

ENERGY INDEPENDENCE AND SECURITY ACT OF 2007
New PURPA Standards (16-19)
Proposed Management Policy Statement of
Decatur County REMC
Version: 1

INTRODUCTION

The Energy Independence and Security Act of 2007 proposes changes to the Public Utility Regulatory Policy Act (“PURPA”) by adding four new Standards dealing with integrated resource planning, rate design modifications to promote energy efficiency investments, consideration of smart grid investments, and smart grid information.

Decatur County REMC (Decatur) is not required by law to consider adoption of the new PURPA standards as our retail energy sales do reach the minimum level of 500 million kWh. Decatur is supportive of the stated goals of the PURPA to promote energy efficiency, resource efficiencies, smart grid investments and equitable rates to our members. Decatur will voluntarily consider these Standards in context of the following policy statements. PURPA only requires that the Standards be considered.

Decatur is a distribution cooperative and a member of Hoosier Energy Rural Electric Cooperative, Inc. (Hoosier Energy). Hoosier Energy is a generation and transmission cooperative and provides all of Decatur’s electric energy requirements under a long term all-requirements power supply contract. Decatur must rely on input and information provided by Hoosier Energy as part of its consideration of PURPA Standard 16, Integrated Resource Planning; Standard 17, Rate Design Modifications to Promote Energy Efficiency Investments; and Standard 19, Smart Grid Information.

The following represents the Position Statements of Decatur County REMC pertaining to the new PURPA Standards.

I. INTEGRATED RESOURCE PLANNING (STANDARD 16)

[Policy Framework and Discussion](#)

Adoption of PURPA Standard (16), Integrated Resource Planning (IRP), would require that each electric utility engage in a comprehensive planning process intended to systematically consider appropriate supply and demand resources to meet current and future load requirements within the context of local, state, and federal policy goals and objectives. While the IRP process has many facets and objectives, the purpose of this Standard is to address integrating energy efficiency into utility plans and adopting policies that encourage cost-effective energy efficiency. For purposes of this Standard, the term “energy efficiency” means efforts that allow members to use less energy without altering their behavior, for example, through increased deployment of newer technologies or replacement of existing energy-consuming devices with newer version

that accomplish the same tasks while consuming less energy.

Decatur is a distribution cooperative and does not directly own or operate any generating facilities. Decatur, along with seventeen other distribution cooperatives, jointly own Hoosier Energy. As a result, Decatur does not have the ability to adopt and implement Integrated Resource Planning and as a minority owner of Hoosier Energy, must rely on Hoosier Energy's willingness to pursue the goals of this PURPA Standard. As a wholesale generator of electricity without any retail customers of its own, Hoosier Energy is not required to consider or adopt the new PURPA Standards.

Indiana Administrative Code 170 IAC 4-7-3 requires that Hoosier Energy, wholesale power supplier to Decatur, submit an IRP to the Indiana Utility Regulatory Commission on a biennial basis. The Code provides specific guidelines and requirements that must be followed in the IRP. On February 25, 2009 the IURC instigated proceeding (Cause No. 43643) to investigate and review the sufficiency of the IRP rule and its guidelines and requirements. That proceeding is ongoing.

To comply with the Indiana Administrative Code, Hoosier Energy submits an IRP to the Indiana Utility Regulatory Commission biennially. The IRP is prepared in conjunction with all members of Hoosier Energy including Decatur and the process generally involves the following tasks:

