

**ORIGINAL**

*Cec*  
*JOA*  
*JIS*  
*AG*

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

VERIFIED PETITION OF DUKE ENERGY )  
INDIANA, INC. REQUESTING THE INDIANA )  
UTILITY REGULATORY COMMISSION TO )  
APPROVE AN ALTERNATIVE REGULATORY )  
PLAN PURSUANT TO IND. CODE § 8-1-2.5-1, *ET* )  
*SEQ.*, FOR THE IMPLEMENTATION OF AN )  
ELECTRIC DISTRIBUTION SYSTEM )  
"SMARTGRID" AND ADVANCED METERING )  
INFRASTRUCTURE, DISTRIBUTION )  
AUTOMATION INVESTMENTS, AND A )  
DISTRIBUTED RENEWABLE GENERATION )  
DEMONSTRATION PROJECT, FOR APPROVAL )  
OF NEW DEPRECIATION RATES FOR ELECTRIC )  
DISTRIBUTION PLANT, FOR A WAIVER OF THE )  
PROVISIONS OF 170 I.A.C. § 4-1, *ET SEQ.*, AND )  
FOR ASSOCIATED ACCOUNTING AND RATE )  
RECOVERY MECHANISMS, INCLUDING A )  
RATEMAKING PROPOSAL TO UPDATE )  
DISTRIBUTION RATES ANNUALLY AND A )  
"LOST REVENUE" RECOVERY MECHANISM, IN )  
ACCORDANCE WITH IND. CODE § 8-1-2-42(a) )  
AND IND. CODE § 8-1-2.5-1 *ET SEQ.*, AND )  
PRELIMINARY APPROVAL OF THE ESTIMATED )  
COSTS AND SCHEDULED DEPLOYMENT OF )  
THE COMPANY'S SMARTGRID INITIATIVE )

CAUSE NO. 43501

ORDER ON SETTLEMENT

APPROVED: NOV 04 2009

BY THE COMMISSION:

David E. Ziegner, Commissioner  
Scott R. Storms, Chief Administrative Law Judge

On May 23, 2008, Duke Energy Indiana, Inc. ("Duke Energy Indiana," "Petitioner" or "Company"), filed its Verified Petition with the Indiana Utility Regulatory Commission ("Commission" or "IURC") initiating this Cause. In its Petition, Duke Energy Indiana requested approval of a proposed alternative regulatory plan, including the following: (1) implementation of a proposed distribution system "smart grid" program, consisting of Company-wide deployment of advanced metering infrastructure, automated distribution investments, and a distributed renewable generation demonstration program (the "SmartGrid Initiative"); (2) timely recovery of its SmartGrid Initiative costs, and its distributed renewable generation demonstration project costs, via either a distribution formula rate mechanism or a SmartGrid tracking mechanism; (3) recovery of "lost revenues," as a part of the alternative proposed SmartGrid tracking mechanism; and (4) creation of a regulatory asset for the subsequent recovery of existing undepreciated meter costs.

On September 4, 2008, Duke Energy Indiana filed its Amended Verified Petition, seeking additional approval, including: (1) implementation for ratemaking and accounting purposes of updated distribution system depreciation rates; and (2) to the extent required, waiver of the portion of the Commission's customer service rules that contemplate an on-site physical presence of the Company employees at the time of disconnection of service.

On February 6, 2009, Duke Energy Indiana filed its Verified Second Amended Petition for the purpose of clarifying that as part of its proposed alternative regulatory plan pursuant to Ind. Code § 8-1-2.5-5, the Company requested that the Commission decline to exercise its Powerplant Construction Act certification jurisdiction under Ind. Code § 8-1-8.5 *et seq.*, with regard to Petitioner's proposed distributed renewable generation demonstration project ("Second Amended Petition").

Petitions to intervene were filed in this proceeding by the Duke Energy Indiana Industrial Group ("Industrial Group") Nucor Steel-Indiana ("Nucor") The Kroger Co. ("Kroger"), Wal-Mart Stores East, LP ("Wal-Mart"), the Citizens Action Coalition of Indiana, Inc. ("CAC"), the Indiana Telecommunications Association ("ITA"), and the Indiana Exchange Carrier Association, Inc. ("INECA"). In Docket Entries issued on June 26, 2008 and July 10, 2008, respectively, the Presiding Officers granted intervention in this proceeding to Kroger and INECA. On the record at the Prehearing Conference held on July 24, 2008, the Presiding Officers granted intervention to Nucor, the ITA, the Industrial Group, and Wal-Mart. Subsequently, on July 31, 2008, the Presiding Officers granted intervention to the CAC. Kroger, INECA, Nucor, ITA, Industrial Group, Wal-Mart, and CAC are collectively referred to as "Intervenors."

On June 4, 2009, Duke Energy Indiana filed a Settlement Agreement reached with several parties to this proceeding – the OUCC, the Industrial Group, Nucor, and the CAC.

Pursuant to notice as required by law, proof which was incorporated into the record by reference and placed in the official files of the Commission, an Evidentiary Hearing was held in this Cause on June 29, 2009, at 9:30 a.m. EDT in Room 222 and on July 13, 2009, at 9:30 a.m. EDT in Room 224 of the National City Center, 101 West Washington Street, Indianapolis, Indiana. The parties participating in the Evidentiary Hearing, in addition to Duke Energy Indiana, included the OUCC, Industrial Group, CAC, Nucor, Kroger, Wal-Mart, ITA, and INECA.

At the Evidentiary Hearing, Duke Energy Indiana offered into evidence the direct, supplemental, rebuttal and, as applicable, settlement supporting testimony and exhibits of Mr. Jim L. Stanley, President of Duke Energy Indiana; Todd W. Arnold, Senior Vice President, SmartGrid and Customer Systems; David L. Masters, Manager of Communications and BPL Projects; Tony R. Adcock, Power Delivery Project Manager; Mark D. Wyatt, Vice President of IT Business Applications; Retha Hunsicker, Director, Enterprise Customer Systems; Theodore E. Schultz, Vice President – Energy Efficiency; Christopher D. Kiergan, Executive Consultant with KEMA, Inc.; Steven Hinkel, Director of Strategy and Architecture; John J. Spanos, Vice President of the Valuation and Rate Division of Gannett Fleming, Inc.; Kent K. Freeman, General Manager, Rates – Indiana; Donald H. Denton, III, General Manager for SmartGrid Implementation, Strategy and Planning; Casey Mather, Director, Mass Market Strategy and

Market Plans; Danny Wiles, General Manager of U.S. Franchised Electric & Gas Accounting; and Alan W. Wendorf, Chief Executive Officer of Sargent & Lundy, LLC.

The Industrial Group and Wal-Mart presented the testimony of Mr. Nicholas Phillips, Jr., consultant in the field of public utility regulation and a principal in the firm of Brubaker & Associates, Inc. The Industrial Group also presented the settlement testimony of Mr. Phillips. Wal-Mart also presented the testimony of Kenneth E. Baker, Senior Manager for Sustainable Regulation of Wal-Mart Stores, Inc. The CAC presented the testimony of Mr. Grant Smith, its Executive Director. Kroger presented the testimony of Mr. Kevin Higgins, principal in the consulting firm of Energy Strategies, LLC, which specializes in economic and policy analysis applicable to energy production, transportation, and consumption. ITA presented the testimony of Alan I. Matsumoto, Regulatory Manager of Embarq Corporation. The OUCC presented the direct testimony of Mr. Michael D. Eckert, Senior Utility Analyst, and Mr. Greg A. Foster, Utility Analyst, within the Electric Division of the OUCC's Energy Group; Mr. Ronald L. Keen, Senior Analyst, and Mr. Andrew J. Satchwell, Utility Analyst, within the Resource Planning, Emerging Technologies, and Telecommunications Division; and Mr. Michael J. Majoros, Jr., Vice President with the economic consulting firm of Snavely, King, Majoros, O'Connor & Lee, Inc. The OUCC also presented the cross reply testimony of Mr. Satchwell and the settlement testimony of Mr. Keen and Mr. Foster. All prefiled testimony and exhibits were admitted into evidence without objection. All parties waived cross-examination of the witnesses and Mr. Arnold responded to questions from the Presiding Officers.

Based upon applicable law and evidence presented herein, the Commission finds as follows:

1. **Notice and Jurisdiction.** Due, legal, and timely notice of the hearings in this Cause were given and published by the Commission. Duke Energy Indiana is a public utility as defined by Ind. Code § 8-1-2-1, and is subject to regulation by the Commission as provided in the Public Service Commission Act, as amended. Duke Energy Indiana is also an "energy utility," as defined by Ind. Code § 8-1-2.5-2, and has elected to be subject to the provisions of Ind. Code §§ 8-1-2.5-5 and 8-1-2.5-6 for purposes of seeking approval of an alternative regulatory plan (the SmartGrid Initiative and related ratemaking and accounting relief). The Commission has jurisdiction over Duke Energy Indiana and the subject matter of this proceeding. In addition, Petitioner duly published notice of its Second Amended Petition in the counties where Petitioner serves as required by Ind. Code § 8-1-2.5-6(d) (*See* Petitioner's Exs. A-1 and A-2).

2. **Petitioner's Characteristics.** Duke Energy Indiana is a public utility organized and existing under the laws of the State of Indiana, with its principal office at 1000 East Main Street, Plainfield, Indiana. The Company owns, operates, manages and controls plant, property, and equipment used and useful for the production, transmission, distribution, and furnishing of electric utility service. Duke Energy Indiana directly supplies electric energy to over 780,000 customers located in 69 counties in the central, north central, and southern parts of the State of Indiana. It also serves various wholesale customers and provides steam service to an industrial customer adjacent to Duke Energy Indiana's Cayuga Generating Station.

**3. Relief Requested.** In this proceeding, Duke Energy Indiana requests approval of an Alternative Regulatory Plan (“ARP”) submitted to the Commission for its review and approval pursuant to Ind. Code § 8-1-2.5-5. Duke Energy Indiana also requests that the Commission approve a Settlement Agreement reached with the OUCC, Industrial Group, Nucor, and CAC (the “Settling Parties”) in this proceeding, and thereby approve its proposed Alternative Regulatory Plan, as modified by the Settlement Agreement. The Settlement Agreement, while not unanimous, is not opposed by any party.

