology, to avoid the implicit presumption that there are no costs (including adverse impacts) related to such deployment, and that the evaluation results are predetermined.

The explicit recognition by DOE of the possibility of both costs and benefits related to smart grid deployment is critical to developing a complete appraisal of the deployed projects. First, the program and the evaluation criteria should allow for an assessment of the cost of smart grid deployment in comparison to other approaches, to better determine whether deployment is “cost-effective” for the consumers who may be required to pay for full deployment. The clearest example is in the area of AMI projects that are to be evaluated in terms of reducing peak demand. In a state such as Maryland, other alternative approaches to reducing peak demand are available – load control programs to cycle out air conditioning and water heater units at times of peak demand.

Utilities in Maryland and elsewhere have introduced AMI “smart grid” proposals to respective state regulatory bodies that attempt to provide dual cost justification: operational savings (distribution) and resource savings (supply). The distinction is important at the state regulatory level, and has been the source of discussion and contention. MD OPC recommends that DOE require the applicants to identify and disaggregate these costs and cost-savings.

MD OPC has reviewed AMI proposals submitted to state regulatory agencies, and has observed that the utilities do not adequately account for all of the costs related to deployment of smart grid – AMI. Specifically, while the utilities may specify the costs of equipment – e.g., meters – and installation costs, additional costs are not necessarily identified. These costs include all of the expenses related to any changes to the utilities hardware and software programs for communication and billing; stranded costs related to removal of existing meters that are not fully depreciated; and accelerated depreciation of

new equipment. Additionally, the level of customer incentives must be closely scrutinized so as to avoid biased results. These are “costs” that matter to customers when evaluating cost-effectiveness. They will be accounted for by regulated utilities and the subject of cost recovery proposals. Failure to specifically include these types of costs in the applications, and in subsequent evaluations of the programs will result in skewed results, to the detriment of customers.

Additionally, to the extent that applicants identify resource savings expected to result from AMI, those applicants should be required to identify savings in comparison with alternate approaches (such as energy efficiency and load control programs) that potentially can deliver the same savings at less cost to the utility (and ultimately, the customers). Additionally, the applicants should be required to identify and use only “incremental savings” resulting from AMI programs, above and beyond savings achieved or achievable through energy efficiency and peak demand programs (such as load control). This is particularly important for states like Maryland that have aggressive statutory requirements and programs for energy and peak demand reduction, and will be important nationally as we move on different and coordinated paths to reduce energy and peak demand use through energy efficiency, demand response and efficient grid programs. Also, to the extent that customers will be required to incur direct expenses to purchase equipment to take advantage of these programs, DOE should require identification of those expenses, particularly if these are costs to be borne by customers in a full deployment scenario.

### **Role of institutional and organizational commitment – Regulatory approval**

Regulated utilities typically will be required to submit smart grid and in particular, AMI proposals, to the state utility regulatory body (e.g., PSC) for approval. This certainly is the case if the regulated utility seeks any type of “pre-approval” of cost recovery or the establishment of a regulatory asset. Obviously, any cost recovery proposal and any regulatory approvals directly impact the customers who would be required to pay such costs. Cost recovery issues – the justification for the costs; the types of costs; the cost recovery mechanism (within the context of a rate case; surcharge or other rate mechanism); cost allocation among rate classes – are significant at the state level. To the extent that DOE uses review criteria favoring proposals with regulatory pre-approval for cost recovery, undue pressure is placed upon those regulatory bodies to approve utility requests in advance, to the detriment of customers’ rights to appropriate consideration of such costs in state regulatory proceedings.

### **Pricing Schemes – Dynamic Pricing and other time-varying price structures**

The draft NOI states that the

Goal of a smart grid is to collect and provide the optimal amount of information necessary for customers, distributors and generators to change their behavior in a way that reduces

system demands and costs, increases energy efficiency, optimally allocates and matches demand and resources to meet that demand, and increases the reliability of the grid.

(p. 4). In light of this goal, DOE has proposed to evaluate whether the applicants have proposed programs that:

enable active participation by consumers of electricity; and

use dynamic pricing of electricity consumption rather than payment for demand reduction.

(p. 13). DOE also proposes “special instructions” for any AMI program proposals indicating a preference for applications with time-varying pricing schemes. (p. 14). It appears to MD OPC that DOE’s draft NOI incorporates a presumption that dynamic pricing mechanisms have greater value than other approaches that can lead to reductions in energy and peak demand use. The criteria thus already prejudice the benefits or values of the AMI proposals in particular. However, from the customer perspective, this built-in bias is disturbing. At the state level, it is apparent that alternative approaches (energy efficiency and load control programs) can deliver reductions in energy and peak demand use at less cost than AMI programs. Therefore, DOE should not preclude consideration of these approaches when conducting an evaluation of the cost and other benefits/detriments of AMI. While DOE has presumed a greater social value or benefit to a top-down approach of imposing dynamic pricing for all customers – and residential customers in particular – in lieu of alternate demand reduction approaches that can achieve the same desired result at less cost and less intrusion for customers.

Also, it is not clear what “active participation” means – it may appear to favor pricing or other schemes that require consumers to respond on a near simultaneous basis to pricing changes; alternatively, it could have a more expansive meaning, to include “participation” by voluntarily using programmable thermostats and air conditioning and water heating cycling programs, which is preferable.

Finally, while relatively few residential consumers purchase electricity supply from competitive suppliers in deregulated states, including Maryland, MD OPC notes that the NOI does not address the question of the use of dynamic pricing schemes in this context, and who is the beneficiary of the customers’ reduction of peak demand use.

MD OPC therefore recommends that DOE re-design its criteria to require applicants to identify all costs related to the proposal, to avoid built-in value judgments regarding pricing schemes, and to explicitly identify the beneficiaries and treatment of cost savings.

## **Job Creation and Retention**

An important factor in the Smart Grid Investment programs is the promotion of job creation and retention. However, given the fact that most regulated utilities have identified reduced labor costs (i.e., reduced jobs) as a key element of the operational savings attributable to AMI, MD OPC recommends that DOE consider how they intend to capture job losses – included projected losses from full deployment – as an offset to job creation. This is particularly important if the applicants identify temporary job creation – e.g., construction, contractual engineers – and there may be permanent job loss – i.e. full time utility positions.

Thank your for your consideration of these comments.

Sincerely,

Paula M. Carmody  
People's Counsel