1. Every two years, Hoosier Energy develops in conjunction with its member systems, including Decatur, a long range Power Requirements Study (PRS) that uses econometric forecasting methods prescribed by the Rural Utility Service (RUS) to project future energy and capacity load requirements for the next 20 years for each member and for each class of residential, commercial and industrial customers. These individual member system forecasts are aggregated to form the Hoosier Energy forecast. Sensitivities are performed to get a range of projected requirements for various economic circumstances.
2. A list of potential supply-side energy resources, including renewable energy resources, is prepared which includes the technical, operational, economic, and risk characteristics of each as well as cost and operational parameters which are generally drawn from research of publicly available data such as the Electric Power Research Institute or particular studies Hoosier Energy consultants may have performed on a more regional or technology specific basis. The supply side options include traditional self build options, purchased power options, partnership or joint-ownership options, renewable resource options, and energy available through the MISO market. This information on supply side options is used to develop avoided costs for electric generation capacity to perform cost effectiveness screening for energy efficiency and demand response programs. In addition to cost profiles, social and environmental programs, policies and risks are also given consideration as part of the feasibility assessments.
3. Demand Side Management (DSM) and Energy Efficiency measures are then considered, and with the most recent IRP being developed, a more detailed and

extensive analytical process has been used. DSM and energy efficiency have been analyzed on technical potential, technical potential restricted to economic justification, and an achievable level of programs limited by reasonable budgets and resources and customer acceptance estimates. After establishing appropriate baseline measures, DSM and energy efficiency options are measured and are analyzed based on per unit energy and demand savings, costs, lifetimes and costs of conserved energy and demand. Benefit-cost analyses are then performed considering avoided costs, utility rebates or incentives to measure the present value of the energy and demand savings over the life of the particular measure.

4. Periodically, market research of end-use members is performed to assist in the development of member sentiments and program acceptance, market penetration levels of existing programs, and profiles of appliances and building characteristics for potential energy efficiency opportunities.
5. The energy efficiency and DSM programs are incorporated into the PRS for determining future supply side resources.
6. Various models are used from this point in conjunction with a base set of assumptions of fuel prices, inflation, and cost of capital generally taken from published reports such as the Annual Energy Outlook or various government publications. The modeling will select various supply options that will optimize the mix of resources to the load characteristics and projected requirements of the members through the PRS on a least cost, risk-adjusted basis. To address risk, the IRP will generally assess exposure to various risks such as technological, environmental, financial, construction and market price volatilities.

Policy Statement

Decatur in conjunction with its wholesale power supplier, Hoosier Energy, supports the continued consideration of appropriate supply and demand resources to meet current and future load requirements within the context of local, state and federal policy goals and the integration of energy efficiency into utility plans and policies that encourage cost-effective energy efficiency. Hoosier Energy will continue to develop its biennial IPR in accordance with the rules and regulations of the Indiana Utility Regulatory Commission. This process will continue to involve Decatur and the other seventeen member systems in all stages of the process. Hoosier Energy and Decatur will also continue to consider, analyze and emphasize the benefits and costs of DSM and energy efficiency programs in the IRP planning process.

II. RATE DESIGN MODIFICATIONS TO PROMOTE ENERGY EFFICIENCY INVESTMENTS (STANDARD 17)

Policy Framework and Discussion

Section 532 of EISA amends PURPA 111(d) (17) by adding a new Standard that

requires consideration of “Rate Design Modifications to Promote Energy Efficiency Investments”. The statute states “rates allowed to be charged by any electric utility shall align utility incentives with the delivery of cost effective energy efficiency and promote energy efficiency investments.” The statute identifies six policy options to consider including:

1. Removing the “throughput” incentive and other regulatory and management disincentives to energy efficiency. This option refers to the link between a utility’s sales and earnings. Generally, an increase in sales means an increase in earnings because fixed costs and profit or margins are typically recovered in a per unit (kWh) segment of the rate. A sales decrease from efficiency programs could lead to decreased earnings and might lead to an inability to recover some fixed costs. These outcomes may create impediments to offering or encouraging member participation in programs that decrease electricity consumption.
2. Providing utility incentives for the successful management of energy efficiency programs. If efficiency programs have a negative impact on earnings or margins, any program the utility is required to provide could be undermined by financial disincentives that negate the incentive to pursue implementation of the programs.
3. Including the impact of adoption of energy efficiency as one of the goals of retail rate design, recognizing that efficiency must be balanced with other objectives. This option asks that state commissions and utilities consider efficiency as one of several goals in retail rate design (along with quality of service, safety, reliability, just and reasonable rates, etc.). For example, non-regulated utilities might consider making energy efficiency a specific goal in the tariff and rate design process.
4. Adopting rate designs that encourage energy efficiency for each customer class. Not all customer classes may respond in the same manner to efficiency programs suggesting different programs may need to be developed for different classes.
5. Allowing timely recovery of energy efficiency related costs. Uncertainty about recovery of efficiency program costs and the timing of recovery can create additional obstacles to utility’s offering or encouraging member participation in efficiency programs.
6. Offering home energy audits, demand response programs, publicizing the financial and environmental benefits associated with home efficiency improvements, and educating homeowners about existing Federal and State incentives, including low cost loans, that make efficiency improvements more affordable.