The Settlement Agreement, among other things, calls for an alternative regulatory plan, consisting of the deployment of “smart grid” technology throughout the Company’s distribution system, along with an associated cost recovery mechanism, related accounting authorizations, and approval of new depreciation rates. In addition, the Settlement Agreement calls for the establishment of a collaborative process to monitor the Company’s deployment of smart grid technology, and requires the Company to submit detailed quarterly reports on the status of deployment to the Commission and other parties. The Settlement Agreement also provides for collaborative discussions among the Settling Parties with the goal of developing a renewable distributed generation pilot program; time-differentiated pricing pilot program offerings; a home area network pilot program; and, a plug-in hybrid electric vehicle/electric vehicle pilot program.

**4. Evidence Presented.**

**A. Proposed Deployment of SmartGrid Technology and Distributed Renewable Generation Demonstration Project.**

(1) **Initial Company Proposals.** Mr. Todd W. Arnold, Senior Vice President of Smart Grid and Customer Systems, described the equipment to be installed for the Company’s SmartGrid Initiative, the equipment’s near term functionality and potential future functionality, and the estimated costs and proposed deployment schedule associated with the project. Petitioner’s Ex. B (Arnold Direct). In his testimony, Mr. Arnold explained that the Company views a “smart grid”, “advanced metering infrastructure” (“AMI”) and “automatic meter reading” (“AMR”) as on the same general spectrum of service and functionality with AMR being the most basic, a smart grid being the most complex and functional, and AMI somewhere in between. *Id.* at 3. According to Mr. Arnold, Duke Energy Indiana’s vision of a smart grid provides not only the metering options of AMR and AMI, but also enhanced options such as web-based applications for operating personnel, remote and continuous collection of power quality data, remote programmability, and energy management services, along with distribution system automation components. *Id.* at 3.

Mr. Arnold testified that the Company is proposing to install intelligent meters with two-way communications that will allow the Company to read meters remotely, connect and disconnect service remotely, verify power outages and restoration, and engage in increased theft protection measures. *Id.* at 9. He also indicated that eventually, the Company will be able to send control information back through the communication system, using meter data as a basis to cycle air conditioners and schedule use of power-heavy appliances depending on market signals and customer preferences. *Id.* at 9-10. The meters will be able to collect data regarding usage, ranging in frequency from every five minutes to daily reads for both energy and demand. *Id.* at 10. Collection of this data would allow the Company to load profile a home for trouble-shooting

purposes, share usage data with customers and, combined with information from other endpoints of the system, better plan for growth, asset management and restoration services. *Id.* Mr. Arnold stated that the data collected and transmitted through the intelligent meters, in conjunction with the distribution automation and communication equipment will provide operational efficiencies such as more rapid restoration of service after an outage and more efficient troubleshooting of network problems. *Id.* at 11.

Mr. Arnold also described the collection devices that will be deployed throughout the system as part of the SmartGrid Initiative. *Id.* at 12. He stated that the collection device is like a computer and is responsible for the actual collection of data from each meter and the relaying of that data back to the Company. *Id.* Mr. Arnold explained that the Company will be able to use the equipment in the collection devices to manage the electric meter data, information from the transformer, compatible information from other utility meters (gas and water), as well as communications with customer-owned equipment beyond the meter. *Id.* at 13.

Mr. Arnold next provided an overview of the Company's plans for the communications equipment needed for its SmartGrid Initiative. *Id.* at 14. According to Mr. Arnold, Duke Energy Indiana intends to use existing wireless communications systems for the communication of data, but that it is possible that Duke Energy Indiana will have to deploy smart meters in areas without available wireless service. *Id.* In those instances, Mr. Arnold explained, the Company will need to determine whether traditional wireline service or broadband over the power lines would be feasible options to meet the needs of customers without access to wireless service. *Id.* Mr. David L. Masters, Manager of Communications and BPL Projects, also provided testimony about the functionality of Company's proposed communication technology. Petitioner's Ex. C (Masters Direct). Mr. Masters explained that, in addition to the collection devices, there will also be communication equipment installed to allow communications to and between sensors (located, for example, at line sensors and capacitor banks) on the distribution system. *Id.* at 5. Mr. Masters testified that this equipment will be Internet Protocol-based, which was important to the Company as it is a way to standardize the transmitted data and make it compatible with other Internet Protocol technology. *Id.* Mr. Masters stated that the system has been flexibly designed to be able to collect data from sensors that the Company has not yet committed to installing. *Id.* at 6.

Mr. Arnold then briefly described upgrades to the Company's information technology ("IT") infrastructure that will be necessary to support the SmartGrid Initiative. Petitioner's Ex. B at 15. Mr. Arnold testified that Duke Energy Indiana will require updated computer applications to coordinate meter reading, outage management, customer interface, power delivery generation and billing. *Id.* Mr. Mark D. Wyatt, Vice President of IT Business Applications, provided additional explanation of the functionality of the IT system that will need to be installed as part of SmartGrid. Petitioner's Ex. E (Wyatt Direct). As part of SmartGrid, Mr. Wyatt explained, Duke Energy is proposing to install applications that will request and analyze data from the smart meters, distribution systems and power delivery, as well as synthesize the data received for purposes of customer billing and Company analysis. *Id.* at 2. Mr. Wyatt also testified that the customer billing system will need to be upgraded to handle the increased volume of information being sent by the meters, as well as the different types of metering and power quality data that can be collected from the smart meters. *Id.* at 3. He stated that the Company's Outage Management, Geographical Information and Work Management Systems will all be upgraded as

part of SmartGrid to allow those systems to access the newly available data from the meters and distribution system. *Id.* at 4-5.

Mr. Arnold next testified that the Company proposes to begin deployment of new meters to customers by utilizing routes already used for meter reading and billing purposes. Petitioner's Ex. B at 17. Mr. Arnold indicated that the intent was to deploy approximately 80% of the meters and associated equipment within the first three (3) years of deployment (2009-2011), with collection device deployment to roughly track meter deployment. *Id.*

Mr. Tony R. Adcock, Power Delivery Project Manager for Duke Energy Business Services LLC, and an electrical engineer, discussed Duke Energy Indiana's proposed distribution automation projects and associated benefits. Petitioner's Ex. D (Adcock Direct) at 2. Mr. Adcock described distribution automation as the transformation of an existing distribution system, which requires manual, on-site operation of power equipment to an advanced distribution system with power equipment that can be operated from a remote location, such as a control center, through a communication network and advanced control systems. *Id.* Duke Energy Indiana proposes to upgrade circuit breakers and electronic reclosers, distribution line switch capacitor banks and voltage regulators, and enhanced sectionalization and self-healing technology. He went on to explain that the Company expected to gain a number of benefits from this modernization of the system including improved system reliability, improved power quality, improved operating efficiencies, improved customer satisfaction and, by controlling voltage more efficiently, lower power consumption. *Id.* Mr. Adcock also discussed the Company's proposed deployment schedule for the distribution automation projects. He stated that the Company's plan is to implement the program over a five year period, approximately 20% each year, beginning with areas, such as areas with higher customer density, where the distribution automation will have the greatest impact. *Id.* at 12.

Mr. Steven Hinkel, Director of Strategy and Architecture, discussed the Company's proposal for installation and operation of a fleet of small, renewable distributed generation assets. Petitioner's Ex. I (Hinkel Direct). Mr. Hinkel explained that the Company was proposing to install either photovoltaic or wind generation (not both) and solar thermal for water heating at approximately 300 to 500 customer residences, 10 commercial buildings and 3 non-profit organization's buildings. *Id.* at 2-5. The total cost of the proposed project is approximately \$10 million, over a three-year period. *Id.* at 2. According to Mr. Hinkel, the primary objectives of this project are to: (1) better understand the technical implications of installing owning and managing a fleet of small distributed generation assets with a smart grid; (2) better understand customers' desire for and comfort with distributed generation assets located on their premises; and (3) promote and advance renewable energy deployment in Indiana. *Id.* at 2.

Mr. Christopher D. Kiergan, Executive Consultant with KEMA, Inc., described and sponsored the SmartGrid cost/benefit model ("SmartGrid Model" or "Model"), which generally captures the capital expenditures, O&M expenses, and associated benefits for 2009-2028, as well as calculating an overall 20-year net present value for the SmartGrid Initiative. Petitioner's Ex. H (Kiergan Direct) at 5.

Mr. Kiergan explained that the Model factors in seven primary categories of costs, some of which include associated O&M costs: (1) endpoint costs, which include residential and

commercial/industrial meters and distribution line sensors; (2) communications costs, which include the communications equipment used to collect and transmit data from the field to Duke Energy; (3) deployment labor costs, comprised of the costs associated with installing the endpoint and communications equipment; (4) information technology costs, which include the hardware, software, labor and outside consulting costs associated with the new systems and enhancements to existing systems required to fully implement SmartGrid; (5) distribution automation costs, which include upgrades to substation communications, replacing certain circuit breakers and relays, installing communications functionality and controls on capacitor banks and electronic reclosers, changing out the controls on LTCs and regulators, sectionalizing the system with additional reclosers, and installing some level of self-healing technology; (6) project management office costs, which are comprised of labor costs associated with managing the deployment of SmartGrid; and (7) additional O&M costs not directly associated with previously mentioned cost categories, which includes such items as additional labor for meter disposal and customer service O&M during deployment to set up ties to the billing system. *Id.* at 6-8.

Mr. Kiergan stated that the benefits in the Model are categorized in five categories: metering, outage, distribution, other (includes call center, vehicles, safety) and customer/societal benefits. *Id.* at 9. He also explained that the Model includes various assumptions and other parameters, such as deployment timelines, numbers of customers, service territory descriptive data, financial assumptions and timing of benefits. *Id.* According to Mr. Kiergan, all of the data for the Model was obtained from employees within Duke Energy. *Id.*

Mr. Kiergan explained that the SmartGrid Model calculated a project net present value based on the costs, benefits and assumptions input into the Model. *Id.* at 11. Benefits were calculated for each of the twenty years and treated the same whether they were a direct budget expense, an avoided cost, or an increase in revenue. *Id.* He stated that overall costs were calculated on an annual basis and categorized as either capital costs or O&M expenses. *Id.* Mr. Kiergan testified that in terms of capital expenditures, \$435 million is forecasted to be spent during the five-year deployment, as well as \$57.33 million in O&M expenses. *Id.* at 16-17. Mr. Kiergan also explained that \$74.87 million in operational benefits is forecasted to be saved during the five-year deployment. *Id.* at 16. He estimated that the expected range of customer/societal benefits is \$106.49 million to \$1.69 billion, with a base case benefit modeled to be \$602.24 million. *Id.* at 17. Mr. Kiergan testified that the overall twenty-year net present value for the SmartGrid Initiative, including customer and societal benefits, is calculated at \$365.08 million. *Id.*

Mr. Kiergan also provided supplemental testimony for the purpose of updating the SmartGrid Model to include the effects of a tax law change, remove the reference to deployment timelines to reflect that deployment will be dependent in large part on the timing of an order approving the SmartGrid Initiative, and to clarify that the System Average Interruption Frequency Index ("SAIFI") reference in the Model refers to an average SAIFI score. Petitioner's Ex. L (Kiergan Supplemental) at 2. These changes improved the overall twenty-year net present value of the SmartGrid Initiative by \$52.92 million to a calculated \$417.99 million. *Id.* at 6.

**(2) OUC and Intervenors' Evidence and Petitioner's Response.** Mr. Ronald L. Keen, Senior Analyst with the OUC, stated that the OUC believes it may be prudent for a

utility to proceed with a phased approach in upgrading existing systems and deploying new smart grid-compatible technology. Public's Ex. 1 (Keen Direct) at 10. Mr. Keen explained that utilities should develop a master strategy to reach the end goal of a fully-functional smart grid, with development of a detailed plan to reach that goal through a series of phases to test, evaluate, and operationally deploy segments of technology. *Id.* Mr. Keen recommended the use of pilot programs to test and evaluate the technology, as well as significant policy and operational changes – e.g., time-of-use rates, dynamic pricing, net metering, energy usage data availability to customers, and renewable energy generation development. *Id.* Mr. Keen proposed that Duke Energy Indiana submit quarterly reports to the Commission and the OUCC outlining the progress of the pilot programs and any full-scale deployment, including budgetary expenditures, deployment milestones met and performance metric data. *Id.* at 65.

Mr. Keen also described the benefits to customers, the utility, and the environment of a well-developed and efficiently deployed smart grid system. *Id.* at 12. He stated that perhaps the most significant benefit that smart grid technology offers is the personal empowerment consumers find by having control over their energy usage and monthly energy bills. *Id.* Utilities can benefit from smart grid through direct cost reductions, enhanced system reliability and higher customer satisfaction. *Id.* at 13. Mr. Keen explained that smart grid technology can encourage investment in renewable generation resources and enable efficient consumer response to dynamic pricing, potentially reducing the need for additional fossil fuel-fired generation capacity, cutting CO<sub>2</sub> and other pollutant emissions. *Id.* at 15.

Mr. Keen next discussed why the OUCC believes it is important for the Company to have twelve months of data from a fully operational pilot program in order to engage in a robust evaluation regarding the potential success for a full-scale deployment of the program. *Id.* at 32-33. Mr. Keen recommended that Duke Energy Indiana engage in a collaborative approach with the OUCC and other interested stakeholders to develop a program to deploy and test the full range of smart grid technologies, tariff offerings and operational concepts prior to full-scale deployment in Indiana. *Id.* at 36. He went on to note that it is possible full deployment of some technologies, such as smart meters, could occur during this timeframe. *Id.* Mr. Keen stated that the OUCC also believes a separate collaborative effort could be undertaken to develop a pilot program that would lead to full-scale deployment of renewable distributed generation resources. *Id.*

Mr. Keen expressed concern that the Company's proposal in this proceeding is premature due to a lack of strategy to incorporate home area network ("HAN") technology into its SmartGrid and a lack of detail regarding infrastructure deployment, verified cost information, detailed equipment information, and communications infrastructure. *Id.* at 16-19. According to Mr. Keen, HAN technology has only been made available to the public in limited test-bed environments. Mr. Keen suggested that Duke Energy Indiana collaborate with the OUCC to develop a HAN technology pilot program to highlight the capability of the technology, as well as the benefits it provides not only to the utility, but to consumers and the environment. *Id.* at 44.

Mr. Keen next expressed the OUCC's concern with the level of project planning and management of the SmartGrid Initiative presented by the Company. *Id.* at 45. He stated that based on the information the Company presented in its direct testimony, the SmartGrid Initiative

remains in the “concept” phase of project planning. *Id.* at 47. The lack of a risk management plan is another concern of the OUCC, according to Mr. Keen. *Id.* at 48.

Mr. Keen also questioned whether Duke Energy Indiana could adequately plan for the deployment of the proposed distribution automation projects without an up-to-date system performance and load/loss study. *Id.* at 53. He further noted the lack of detail regarding Petitioner’s cyber security plans for its proposed SmartGrid and a lack of planning around the implementation of plug-in hybrid electric vehicles (“PHEV”). *Id.* at 54-60. Finally, Mr. Keen described the vagueness concerning the Company’s proposed renewable distributed generation proposal. *Id.* at 61-63.

Mr. Andrew Satchwell, Utility Analyst with the OUCC, testified regarding Duke Energy Indiana’s SmartGrid Model. Public’s Ex. 4 (Satchwell Direct). Mr. Satchwell expressed concern regarding the uniform treatment of costs and benefits under the SmartGrid Model and states that such treatment affects the accuracy of the Model. *Id.* at 7-9. To address this, Mr. Satchwell recommended that Duke Energy Indiana include a plan for accountability of its results to verify savings being delivered to ratepayers. *Id.* at 9. Mr. Satchwell also stated that the SmartGrid Model relies upon prospective, hard to quantify benefits to justify the SmartGrid Initiative. *Id.* at 11. He then testified that the SmartGrid Model fails to account for the benefits associated with time differentiated pricing options, which will be enabled by implementation of SmartGrid. *Id.* at 14.

The OUCC and Kroger raised the issue of the potential federal funding for this initiative, which could result from the American Recovery and Reinvestment Act of 2009 (“ARRA”).<sup>1</sup> Specifically, the OUCC proposed that any federal offset to the cost of the Company’s SmartGrid project should be treated as a reduction of the total project cost, with rate base reduced accordingly. However, the OUCC also stated that it was willing to defer resolution of this issue until the federal funding program is finalized – but the Commission’s Order in this case should make clear that Duke Energy Indiana’s customers are entitled to those benefits, should they materialize. Related to this, the OUCC recommended that the Commission provide for a subsequent “true up” filing to address any federal funding issues. *See* Public’s Ex. 3 (Eckert Direct) at 15-17. Kroger took the position that the Company should wait for the federal stimulus funding decisions to be made before seeking Commission approval for its SmartGrid Initiative. Kroger Ex. 1 (Higgins Direct) at 10-11.

The Indiana Telecommunication Association (“ITA”) filed the testimony of Mr. Alan I. Matsumoto employed by Embarq Corporation as Regulatory Manager. Mr. Matsumoto recommended certain competitive safeguards to protect against anti-competitive behavior. He indicated that Duke Energy Indiana’s SmartGrid Initiative may allow the Company to offer communications services, and therefore competitive safeguards may be required. Mr. Matsumoto stated that such competitive safeguards could include: (1) divestiture of communications operations into a separate company; (2) functional separation of communications operations; or (3) separate books, records and accounts and a cost allocation methodology. Mr. Matsumoto specifically recommended that, at a minimum, the third method

---

<sup>1</sup> The ARRA, among other things, expanded the scope of federal matching grants for smart grid initiatives, and funded such grants.

be implemented with respect to Duke Energy Indiana's SmartGrid Initiative. *See* ITA Ex. 1 (Matsumoto Direct).

**(3) Duke Energy Indiana Rebuttal Testimony.** In his rebuttal testimony Mr. Arnold addressed the issues raised by Mr. Keen regarding Duke Energy Indiana's SmartGrid vision, deployment schedule, customer pilots and questions relating to the Company's proposed communications infrastructure. Petitioner's Ex. N (Arnold Rebuttal). Mr. Arnold explained that in order for the Company and its customers to be able to take advantage of the next generation of energy-related services, Duke Energy Indiana must upgrade all portions of its electric grid and the IT systems necessary for coordinating the new types of data the Company will be receiving from the various end points. *Id.* According to Mr. Arnold, the SmartGrid Initiative is a first big step toward a cleaner, more efficient, more reliable and more robust energy system. *Id.*

Mr. Arnold testified that the Company's vision of a smart grid is comprehensive, encompassing not just AMI, but also the communications network, IT infrastructure and distribution automation equipment necessary to guarantee full functionality. *Id.* at 3. Mr. Arnold explained that the Company has begun work on a Customer Prototype Lab, which will be staffed by experienced customer service representatives with special training on, and actual participation in, new SmartGrid-enabled options. *Id.* at 5. Mr. Arnold then addressed the OUCC's concern that the SmartGrid Initiative lacked detail and planning by referring to the SmartGrid project management playbook and design basis for the first phase of smart grid deployment in Ohio, which will be adapted and used in Indiana. *Id.* at 9. Mr. Arnold explained the Company's belief that it does not make good sense to have a detailed plan for the entire scope of its Initiative since this would limit the Company's opportunities to learn from each phase of deployment. *Id.* Mr. Arnold stated that the Company's proposal did not differ too greatly from the phased approach advocated by the OUCC. *Id.*

Mr. Arnold further explained that the Company was proposing to deploy its SmartGrid Initiative over a five-year timeline, with what the Company considers to be the foundational infrastructure for a smart grid installed as detailed in the Model. *Id.* at 9-10. As the technology is deployed, Mr. Arnold stated, the behind-the-meter services and associated equipment and pricing options are the next phase in the Company's approach, relying on the foundational infrastructure of the proposed Initiative. *Id.* at 10. Given the OUCC's interest in a phased approach, he also committed to easing into the deployment schedule, beginning with the installation of approximately 2000 meters per week, and then ramping up to full deployment after nine months. *Id.* However, Mr. Arnold was clear that a full-scale, but phased deployment is necessary and appropriate at this time in order for Duke Energy Indiana to take advantage of volume discounts on equipment and to gain momentum and efficiency in rolling out the equipment. *Id.* He explained that the new customer options enabled by the SmartGrid Initiative are exactly the types of offerings the Company plans to pilot and test through its Customer Prototype Lab prior to widespread deployment. *Id.* at 10-11. Mr. Arnold testified that there is simply no need for Duke Energy Indiana to engage in basic limited pilot programs to test and evaluate smart meters, distribution automation, or the two-way communications infrastructure – that has already been done by the Company and others. *Id.* at 10.

Mr. Arnold testified that Duke Energy Indiana was willing to provide the Commission and the OUCC with regular progress reports as part of its rider proceedings, as well as quarterly

operational and implementation filings through 2010. *Id.* at 11. He also agreed to engage in collaborative discussions with the OUCC and other interested parties. *Id.* Mr. Arnold explained that the Company would include the following information in its filings and discussions: (1) when complete, the program management office playbook for Indiana; (2) when complete, the design basis document for Indiana; (3) projected deployment and implementation plans for the current year, including applicable design requirements, performance goals, metrics and milestones; (4) review of the previous year's smart grid costs, benefits achieved and system performance levels; (5) review of deployment lessons learned; and (6) a high level overview of the following year's plan and any associated costs and other details to the extent available. *Id.* at 11-12.