Standard 17 reflects concerns that standard ratemaking practices may not encourage, and may discourage, utilities from adopting energy conservation or efficiency measures because those measures could lead to reduced earnings for investor owned utilities or reduced margins for cooperatives. If sales decline too far, the utility may be unable to recover all fixed costs since monthly fixed charges (i.e. the “customer charge”) are often insufficient to recover all fixed costs.

Some states have responded by decoupling investor owned utility earnings from electricity sales or use other means to modify rate designs. Other states have considered means to not only remove disincentives but to offer incentives to utilities to develop and administer efficiency programs while other have considered outsourcing those programs to third part providers. The National Action Plan for Energy Efficiency organizes these and other state approaches into three broad categories including:

1. Allowing the direct costs of efficiency programs to be recovered by the utility, typically through rate cases, a “system benefits charge” or a tariff rider/surcharge.
2. Recovery of fixed costs through a “lost revenue adjustment mechanism” in which the utility is compensated for sales decreases related to efficiency programs. “Decoupling” among investor owned utilities is an example of this approach and about 30 states have implemented or considered decoupling plans for gas or electric utilities. Decoupling has been described as a tracking mechanism that allows utilities to automatically adjust rates and revenues whenever sales deviate from targeted levels or baselines. The mechanism reduces uncertainty about the timing of cost recovery by eliminating the need for traditional rate cases, subject to certain tests, and may allow utilities to keep earnings near authorized levels. Decoupling is often controversial. Opponents suggest utilities are not, and should not be, guaranteed earnings if sales decline; the approach shifts too much risk from utilities and stockholders to members; rate cases are a better way to adjust revenues; and decoupling isn’t really needed to encourage efficiency programs.
3. Providing performance incentives to utilities for participation in efficiency programs. The general intent of these programs has been described as an effort to put energy efficiency on the same footing as other supply options; that is to make them profitable and not just a break even activity. Examples include performance target incentives, shared savings incentives and rate of return adders.

Another approach being considered by some utilities is to increase the fixed monthly access or customer charge until it recovers all fixed costs of serving members. If that is accomplished, the “throughput” rate need only recover the

variable cost of service and reductions in energy consumption are less likely to undermine recovery of fixed costs or margins. Other tariff and rate options that have been considered by states to encourage efficiency include inclining block rate structures in which rates increase as consumption increases, and time-based rates including on-peak/off-peak pricing and “dynamic” rates such as critical peak pricing or real time (hourly) pricing.

Decatur Programs and Activities

Decatur and Hoosier Energy have long supported end-use energy efficiency measures among all customer classes. Decatur, Hoosier Energy and the other G&T members have spent millions of dollars over two decades to provide incentives to promote member selection of higher efficiency water heating and HVAC units, develop and support the Touchstone Energy Home program to promote construction of higher efficiency housing, provide energy audits among residential and commercial/industrial members, and provide member education programs including publications, web based information and annual seminars promoting building and HVAC improvements. Hoosier and Decatur have also provided rate incentives to encourage load shifting through guaranteed off-peak periods and interruptible service and rate options for commercial and industrial members. Recent additional demand response options available to Hoosier Energy members include an updated Interruptible Power Tariff, a Distributed Generation Purchase Tariff, a Standby Service Rider that provides grid access to members that self-generate, and a Voluntary Curtailment Rider in which members may be paid to reduce load in high-demand periods upon request from the power supplier. A range of contract proposals to provide additional demand response options to large power members have also been considered including a decade long contract with a major manufacturing company that allows the firm to participate directly in RTO demand response programs.