Mr. Arnold also testified that the Company was open to collaborating on the details of its proposed renewable distributed generation proposal. *Id.* at 13. He explained that the Company is very interested in exploring not only how smart grid technology can improve system reliability and efficiency, and allow customers to use energy more efficiently, but also how smart grid technology can be employed to make better use of potential distributed renewable generation resources on a "mass" scale – such as rooftop solar installations. *Id.* at 13-14.

Mr. Donald H. Denton, III, General Manager for Smart Grid Implementation, Strategy and Planning, provided additional responsive testimony to Mr. Keen's suggestion that the SmartGrid Initiative is premature and less than fully developed. Petitioner's Ex. O (Denton Rebuttal). Mr. Denton explained that Duke Energy Indiana plans to follow the deployment approach developed by Duke Energy Ohio, which received approval of its SmartGrid proposal in December 2008. *Id.* at 3. He stated that his team is responsible for SmartGrid planning and implementation in both Ohio and Indiana and to that end, has put together the Program Management Office ("PMO") Playbook to govern the entire Initiative, as well as a Design Basis Document for the first phase of deployment in Ohio. *Id.* The PMO Playbook basically describes how the Company plans to implement SmartGrid and manage the day-to-day project activities associated with the project. *Id.* at 3-4. He also explained that the Design Basis Document sets forth the criteria, functional requirements, standards and assumptions for the design of SmartGrid, and provides the design basis for the first phase of deployment in Ohio. *Id.* at 5. He went on to note that each phase of deployment (approximately one year) will have its own Design Basis Document, which is intended to be used in tandem with the PMO Playbook to ensure proper implementation and integration of each new project with Duke Energy's existing infrastructure. *Id.*

Mr. Denton then explained why Duke Energy had decided to break its Ohio SmartGrid deployment into phases – first, to balance the need to achieve a level of scale with vendors with the changing nature of the technology and second, to apply the lessons learned and improvement opportunities identified to the next phase of deployment. *Id.* at 6-7. Mr. Denton testified that the deployment planning for Indiana would follow the same phased approach as in Ohio and he confirmed that the Company was willing to share its planning documents with the Commission and the OUCC when those documents are complete. *Id.*

Mr. Adcock explained that a line loss study, as recommended by Mr. Keen, is an analysis to determine the amount of energy "lost" or "spent" to transfer energy from point A (generator) to point B (end use customer meter). Petitioner's Ex. R (Adcock Rebuttal) at 2.

According to Mr. Adcock, such losses are caused by impedance or resistance found in system components. *Id.* Mr. Adcock further explained that Duke Energy Indiana's deployment plans for distribution automation projects were not based on impedance or losses, but were based on system reliability performance. *Id.* at 2. Poorer performing substations and corresponding distribution circuits will be targeted first. According to Mr. Adcock, reliability performance is driven by customer density and number of outages, not by line losses. *Id.* at 3.

Mr. Kiergan testified that the accuracy of the SmartGrid Model and the representation of what benefits will be enjoyed by customers are not affected by treating all benefits the same – primarily because there are not benefits that accrue only to the utility. Petitioner's Ex. P (Kiergan Rebuttal) at 2. Rather, Mr. Kiergan noted, the benefits labeled as "utility" benefits in the model will ultimately accrue to the benefit of all customers. *Id.* at 2-3. Mr. Kiergan also testified that the SmartGrid Model does not exclusively rely on hard-to-quantify benefits for project justification. *Id.* at 5. He stated that the Model relies on a combination of quantifiable operational benefits, quantifiable customer and societal benefits, and harder to quantify qualitatively described customer and societal benefits to justify the Initiative. *Id.* This combination of benefits, Mr. Kiergan explained, has been used in smart grid filings around the country and is supported by various Electric Power Research Institute ("EPRI") reports. *Id.* at 5-6.

Mr. Kiergan then testified regarding why the Company did not include benefits to customers from time-differentiated pricing options, as noted by Mr. Satchwell. Mr. Kiergan testified that Duke Energy Indiana's SmartGrid proposal evaluates smart grid primarily as the infrastructure deployment of a smart grid system; i.e. the infrastructure of a system that ultimately will enable customer programs and energy efficiency benefits. *Id.* at 8. He explained that as modeled, the SmartGrid Initiative stops at the meter and does not include in-home or beyond-the-meter equipment, though this type of equipment and the associated programs are clearly anticipated. *Id.*

Duke Energy Indiana also confirmed in rebuttal that any federal funding obtained by the Company would be factored into the proposed ratemaking, and that customers would receive the benefit. However, because the funding decisions have not been made, it is premature to determine precisely how such potential funds would flow through to customers. In response to Kroger, the Company stated that it did not believe waiting for final federal funding would be a reasonable course of action, because the federal stimulus funds will likely be awarded to those entities that are ready to act. Delay could thus hurt the Company's chances for obtaining federal funds. *See* Petitioner's Ex. Q (Freeman Rebuttal) at 15-16.

In response to ITA's anti-competitive concerns, Mr. Arnold indicated that the proposed "safeguards" recommended by ITA are totally unnecessary. Petitioner's Ex. N (Arnold Rebuttal) at 18. Mr. Arnold reiterated that Duke Energy Indiana has no intention of using this smart grid equipment to offer competitive retail communications services to the public. *Id.* Although in this dynamically changing technological area, the Company is not willing to state that such equipment will never be put to such use. *Id.* at 19. Mr. Arnold emphasized that if in the future Duke Energy Indiana did intend to use the equipment for competitive retail communications services purposes, the Company would come back to the Commission for any necessary

certifications. The issues raised by the ITA could be dealt with at that time, rather than by spending time, effort and expense now to address a situation that may never develop. *Id.*

**(4) Settlement Agreement Provisions Relating to Proposed Deployment of SmartGrid Technology and Distributed Renewable Generation Demonstration Project.** The Settlement Agreement provides for full deployment of the smart grid technology initially proposed by the Company, at an estimated capital cost of \$445 million, which includes the renewable distributed generation initiative, but on a somewhat slower deployment schedule, and a slower ramp up to full deployment. Petitioner's Ex. V (Arnold Settlement) at 4. As contemplated by the Settlement Agreement, this will allow time for the Company and interested parties to review the results prior to full-scale deployment. With the modifications to deployment called for in the Settlement Agreement, Mr. Kiergan testified that the overall twenty-year net present value for the SmartGrid Initiative, including customer and societal benefits, is estimated to be approximately \$416 million. Petitioner's Ex. X-1 (Exhibit to Kiergan Settlement) at 44.

More specifically, the Settlement Agreement calls for an initial deployment rate of approximately 500 meters per week through the first quarter of deployment; deployment of approximately 2000 meters per week from the second through the fourth quarters; and a ramp-up to the Company's initial proposed deployment rate of approximately 6800 meters per week approximately 12 months after beginning deployment. Petitioner's Ex. V at 5. Deployment will be monitored by a "Deployment Collaborative," including the Company, the OUCC, and other interested Settling Parties. This Deployment Collaborative will meet quarterly, and the Company will provide updates on deployment progress at those meetings. The Company will retain ultimate decisionmaking with regard to deployment decisions, however, subject to Commission oversight and direction. *Id.* at 6-7. The Company will make quarterly operational and implementation filings with the Commission, outlining the progress of pilot programs and full-scale deployments, including information about budgetary expenditures, milestones met, performance metric data analysis, and any other reasonable request for information made by the Deployment Collaborative parties or the Commission. *Id.* Mr. Arnold emphasized in his testimony at the evidentiary hearing that Commission Staff was welcome to participate in any of the collaboratives.

The deployment schedule for the distribution automation is to remain as initially proposed by the Company – approximately 20% per year for five years. *Id.* at 6. The deployment schedule for the IT infrastructure will also remain as initially proposed by the Company, and the communications network will be deployed in parallel with the distribution automation and meter deployment levels. *Id.* As the Company explained in its rebuttal testimony, new "smarter" meters are being installed for large customers through a merger initiative, and are not included in this SmartGrid proposal. Petitioner's Ex. N (Arnold Rebuttal) at 18. However, the Settlement Agreement provides that if these meters are not capable of performing all the functionality of "smart meters," the meters may be replaced and the Company may seek to include those costs in the SmartGrid Rider, subject to the Rider Caps. Petitioner's Ex. V-1 (Settlement Agreement attached as Exhibit to Arnold Settlement) at 15.

As Mr. Arnold explained at the Evidentiary Hearing he believes that the slower ramp up, combined with the ongoing quarterly meetings and quarterly filed updates, plus the annual

docketed Rider proceedings called for in the Settlement Agreement, will provide adequate opportunity for the Commission, the settling parties (and in the case of the docketed proceeding, any intervening party) to review initial results and raise any concerns before deployment is at full force.

According to Mr. Arnold, the Company has committed in the Settlement Agreement to make reasonable and good faith efforts to seek federal stimulus funds under the ARRA for its SmartGrid Initiative proposal and its renewable distributed generation initiative, to reduce costs to customers. Petitioner's Ex. V, at 10. The retail jurisdictional portion of any stimulus funds received, net of any costs to comply with ARRA rules and regulations, will be applied for the benefit of customers through the ratemaking process. *Id.* The Company will discuss precisely how any such stimulus funds received should be treated with the Deployment Collaborative. The Company may use stimulus funds to accelerate its SmartGrid deployment, if such acceleration is encouraged or mandated by the federal government (subject to the SmartGrid Rider Caps). *Id.* at 10-11.

**B. Future Functionality/Pricing Options.**

**(1) Initial Company Proposals.**

In his direct testimony, Mr. Theodore Schultz, Vice President – Energy Efficiency, described the Company's energy efficiency vision and how implementation of SmartGrid will enable Duke Energy Indiana to achieve this vision. Petitioner's Ex. G (Schultz Direct). Mr. Schultz stated that the Company envisions a future where energy efficiency products and services are part of a utility's standard offer to customers; customers would have to opt out of energy efficiency programs, not opt in, and customers would have to take action to avoid being energy efficient. *Id.* at 3.