Decatur’s and Hoosier Energy’s emphasis and focus on demand side management (DSM) programs expanded greatly in 2008 and 2009. Energy efficiency and demand response programs were developed with member systems with a stated goal of empowering members to better manage energy consumption and expenditures in a period of rising costs. The Hoosier Energy Board of Directors adopted a Demand Side Management policy in 2008 that established a goal of reducing peak demand and energy consumption among participating cooperatives by 5% below levels that would otherwise be experienced by 2018. Budget authority to support DSM programs was approved by the Board in 2008 and 2009 and funding is expected to sustain a long term DSM effort. Funding is provided through base rates with recovery of DSM related variable costs through a tracker.

Additional staff assigned to DSM development were hired at Hoosier Energy in 2008 and program options were evaluated after completion of an extensive technical and economic feasibility assessment with Summit Blue and GDS Consultants.

Comprehensive on-site audits were completed at more than 400 residential and commercial/industrial facilities to collect data for the assessment process. Resulting

programs launched in 2009 include:

1. Revised and increased incentives to encourage members to select higher efficiency heating, cooling and water heating technologies. Higher efficiency units receive greater incentives than lower efficiency units, and new incentives were added to promote dual fuel HVAC systems and higher efficiency central air conditioning units. Programs were created to offer significant incentives for replacement of electric furnaces with air source or ground source heat pumps.
2. A compact fluorescent light (CFL) distribution program was launched in 2009. To date, more than 8,000 bulbs have been distributed at no cost to members. Model results suggest bulbs will reduce demand by approximately 32 kW, reduce energy consumption by approximately 346 MWH annually, and eliminate 346 tons of carbon dioxide emissions.
3. A residential load control pilot program was launched in 2009 to test control system capabilities. Initial tests include approximately 125 control units on water heaters. A full rollout of residential load control for water heaters and air conditioners is planned for April 1, 2010. Member recruitment and switch installation is expected to require significant time, but the program has a long term planning horizon. Decatur and Hoosier Energy are jointly pursuing a federal “Smart Grid” grant to help support broader program implementation.
4. Decatur and Hoosier Energy are investigating an “Appliance Round-up” pilot program in 2009. The purpose of the pilot is to test methods to encourage members to retire older, less efficient refrigerators or freezers. More than 30% of member households report multiple refrigerators/freezers.
5. A commercial and industrial efficiency program was launched in May of 2009. The program offers incentives to larger members to encourage installation and upgrade of interior lighting, motors and improvements in building shells. A project has been approved.
6. Hoosier Energy launched a home weatherization pilot program in 2009 that targets weatherizing 50 homes in a 12-month period. Program goal is to reduce energy consumption by 20% to 30% in participating households and determine the feasibility and scope of a broader future program. Measures include duct and crack sealing, insulation installation, low flow showerheads and faucets, installation of CFL and other measures as may be needed. Pre and post weatherization audits will be completed to confirm estimated savings. Hoosier Energy was also recently selected to receive a \$5.1 million stimulus fund grant from the State to weatherize more than 800 homes in 13 Indiana counties including one county in Decatur’s service area.

Member systems and Hoosier Energy devoted significant effort in 2008 to review and evaluation of new wholesale tariff options with extensive support from GDS

Consultants. The degree and capability of tariff options to support DSM initiatives was a driving factor in the process and resulting tariffs represent a significant departure from traditional G&T rates. Tariffs were approved by the Hoosier Energy Board in March, 2009 for implementation on April 1, 2010.

Key features of new tariffs include:

1. Production demand charges currently based upon twelve monthly system coincident peak intervals (CP) are eliminated. Production demand in new tariffs will be based upon CP in the three peak summer months of June, July and August with production demand in the following three months based upon average demand during peak months. Production demand in winter peak months of December, January and February will be based upon actual CP load with production demand in the following three months based upon average demand in winter peak months (see Attachment A). This change increases the value of residential load control to member systems and members and supports more accurate reflection of peak and off-peak periods for ratemaking.
2. The current production demand charge is the same in all months of the year. That provision is eliminated and replaced with new seasonal demand charges with summer demand charges about 40% higher than winter demand charges. This change reflects the market reality that summer demand or capacity costs are higher than winter costs, and that pressure to add future capacity is driven by summer rather than winter peak demands (see Attachment A).
3. A new tariff provision restricts Hoosier Energy to billing members for CP demand in peak months only when a load control signal has been provided.
4. The current flat energy charge billed for all kWh is eliminated in new tariffs and replaced with on-peak and off-peak charges. Approximately 88% of all annual hours are defined as off-peak in new tariffs. On-peak wholesale energy rates are approximately 90% higher than off-peak rates (see Attachment B).
5. Technical and cost allocation adjustments were made in transmission and radial line/substation demand charges to better reflect cost causation.
6. Two additional tariffs were created to provide the option of delivery at transmission voltages (69kV and 138/161kV) to members that prefer to own and maintain radial lines and substations.

[Policy Statement](#)

Decatur in conjunction with Hoosier Energy is committed to developing and offering effective demand side management programs to members, including both demand response and efficiency measures, and providing rates that support member adoption of DSM options. Decatur and Hoosier Energy consciously decided to treat

DSM as an equivalent resource to new generation with a long-term intent to meet future needs through whichever option offers the lowest cost for members. Program costs are significant, and there is potential for revenue erosion, but Decatur is considering tariff changes to support DSM efforts.

Decatur believes DSM programs will position members to better manage rising energy costs and that DSM can offer long term savings compared to other supply alternatives.

III. CONSIDERATION OF SMART GRID INVESTMENTS (STANDARD 18)

Policy Framework and Discussion

The Energy Independence and Security Act of 2007 amends PURPA by adding Standard 18 titled “State Consideration of Smart Grid Investments” stating that “Each State shall consider requiring that, prior to undertaking investments in non-advanced grid technologies, an electric utility of the State demonstrate that the electric utility considered an investment in a qualified smart grid system based on appropriate factors, including

- (i) total costs;
- (ii) cost-effectiveness;
- (iii) improved reliability;
- (iv) security;
- (v) system performance; and
- (vi) societal benefit.

The thrust of this Standard is to require utilities to consider investing in smart grid technologies before investing in traditional transmission and distribution systems. Other components of the Standard deal with establishing ratemaking rules which do not discourage smart grid investment by allowing fair cost recovery and treatment of equipment obsolescence so as not to make stranded cost an impediment to Smart Grid investment.

The Smart Grid is not well defined but is beneficially vague so as not to restrict innovation and opportunity. One informal definition calls it “a transformed electricity transmission and distribution network or “grid” that uses robust two-way communications, advanced sensors, and distributed computers to improve the efficiency, reliability and safety of power (generation), delivery and use” (Wikipedia: 2008).

The Department of Energy (DOE) itemizes seven characteristics or functions that denote Smart Grid investment. These include:

- a. Enabling active participation by end-use members
- b. Accommodating all generation and storage options
- c. Enabling new products, services, and markets
- d. Optimizing assets and operating efficiently
- e. Anticipating and responding to system disturbances in a self-healing manner
- f. Operating resiliently against physical and cyber attack and natural disasters
- g. Providing the power quality for the range of needs in a digital economy

Decatur must rely on Hoosier Energy for implementation of some Smart Grid technologies. Others will be a joint effort between Decatur and Hoosier Energy and there will be some Smart Grid technologies that can be implemented by Decatur independent of Hoosier Energy.