Mr. Schultz testified that with the deployment of sensing, control and two-way communications technology envisioned within the SmartGrid Initiative, the Company will have the ability to design, manage and offer innovative energy conservation and demand response programs to its customers, such as (1) programs to control more appliances (e.g., personal computers, water heaters, and pool pumps); (2) the ability to ensure reliability of appliance usage via two-way communication feedback between the utility and the appliances; (3) the ability to allow customers to choose the appliances, days, and hours of participation; (4) the ability to enable more precise quantification of the risk and reliability of demand-side resources; (5) improved reliability of the measurement and verification of impacts from these programs through hourly meter data; (6) improved ability to estimate future program impacts which, in turn, improves the resource planning process; (7) increased number and flexibility of energy efficiency or energy management program offerings and options, thereby increasing the achievable market penetration and adoption of more efficient energy management practices; (8) increased ability of the Company to customize energy management and appliance cycling for each customer; and (9) enhanced customer satisfaction through the offering of more choices to customers, in the face of potential rising energy costs. *Id.* at 8-9.

Mr. Schulz clarified that the costs and benefits of increased energy efficiency enabled by a smart grid will flow through the Company's energy efficiency programs and were therefore

excluded from the SmartGrid cost/benefit analysis. *Id.* at 9-10. This would include costs of any devices inside the home that enable energy efficiency such as smart thermostats, smart appliance chips, *etc.*, which would be energy efficiency costs covered by the Company under save-a-watt (Cause No. 43374). *Id.* The SmartGrid Initiative includes the infrastructure costs up to and including the meter. *Id.*

In her direct testimony, Ms. Retha Hunsicker, Director of Enterprise Customer Systems, provided further details of the potential for increased customer satisfaction and new customer service offerings that would be enabled under the SmartGrid Initiative. Petitioner's Ex. F (Hunsicker Direct). She stated that the new automated meter readings enabled by SmartGrid would improve the accuracy of customers' bills and provide more detailed daily energy usage information. *Id.* at 3-4. The ability to review data on a daily basis would enable customers to be more confident about the billing information. *Id.* In addition, with the automated meters, the Company would know sooner when meters are not working or functioning properly; thereby allowing for repairs to minimize the impact on a customer's bill. *Id.* Other customer service billing offerings would include prepaid metering to eliminate the need for a security deposit, as well as the ability to evaluate shorter term billing periods (such as weekly or bi-weekly) tied to direct debit from a customer's banking account. *Id.* at 5.

Ms. Hunsicker testified that with intelligent meters and new communication capabilities, the Company would know that a customer's service is out before the customer, which would allow the Company to notify the customers, determine the cause of outages sooner, and enable the Company to restore service faster than it does today. *Id.* Ms. Hunsicker also stated that customers would have options to receive communications from the Company through their preferred method, such as text messages, email, outbound Interactive Voice Response messages, or in-home digital display devices. *Id.* This proactive notification would allow a customer time to activate back-up plans and better manage their situation. *Id.* at 6. Finally, Ms. Hunsicker discussed the ability for remote disconnect and reconnects, which would provide more flexibility for the customers as well as the Company. *Id.*

Ms. Hunsicker also requested that the Commission allow a limited waiver of its rules requiring an on-site physical presence for disconnection of service to customers so that the Company could utilize the full capability of smart grid technology to achieve such disconnections remotely (with notice of disconnection being provided to affected customers via alternative remote means). *Id.* at 7.

**(2) Testimony Presented by the OUC and Intervenors' and Petitioner Rebuttal.** OUC Witness Ronald Keen testified that he believes that the Petitioner's SmartGrid proposal was premature as no timelines had been provided to determine when consumers could expect to take advantage of the benefits of a fully deployed smart grid. Public's Ex. 1 (Keen Direct) at 16-17. In addition to recommending a phased approach to deployment, Mr. Keen recommended the use of pilot programs to test and evaluate technology as well as significant policy and operation changes which may be deployed or implemented – such as time-of-use rate offerings, dynamic pricing, energy usage data availability to customers, and renewable energy generation development. *Id.* at 10. The OUC recommended that the Company engage in a collaborative effort with the OUC and other interested parties to develop a twelve-month pilot

program to deploy and test time-differentiated/dynamic pricing rate options prior to full-scale deployment. *Id.* at 36.

Wal-Mart Witness Kenneth Baker provided similar testimony, stating that Petitioner's proposal lacked a dynamic pricing scheme that would enable customers to receive some of the major potential benefits expected from SmartGrid. Wal-Mart Ex. KB (Baker Direct) at 10. Mr. Baker also encouraged a collaborative approach to address dynamic pricing. *Id.*

CAC Witness Grant Smith expressed concern that Petitioner's SmartGrid proposal did not do enough to promote renewable resources and efficiency. CAC Ex. A (Smith Direct) at 18. He testified that the Commission needed 'smart' policies to reflect the intent of the smart grid, which should include substantially reducing the reliance of base-load power and reduced centralization of the grid through distributed power, including mass deployment of renewables (in particular solar technology). Mr. Smith also advocated strong government oversight of the transmission and distribution system with proper safeguards in place to protect of consumers, since it appears that only the ratepayer/taxpayer resources are significant enough to support a comprehensive continent-wide system. In addition, Mr. Smith recommended deploying storage technology to allow for saturating the grid with renewables (plug-in hybrids, electric cars, stationary battery storage). Mr. Smith also advocated aggressive and comprehensive deployment of end-use energy efficiency to maximize benefits of smart grid functionality.

As part of the creation of these 'smart' policies, Mr. Smith testified that it is important to make sure traditional goals of energy policy are not ignored or forgotten. Most importantly, he indicated that the Commission should make sure that: reliable and adequate service is provided to retail customers; affordability and universal service is not compromised; utility investments are required to be prudent and lowest reasonable cost to ensure reliable and adequate service; utilities should not be allowed to "gold plate" or rapidly build-up rate base unless the benefits outweigh the costs; deployment of new technology is not made on a rushed schedule which deploys the technology before customers have the resources and programs that allow them to take advantage of the benefits; and customers are not forced to invest in technology which will become obsolete, outdated, or incompatible with other systems.

In rebuttal testimony, Mr. Casey Mather, Director of Mass Market Strategy and Market Plans, testified that it has always been the Company's intent to test and ultimately deploy time-differentiated pricing options in conjunction with the SmartGrid Initiative. Petitioner's Ex. S (Mather Rebuttal) at 2. He explained that the Company was proceeding down the path of getting approvals for the technology deployment first, rather than proposing specific SmartGrid-enabled rate options at this point; and agreed that utilizing time-differentiated pricing options is necessary and appropriate. *Id.* Mr. Mather also agreed that the Company and interested parties should participate in a collaborative effort to design experimental time-differentiated/dynamic pricing options to be used in conjunction with its SmartGrid equipment. *Id.* Mr. Mather proposed that the interested parties meet to begin collaborative discussion on this topic within 30 days of an order in this proceeding, with a goal of completing such discussions and submitting a proposal to the Commission for various experimental time-differentiated/dynamic pricing options by the end of the year. *Id.*

Mr. Mather explained the experimental pricing options the Company would anticipate putting in place. He testified that for residential customers they would test several combinations of variables, such as tiered/time-of-use pricing options, fixed critical peak pricing rates, variable critical peak pricing rates, peak-time reduction incentives, flat kWh rate structures, and residential energy management systems. In addition, the Company would test various offers that would provide customers with information about their hourly usage, as well as testing a rate for the provision of "smart charging" for plug-in electric vehicles. *Id.* at 3. For small to medium-sized business customers, Mr. Mather identified similar combinations of variables for testing, such as tiered/time-of-use pricing options; fixed and/or critical peak pricing rates; peak time reduction incentives; energy management systems; and hourly usage information offers. *Id.* Mr. Mather testified that for large business customers they would consider real-time pricing, or critical peak pricing as a complement to the Company's existing time-of-use offers. *Id.* Mr. Mather further testified that all offers would be designed with the goal of achieving revenue neutrality for each rate class and constructed around sound economics and planning criteria. *Id.*

Mr. Mather stated that the Company's goal would be to work with the collaborative group to produce pricing options that better promote conservation and demand response, customer satisfaction, customer convenience and comfort, and usability. *Id.* at 4. In addition, the Company would work with the collaborative group to develop measurement methods for these goals. *Id.*

**(3) Settlement Agreement Provisions Relating to Future Functionality and Pricing Pilots.** The Settlement Agreement provides for the collaborative development of several pilot programs, in order to pave the way for full utilization of the functionality of a smart grid. The Settling Parties recognize that all of these pilots will be subject to Commission review and approval, and further, that moving forward with the pilots is also subject to cost recovery acceptable to the Company. These pilot programs are discussed in greater detail below.

First, the Settlement Agreement contemplates the creation of a Renewable Distributed Generation Initiative/Pilot Program, similar to the \$10 million distributed renewable generation demonstration project initially proposed by the Company, but with details to be decided by the Deployment Collaborative or a sub-group thereof. Petitioner's Ex. V (Arnold Settlement) at 8. Goals of this pilot/initiative include testing the deployment of customer-owned renewable installations on customer-owned premises, as well as increasing the amount of customer-owned renewable generation connected to the Company's distribution system. *Id.* at 8-9. The Company has agreed to submit any proposed leases and lease terms associated with leasing customer premises to the Commission for its review. Petitioner's Ex. V-1 (Exhibit to Arnold Settlement) at 5. The Deployment Collaborative will also discuss the possibility of changes to the Company's net metering tariff, and the possibility of piloting a "feed-in" tariff. Petitioner's Ex. V, at 9. Discussions are to begin no later than 30 days after an Order in this proceeding (assuming the Commission approves the Settlement Agreement). The Settlement Agreement provides that costs for the Renewable Distributed Generation Initiative will be deferred, with carrying costs, for subsequent recovery via the SmartGrid Rider. The Settling Parties also agreed that the Commission should decline to exercise its full CPCN jurisdiction over this initiative and Duke Energy Indiana committed not to use this declination of CPCN jurisdiction to avoid coming back to the Commission for a wider-scale deployment of Company-owned renewable resources in the future. *Id.* at 8-9.

Next, the Settlement Agreement calls for the development of several time-differentiated pricing pilot offerings. Specifically, the Agreement provides that the Company, the OUCC, and other interested Settling Parties will work in a “Pilots Collaborative” to develop several pricing and other pilot programs. Petitioner’s Ex. W (Mather Settlement) at 2. One area this Pilots Collaborative will address is the development of time-differentiated pricing and bill information offers for residential and small commercial customers. This collaborative group will develop detailed pricing offerings, including number of pilots, number of participating customers, marketing pilot offers, development of rates, length of pilots, etc., with discussions to begin no later than 30 days after the Order in this proceeding. *Id.* at 2-5. A second area the Pilots Collaborative will address is the development of time-differentiated pricing options for larger commercial and industrial customers (customers over 500 kW) – detailed pricing offerings, including number of pilots, number of participants, marketing of pilot offers, development of rates, length of pilots, cost recovery issues, etc. Discussions among this group will also begin within 30 days of the Order in this proceeding. *Id.* at 2, 6. A third area the Pilots Collaborative will explore is the potential of a “home area network” or “HAN” pilot, including the testing of pricing options, along with a full range of appliances in association with residential energy management systems. *Id.* at 7. Finally, the Pilots Collaborative group will explore the idea of a plug-in hybrid electric vehicle/electric vehicle pilot project. *Id.* at 2.