Hoosier Energy will continue to consider various Smart Grid options as it maintains and improves its system and will continue to work closely with Decatur and the other seventeen member systems to provide assistance in implementing Smart Grid technologies. It is important to carefully develop Smart Grid technologies taking into consideration the technology that accomplishes the intended goals, the time frame for implementation, risks that may render part of the system obsolete, implementation costs, and cost recovery.

Decatur believe that prudent investment in Smart Grid technologies can improve overall system reliability, reduce system operating costs, and provide options that will assist its members in better managing their overall energy use. Decatur has already made significant investments in Smart Grid technologies. In 2008, Decatur completed the installation of an Advanced Metering Infrastructure (AMI) system. All Decatur members are served by the AMI system. This system currently provides automated meter reading, detailed load data, outage verification, and automated disconnection and reconnection of service. Other services can be added with the installation of additional equipment.

Decatur has implemented a Supervisory Control and Data Acquisition (SCADA) system. The SCADA system is used to monitor substation equipment and overall distribution system voltage and operation. Additional automation of the distribution system is possible by installing automated distribution equipment.

Policy Statement

Decatur in conjunction with Hoosier Energy will continue to consider and pursue various Smart Grid options that will improve overall system reliability and security, reduce system operating costs, and provide additional options to assist our members in better managing their energy use.

Smart Grid technologies currently in place include Advanced Metering Infrastructure (AMI) and Supervisory Control and Data Acquisition (SCADA). A pilot program to test

and evaluate direct load control switches began in 2009.

IV. SMART GRID INFORMATION (STANDARD 19)

Policy Framework and Discussion

This Standard “asks that states consider providing electricity purchasers with access to information concerning pricing, usage, intervals, and sources, either in writing or in electronic form.” It requires utilities to consider providing electric purchasers with direct access to information concerning pricing, usage, intervals, and sources of energy either in writing or electronic form. This can be accomplished by providing access to smart meters and bi-directional communications methods and opportunities to offer time-of-use (TOU) pricing, critical peak pricing, and real time pricing.

The Hoosier Energy Power Network has endorsed this direction through the adoption of new tariffs that include seasonal demand and TOU pricing. The seasonal demand rate sets up differentiated summer and winter demand charges as well as offering incentives to remove load from the peak summer (June – August) and peak winter (December – February) months. TOU pricing is achieved by use of an on-peak and an off-peak energy rate. This two tiered energy rate provides an on-peak period for both summer and winter months with the remaining designated as off-peak.

Decatur is currently completing a cost of service study as the first step in providing our members the appropriate rates including TOU rates. These rates will provide Decatur’s members with the opportunity to reduce their electric energy costs.

Policy Statement

Decatur will continue to work with Hoosier Energy to assist in providing smart grid information to its members as technology and member needs and preferences warrant, balancing carefully the costs of capital investments in processes and operations costs and impact of recovering those costs in retail rates.

New - Standard Tariff Production Demand

Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May

Proposed (Control Periods, 7 a.m. to 11 p.m., E.S.T.)

Summer

1-CP 1-CP 1-CP

Billing kW

Act Act Act Avg Avg Avg

Winter

1-CP 1-CP 1-CP

Billing kW

Act Act Act Avg Avg Avg

New - Standard Tariff Energy TOU Periods

Item	Hour-Ending																									
Time (AM/PM)	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12		
Time (Military)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24		
Summer Week day																										
Summer Weekend	← All Off-Peak →																									
Winter Week day																										
Winter Weekend	← All Off-Peak →																									
Valley Week day	← All Off-Peak →																									
Valley Weekend	← All Off-Peak →																									

Summer -- June through August
 Winter -- December through February
 Valley -- March through May and September through November
 "On-Peak periods" illustrated in blue shading

Special Note: Demand "on-peak" period remain as -- "On-peak" is between 7 a.m. and 11 p.m. year-round.

Interpretation of above chart defined "on-peak" periods
 Summer Week day "on-peak" period is between 11 am and 9 pm.
 Winter Week day "on-peak" period is between 7 am and 10 am, and between 6 pm and 9 pm.