At the Evidentiary Hearing, Mr. Arnold explained that it was the Settling Parties’ view that, following IURC approval and implementation of a pilot, the Commission would still need to approve any major modifications to the pilot program – for example, modifications that impact rates, or overall cost of the initiative, or that modify the Company’s tariff. However, with regard to minor modifications that do not impact rates or tariffs or overall initiative costs, if the Commission is comfortable, the parties would like to be able to make such minor modifications without seeking Commission approval. In that case, the Settling Parties were hopeful that such minor changes could be made solely by unanimous consent by the collaborative group, which would ease administration of the pilots.

**C. Proposed Ratemaking and Accounting.**

**(1) Proposed Ratemaking Mechanisms for Timely Recovery of Costs.**

**(a) Initial Company Proposals.** The Company initially proposed two alternative ratemaking mechanisms for the Commission’s consideration: (1) a Distribution Formula Rate mechanism, whereby the Company’s distribution rates would be updated annually to reflect changes in distribution utility plant-in-service, accrued depreciation, increases and decreases in distribution-related operation and maintenance expenses, and changes in distribution-related revenues (including revenues from load growth); and alternatively, (2) a SmartGrid Rider, which would track and recover costs and certain savings associated with the deployment of smart grid technology, including capital costs associated with new plant in service, depreciation expenses associated with the smart grid investments, and SmartGrid-related operation and maintenance expenses, and SmartGrid-related meter reading expense savings. In conjunction with both of these ratemaking mechanisms, the Company proposed that the Commission authorize it to defer such costs (financing, depreciation and O&M) and savings on an interim basis, until such costs

and/or savings are reflected in rates through one of these ratemaking mechanisms. Additionally, in conjunction with the SmartGrid Rider alternative, the Company initially proposed that the Commission approve recovery of "lost revenues" (the lost contribution to fixed cost recovery) associated with its proposed voltage reduction strategy. And in conjunction with both of these alternative ratemaking mechanisms, the Company initially proposed that the Commission approve updated distribution system depreciation rates, based on a recent updated depreciation study (which would produce an overall decrease in distribution system depreciation expense), as well as the creation of a regulatory asset for the subsequent recovery of undepreciated existing meter-related costs, so that the costs of such replaced meters could be recovered over their longer original estimated remaining life (approximately 20-years) rather than being recovered on an accelerated basis, as GAAP rules would otherwise require in the absence of a regulatory asset. The Company also proposed that its fuel adjustment clause ("FAC") net operating income be adjusted to reflect the impact of additional SmartGrid or distribution related capital investments.

Additionally, the Company initially requested that the Commission approve a \$10 million renewable distributed generation demonstration project, to test the deployment and integration of small Company-owned solar and/or wind distributed generation projects on customer premises with smart grid technology, and requested that the Commission decline to exercise its full CPCN jurisdiction with respect to this \$10 million demonstration project while approving recovery of the demonstration project costs via either the Distribution Formula rate or the SmartGrid Rider.

**(i) Distribution Formula Rate Proposal.** As mentioned above, the Company initially requested approval of a "formula rate" mechanism that would allow for reasonably timely recovery of the costs associated with its SmartGrid Initiative; this proposed ratemaking mechanism would also allow for annual updates to the overall distribution component of retail rates so as to reflect changes in its distribution system revenue requirements. As Company witness Kent K. Freeman explained, a "formula rate" is a rate that is updated periodically (for example, annually) based on certain prescribed and pre-defined inputs, such as audited FERC Form 1 data. This distribution formula rate mechanism would reflect changes in net distribution plant in service, updated depreciation expense related to distribution plant, increased or decreased distribution operation and maintenance costs, and updates to reflect distribution-related changes in load growth. Petitioner's Ex. K (Freeman Direct) at 2-3. The purpose of a formula rate is to allow changes in the utility's costs and revenues to be reflected in rates on a more frequent and timely basis, without the full administrative burdens, increased time and costs involved with a full blown rate case. Under the Company's proposal, the formula rate change would be subject to Commission review and approval after a hearing process. *Id.* at 13-19.

The Company's proposed distribution formula rate mechanism would allow for annual changes to Duke Energy Indiana's distribution rates to reflect changes in its distribution system costs and revenues, based on all the "direct" distribution FERC accounts – specifically, net investment in utility distribution plant, distribution system expenses including customer account expenses, customer service and informational expenses, sales expense, distribution depreciation expenses, and payroll and property-related taxes. Included within these investment and expense accounts would be the costs and benefits of the Company's SmartGrid Initiative, plus any specific SmartGrid-related investments that are not included in those specific distribution accounts (including the costs of the distributed renewable generation demonstration project). Excluded from the Company's proposal for simplicity's sake were general and intangible plant

accounts, as well as administration and general expenses. In its proposed formula rate mechanism, the Company proposed to utilize actual historical FERC Form 1 data -- plant-in-service capital cost balances, operation and maintenance expenses, capital structure, and cost of debt -- along with the then-current return on common equity approved by the Commission in the Company's most recent general retail electric rate case. The Company did not propose an explicit "lost revenue" recovery mechanism in conjunction with the distribution formula rate proposal, because formula rates implicitly result in making the utility economically indifferent to decreases in kWh sales (by virtue of the fact that formula rates update both fixed costs and load growth revenues). Although the Company's formula rate proposal in this case pertained only to the distribution system, the Company nevertheless chose not to include a "lost revenue" recovery component, because the distribution formula rate mechanism partially solves the "lost revenue" problem. *Id.* at 13-19.

**(ii) Initial SmartGrid Rider Proposal.** As an alternative to a distribution formula rate, the Company also proposed a SmartGrid Rider mechanism, which would track and recover the capital and O&M cost increases and decreases associated with the SmartGrid Initiative, as well as provide for the recovery of "lost revenues" (the lost fixed cost recovery) anticipated to result from implementation across all hours (instead of just at peak demand times) of a proposed voltage reduction strategy (made possible by smart grid technology). (This request for recovery of "lost revenues" is discussed in greater detail below.) *Id.* at 3, 12-13.

The Company's alternative proposed SmartGrid Rider would function more like a traditional cost tracking mechanism, and would allow the Company to recover the costs associated with the SmartGrid Initiative, net of SmartGrid-related meter reading savings. The costs that would be included and recovered through the Rider would include direct distribution investment costs, any IT hardware or software or communication equipment costs, changes in certain O&M accounts, incremental depreciation expense, incremental property taxes, and costs associated with the proposed distributed renewable generation demonstration project. Consistent with the operation of the Company's environmental compliance cost recovery riders, the return on common equity used in the SmartGrid Rider would be the then-current return on equity authorized by the Commission, but the capital structure and the cost of debt would be updated with each SmartGrid Rider filing. Also consistent with the operation of the environmental compliance cost recovery riders, the Company proposed to use estimated amounts for O&M, depreciation and property taxes and then true-up these amounts to actual in subsequent Rider filings. Contrary to the environmental riders though, for the SmartGrid Rider the Company proposed to use actual historical plant-in-service balances, rather than requesting construction-work-in-progress ratemaking treatment for its SmartGrid investments. *Id.* at 22-27.

The Company proposed to allocate the revenue requirement developed for the SmartGrid Rider between retail/wholesale based on the Separation Study from Cause No. 42359 and then to the rate groups based on their contribution to the direct distribution revenue requirement developed in the Company's last retail base rate case. Because Rate HLF customers' rates vary based on service voltage and this impacts the distribution revenue requirement, the Company further proposed to separate Rate HLF by the service voltage. *Id.* at 25-26.

The Company proposed to collect the charge on a per kWh basis for all classes other than Rate HLF. For Rate HLF customers, the charge would be collected on a per non-coincidental

kW demand basis. According to Mr. Freeman, this methodology is consistent with the treatment included in the Company's environmental compliance cost filings. *Id.* at 26.

As mentioned previously, the Company proposed to increase the allowed net operating income with the incremental net operating income from this SmartGrid Rider. This treatment is also consistent with the methodology approved for the incremental net operating income for Qualified Pollution Control Property included in the Company's semi-annual environmental filings. *Id.* at 26.

The estimated rate impact associated with implementation of the proposed SmartGrid Rider is approximately 4% over five years. *Id.* at 27; *see also* Petitioner's Ex. K-7 (Exhibit to Freeman Direct) at 4.

With regard to the timing of SmartGrid Rider proceedings, the Company proposed that calendar year data generally be used for the annual filings and that Rider filings be made by approximately April 1 of each year, using the prior year's data. The proposed effective date for the new rider rates would be approximately July 1. Petitioner's Ex. K at 27; *see also* Petitioner's Ex. M (Freeman Supplemental Direct) at 9; and Petitioner's Ex. Q (Freeman Rebuttal) at 7-8.

**(iii) Duke Energy Indiana's Policy Rationales for the Distribution Formula Rate and the SmartGrid Rider Mechanisms.** The Company offered several policy rationales in support of timely recovery of its SmartGrid Initiative costs, whether such recovery took place through the proposed distribution formula rate or through the alternative SmartGrid Rider. First, the Company offered its opinion that that the Company's SmartGrid Initiative, and the requested ratemaking treatment, is consistent with both federal and state policy objectives. For example, in 2007, the U.S. Congress enacted the Energy Independence and Security Act,<sup>2</sup> which articulates a federal policy to modernize the nation's electric utility distribution systems through the use of smart grid technology.<sup>3</sup> One section of that Act directs states to consider requiring investments in smart grid technology<sup>4</sup>; another section directs states to consider authorizing recovery of smart grid costs through rates<sup>5</sup>; and another section directs states to consider authorizing utilities to recover the remaining book value costs of any equipment rendered obsolete by the deployment of smart grid technology based on the remaining depreciable life of such obsolete equipment.<sup>6</sup> In addition, a recent change in federal law allows for the acceleration of depreciation expense deductions relating to smart grid equipment when calculating federal income taxes for tax return purposes.<sup>7</sup> Duke Energy Indiana also offered its view that its proposed SmartGrid Initiative is consistent with Indiana's "Home Grown" Energy Policy, which is very focused on investments in new technology, investments in effective energy efficiency, creative and innovative pricing programs for customers, and investments in renewable and distributed generation. In the

---

<sup>2</sup> P.L. 110-140, H.R. 6.

<sup>3</sup> *See* section 1301.

<sup>4</sup> *See* section 1307(A).

<sup>5</sup> *See* section 1307(B).

<sup>6</sup> *See* section 1307(C).

<sup>7</sup> *See* section 306 of the 2008 Emergency Economic Stabilization Act. *See also* Petitioner's Ex. M and M-1 (supplemental testimony and exhibit of Freeman). As Mr. Freeman's supplemental testimony explains, this authorization to accelerate depreciation for smart grid equipment for tax purposes will benefit the Company's customers, through an increase in deferred taxes that will be reflected in the Company's capital structure used to set rates. *See* Petitioner's Ex. M, at 5-6.

Company's view, all of these policy goals will be furthered by the SmartGrid Initiative. *See* Petitioner's Ex. K, at 3-5.

Second, Mr. Freeman emphasized that timely recovery of SmartGrid costs is important to the Company and is consistent with good regulatory policy. The SmartGrid Initiative will be a capital intensive endeavor – approximately \$435 million (plus \$10 million for the renewable demonstration generation project) over an approximately 5-year period. This significant capital investment will be made at the same time that the Company is facing other significant capital investment needs, for new generation, environmental compliance, increased energy efficiency, ongoing investments in transmission, distribution, and production facilities, and general inflationary pressures. Even before making this proposed SmartGrid Initiative investment, the Company's current rates are not producing its authorized return on common equity of 10.5%; for example, for the 12 months ended May 31, 2008, Duke Energy Indiana's net operating income was \$69.5 million below its authorized net operating income level. Going forward, without constructive regulatory relief, "regulatory lag" – the fact that existing rates do not reflect the costs of new plant placed in service or new and inflationary cost increases – will put further downward pressure on the Company's ability to earn its authorized rate of return. In Mr. Freeman's view, the proposed formula rate or rider mechanism will give the Company the opportunity to recover its reasonable and prudent costs of providing service to customers on a more timely basis, and will afford the Company more of a real opportunity to earn its authorized return. *See* Petitioner's Ex. K, at 5-6; 8.

Additionally, Mr. Freeman pointed out that a distribution formula rate or a rider is better suited to achieve timely cost recovery of smart grid investments than is a general rate case. Mr. Freeman pointed out that general rate cases are not the optimal way to try and timely recover costs such as the proposed SmartGrid Initiative costs. Not only are general rate cases time-consuming and administratively costly, they are typically based largely on historical costs, such that once new rates are approved, they are already "out of date." Moreover, given the test year and cut-off date conventions of general rate cases, coupled with Indiana's "anti-pancaking" (the "15-month") rule, rate cases simply cannot accommodate staggered investments such as SmartGrid investments. Unlike a generating plant, which goes into service on a single, discrete day, these SmartGrid investments will be placed into service on a continually staggered basis over a 5-year period. As Mr. Freeman noted, SmartGrid presents similar ratemaking and cost recovery challenges as does an environmental compliance plan that consists of multiple, staggered investments, which argues for cost recovery outside of a rate case. A formula rate mechanism or a rider mechanism will allow for more timely recovery of costs, as the investments are placed in service and start providing benefits to customers. Such a mechanism will also permit the Company's rates to more precisely reflect the true cost of providing utility service to customers. In addition, a formula rate or rider mechanism will allow for a more gradual, smoother increase in rates to reflect these new investments, as opposed to the relatively sharp increases that can occur with general rate cases. In Mr. Freeman's view, smaller predictable annual rate increases are likely to be more manageable for customers than larger base rate increases. *See* Petitioner's Ex. K, at 6-8.

Finally, Mr. Freeman noted that Commission approval of a mechanism that will allow the Company an opportunity to recover its reasonable and prudent SmartGrid costs on a timely basis will send a positive signal to the financial community that should be supportive of the

Company's credit quality. Investors, investment advisors, and credit rating agencies all regard regulation as a key factor in assessing the financial integrity of a utility company, and one important consideration to the financial community is whether the utility has mechanisms in place that allow for the timely recovery of significant costs incurred by the utility. Maintaining Duke Energy Indiana's credit quality – and having the concomitant ability to access and attract capital on reasonable terms – is critically important given the magnitude of financing needs the Company faces for environmental compliance, new generation, and other system improvements. *See* Petitioner's Ex. K, at 9, 10.

**(b) Testimony Presented by the OUCC's and Intervenors.** Although generally supportive of the goal of deploying smart grid technology, the OUCC and several intervenors raised several specific concerns and objections to Duke Energy Indiana's initial ratemaking proposals. The OUCC's testimony reflected its belief that a special cost recovery mechanism was not necessary for the SmartGrid Initiative. Rather, in the OUCC's view, the Company should recover its costs through more traditional regulatory methods, such as periodic base rate cases, deferred depreciation, and/or post-in-service AFUDC.<sup>8</sup> Public's Ex. 3 (Eckert Direct) at 3-4. The OUCC stated that deferred accounting for depreciation expenses and post-in-service AFUDC (and for O&M including savings) could be used to bridge the gap between placing SmartGrid equipment in-service and reflecting those costs in rates through base rate cases. *Id.* at 4-6.

Moreover, the OUCC emphasized that if the Commission were to approve special ratemaking for this initiative, in its opinion, the SmartGrid Rider is a better model than the distribution formula rate proposal. *Id.* at 6. The OUCC's objections to the distribution formula rate proposal included concerns that the Company's current authorized ROE did not reflect the reduction in risk associated with a distribution formula rate; that a distribution formula rate does not provide a utility with an adequate incentive to control costs; that the distribution formula rate would have a more significant rate impact than the SmartGrid Rider; and that the distribution formula rate would be a major rate design change that would more appropriately be made in a general rate case. *Id.* at 10-11.

In addition, the OUCC expressed concern with the procedural timing of any SmartGrid Rider proceedings, and recommended a fixed interval of approximately 55 days between the Company's and the OUCC's pre-filing dates, in order to allow sufficient time for the OUCC to review books and records, conduct plant inspections, review technology demonstrations, *etc.* *Id.* at 13.

The Industrial Group (with Wal-Mart) took the position that all cost recovery should take place in the context of base rate cases, where a complete review of the utility's revenues, costs, and return on equity is undertaken. Exhibit NP (Phillips Direct) at 3. In addition, the Industrial Group argued that a distribution-only formula rate is problematic, and should be rejected, as it requires a number of assumptions and calculations, and in their view, would provide the Company a guaranteed rate of return on equity on its entire distribution system rate base. *Id.* Further, the Industrial Group argued that the SmartGrid Rider should be rejected as well, on the grounds that the Company should be responsible for making prudent system investments and

---

<sup>8</sup> Allowance for Funds Used During Construction

should not shift the risk of those investments to ratepayers; cost recovery through riders does not promote efficient utility investments; Duke Energy Indiana has too many riders already; the Company has not demonstrated that traditional base rate case does not work well; and ratemaking and appropriate price signals suffer with riders, due to out of date cost of service studies. *Id.* at 3-4.

Kroger similarly took the position that both of the Company's ratemaking proposals represent unreasonable requests for single-issue ratemaking treatment, and are not supported by any compelling public interest. Kroger Ex. 1 (Higgins Direct) at 3. Further, Kroger argued that the fact that the initiative is not cost-beneficial based on operational savings alone supports its position that it should not receive single-issue ratemaking treatment. *Id.* And, Kroger argued that a general rate case would provide a better opportunity to allocate smart grid costs on a cost-causative basis. *Id.* at 4.

CAC took the position that Duke's proposal was too accelerated, too costly, did not do enough to promote renewable resources and efficiency, and did not contain sufficient consumer protections. In addition, CAC noted that Duke's proposal would create significant customer generated information on usage that would be controlled by the company. CAC indicated that it believes customers should have greater say in how that information is used and controlled. Finally, CAC noted a need to develop rules regarding automated connections and disconnection. CAC Ex. A (Smith Direct) at 18-20.

Additionally, several parties took issue with the Company's proposed cost allocation methodology. Specifically, the Industrial Group argued that an updated wholesale/retail allocation of kWh sales should be used. Exhibit NP, at 12-13. Kroger argued that the proposed allocation method would result in an inequitable allocation of costs to larger customers, and that the Company's proposal does not sufficiently take into account incremental customer-related costs. Kroger Ex. 1 at 11.

Metering cost allocation issues were also raised. The Industrial Group argued that large customers should not be allocated smart metering costs, because for the most part, the Company is not proposing to install "smart meters" for these customers. Exhibit NP at 12-13.

**(c) Duke Energy Indiana's Rebuttal Position.** In rebuttal testimony, the Company emphasized its belief that special ratemaking treatment for its SmartGrid Initiative was both necessary and appropriate. The proposed investment is substantial, and without a reasonable opportunity to recover costs on a timely basis, the Company's cash flow and earnings will be adversely impacted by as much as \$150 million during the five-year deployment period. This earnings erosion would take place at the same time the Company is facing other substantial capital expenditures and financing needs (approximately \$3 billion for 2009 through 2011), and when the importance of maintaining a credit rating in the "A" category is even more important than it has been in the recent past.<sup>9</sup> Moreover, unlike many utility investments, the SmartGrid Initiative will involve numerous investments that will be made virtually every day of the five-year deployment period. There is simply no way to time a general rate case (or cases) to capture

---

<sup>9</sup> The current economic and credit crises have caused the spreads in financing costs between "A" rated and "BBB" rated companies to increase significantly in some cases, and access to capital markets is easier for an "A" rated company. See rebuttal testimony of Kent K. Freeman, Petitioner's Ex. Q, at 2.

these types of investments in utility rates without the utility suffering material cash flow and earnings erosion in the process, to the potential detriment of its credit quality.

The Company also pointed out that the OUCC's proposal to use deferred accounting instead of a cost recovery mechanism is constructive, but insufficient, because deferred accounting does not provide cash flow, and GAAP rules do not allow the utility to recognize in current income the equity component of the return for financial reporting purposes. The Company also emphasized that the proposed formula rate or SmartGrid Rider will result in more gradual and smoother rate increases than rate increases that typically occur in general rate cases. *See* Petitioner's Ex. Q (Freeman Rebuttal) at 2-3, 8-9.

The Company also disputed The Industrial Group's criticism that an alternative ratemaking mechanism would "guarantee" a return for the Company – as with all costs that are reflected in retail rates, the SmartGrid costs proposed to be recovered will be subject to thorough review, not automatic inclusion in rates. Similarly, the Company took issue with the OUCC's and Intervenor's positions that the distribution formula rate would eliminate the Company's incentive to control costs (utilities have a natural incentive to maintain rate competitiveness and customer and regulator satisfaction, plus the proposed formula rate incorporates one year of regulatory lag); and that the ratemaking mechanisms would reduce regulatory risk (there is no guarantee of cost recovery, simply an opportunity to recover reasonable costs on a timely basis). *Id.* at 3-6.

With respect to cost allocation methodology, the Company emphasized that the wholesale/retail allocation referenced by the Industrial Group (based on kWh sales) has no correlation to the wholesale allocation percentage actually used by the Company in this case (based on wholesale distribution plant and O&M expenses from the Company's last retail rate case). If this distribution plant and O&M allocation percentage were updated, the wholesale percent would actually decrease, although the Company is not proposing such a change here. Additionally, contrary to Kroger's contention, the proposed allocation method does take into account cost causation and account service voltage, to the benefit of larger customers. And, also contrary to Kroger's contention, customer-related costs are a component of the direct distribution revenue requirement used to allocate the SmartGrid Rider costs. Moreover, in the Company's next general rate case, an even more accurate allocation of these costs will take place. *Id.* at 10-12.

With respect to the issue of whether or not large customers should be allocated any "smart meter" costs, the Company disagreed with the Industrial Group, pointing out that the Company's proposed allocation method is reasonable, primarily because the SmartGrid Initiative will produce system benefits, such as improved outage detection and response to outages, improved reliability, eliminated or deferred capacity and energy costs, not just customer-specific benefits. All customers will benefit from these system benefits. Moreover, the Company's larger customers' meters are being replaced as a part of a separate, merger-related initiative. *Id.* at 12-13; *See also* Petitioner's Ex. R (Adcock Rebuttal) at 3-4; and Public's Ex. 5 (Satchwell Cross Reply).

**(d) Settlement Agreement Provisions Relating to Ratemaking Mechanism for Timely Recovery of Costs.** Pursuant to the terms of the Settlement Agreement, the Company withdrew its request for a distribution formula rate. Instead, the Settlement Agreement proposes Commission approval of a SmartGrid Rider, similar to the Rider initially proposed by the Company, using estimated and subsequently reconciled O&M costs (including depreciation and tax expenses) and actual historical capital investment costs, but with the following modifications. First, the Rider will become effective January 1, 2010 (upon filing with the Electricity Division, with the factors shown in Petitioner's Ex. AA-2), will be frozen as of June 30, 2016, and will terminate no later than 30 months after full deployment is completed. Second, in order to avoid sharp rate increases and give customers more certainty and predictability with regard to SmartGrid Rider costs, the Company has agreed to cap the revenue requirements allowed to be recovered via the SmartGrid Rider in each period the SmartGrid Rider is in effect. These Rider Caps are based on the revenue requirements associated with the Company's capital and O&M cost estimates presented in this proceeding, but include credits to customers for 100% of estimated meter reading savings, 100% of estimated savings for other direct operational savings, and 100% of estimated increased revenues (exclusive of meter salvage value), expected to result from the SmartGrid Initiative. However, in order to at least partially accommodate possible differences in the timing of deployment, the Company will be allowed to defer (with carrying costs) and subsequently recover any SmartGrid costs or return on SmartGrid investments from one period to another, but only if such deferral and subsequent recovery does not cause the Company to exceed the applicable Rider Caps. Moreover, the Settlement provides that the Company retains the right to argue for inclusion in rate base of capital above the levels estimated in this proceeding, in future base rate cases. The Company also retains the right to argue for a representative ongoing level of SmartGrid-related O&M costs in future rate cases.

No costs associated with a deployed smart meter are to be recovered through the Rider until two-way communications are established; similarly, no costs related to equipment associated with a specific network/circuit are to be recovered through the Rider until the equipment is energized, operational, and/or two-way communication is established where required. *See* Petitioner's Ex. AA (Freeman Settlement) at 2-6. At the evidentiary hearing, Mr. Arnold explained that the Settlement Agreement only addresses the point at which costs associated with new equipment can begin to be recovered through rates, similar to the placing of a generating unit in service. Rather than try and prescribe what a chronic or acute issue is, and what rate consequences might or might not be appropriate in the circumstance, the Settlement Agreement relies on the collaborative process, the quarterly meetings and reports, and the annual docketed Rider proceedings to deal with such potential issues.

The Settlement Agreement provides that the SmartGrid Rider costs will be allocated between Rate RS and all other customers based on new meter investment; for all other customers, the allocation between rate schedules will be based on meter cost allocations from the most recent Duke Energy Indiana retail electric rate case. *Id.* at 6-7.

The Settlement Agreement also provides that the Company should be authorized to increase its authorized net operating income for purposes of the fuel adjustment clause statute's "earnings test" to reflect the additional SmartGrid capital investments. *Id.*

**(2) Updated Depreciation Rates.**

**(a) Company's Initial Proposal.** The Company's initial proposal included a proposal for approval of updated distribution system depreciation rates. Mr. John J. Spanos, a Vice President of the Valuation and Rate Division of Gannett Fleming, Inc., sponsored a traditional depreciation study of Duke Energy Indiana's electric distribution plant as of September 30, 2007. Petitioner's Ex. J (Spanos Direct). Mr. Spanos defined depreciation as the loss in service value not restored by current maintenance, incurred in connection with the consumption or prospective retirement of utility plant in the course of service from causes which can be reasonably anticipated or contemplated, against which the Company is not protected by insurance. Among the causes to be given consideration are wear and tear, decay, action of the elements, inadequacy, obsolescence, changes in the art, changes in demand and requirements of public authorities. *Id.* at 6.

Mr. Spanos used the straight line, remaining life method of depreciation with the equal life group procedure. The annual depreciation proposed is based on a method of depreciation accounting that seeks to distribute the unrecovered cost of fixed capital assets over the estimated remaining useful life of each unit, or group of assets, in a systematic and rational manner. In preparing this depreciation study, Mr. Spanos used the Company's accounting entries that recorded plant transactions during the period 1956 through 2007. *Id.* at 8. Mr. Spanos also made field reviews of Duke Energy Indiana's property on September 2 and 3, 1999, April 17 and 18, 2002, and on February 19, 2008 to observe representative portions of plant. *Id.* at 10. Mr. Spanos used Company historical data for the period 1989 through 2007, and considered estimates for other electric companies to develop his estimates of net salvage percentages for the various accounts involved in this depreciation study. *Id.* at 11.

Mr. Spanos also discussed the impact of the new meters associated with the SmartGrid program. He explained that the new meters will have an average service life and a net salvage percent that differs from current meters. He proposed a future depreciation rate of 5.27% for these new meters. He also explained that the current in place meters will be replaced much sooner than previously expected. Therefore, a rate of 14.18% is recommended to match the expected plan to remove existing meters by year-end 2012. Mr. Spanos also presented a schedule supporting the recovery for the existing meters over a period of time consistent with the historical indications. *Id.* at 13.

**(b) Testimony Presented by the OUCC and the Company's Rebuttal Position.** OUCC witness Majoros recommended that the proposed depreciation rates for the Company's distribution plant should not be approved because the Company only presented a partial depreciation study, that is, the depreciation study did not cover all of the Company's plant. Public's Ex. 2 (Majoros Direct) at 3. Mr. Majoros also recommended that the Commission order the Company to transfer \$464 million of accumulated depreciation to account 254-Other Regulatory Liabilities due to the potential adoption of International Financial Reporting Standards ("IFRS"). *Id.* at 18-20.

Mr. Spanos responded to Mr. Majoros. Petitioner's Ex. T (Spanos Rebuttal). Mr. Spanos testified that he had conducted depreciation studies for the remainder of the Company's accounts but that it was important to complete the distribution account study first due to the drastic future

change in the meters account and the avoidance of mismatching the recovery to asset utilization in the near future. *Id.* at 6.

Mr. Danny Wiles also responded to the IFRS issues raised by Mr. Majoros. Mr. Wiles agreed that there are differences between current reporting requirements under GAAP and IFRS reporting requirements, however, the concerns expressed by Mr. Majoros may never become issues since the U. S. Securities and Exchange Commission is not even scheduled to consider a rule making with respect to the adoption of IFRS until 2011, which gives the Commission ample time and opportunity to conduct a generic proceeding to consider all of the implications of any changes when they are better known. Petitioner's Ex. U (Wiles Rebuttal) at 3.

**(c) Settlement Agreement Provisions Relating to Depreciation Rates.** The Settlement Agreement seeks Commission approval of new depreciation rates for production, transmission, and general plant as well as for distribution plant as proposed in the Company's case in chief. Until the effective date of an order in the Company's next retail base rate case, the differential between such new depreciation rates and the Company's current depreciation rates (the retail jurisdictional portion of approximately \$13.9 million annually) will be reflected as a credit to customers via the SmartGrid Rider. Such credit will terminate with the effective date of the Company's next base rate order, but the Company commits to file the full depreciation study used to develop these depreciation factors in any such rate case initiated prior to December 31, 2011, with certain reservations for changes in laws, regulations, accounting rules or other major changes. Petitioner's Ex. V-1, at 16-17.

In his testimony in support of the Settlement Agreement Mr. Spanos sponsored two depreciation studies in addition to the Electric Distribution Plant Study included in his direct testimony; the Electric Generation Plant Study [Petitioner's Ex. Z-1] and the Electric Transmission and General Plant Study [Petitioner's Ex. Z-2]. Petitioner's Ex. Z (Spanos Settlement) Mr. Spanos used the same methods and procedures in preparing these Studies as he used in preparing the Distribution Plant Study as described in his direct testimony, Petitioner's Ex. J. He also used the Demolition Cost Estimates described below prepared by Sargent & Lundy, Petitioner's Ex. Y-1 through Petitioner's Ex. Y-6. Mr. Spanos testified that these are the same methods and procedures he used to prepare the depreciation study for the Company in Cause No. 42359 with updated historical data. Petitioner's Ex. Z (Spanos Settlement) at 2. Mr. Spanos also testified that the proposed depreciation rates should be valid for three to five years. *Id.* at 3.

Also in support of the Settlement Agreement's proposed updated depreciation rates, Duke Energy Indiana witness Alan Wendorf, Chief Executive Officer of Sargent & Lundy, LLC ("S&L") testified regarding the results of a study that estimated the cost of dismantling certain Duke Energy Indiana generating stations. Petitioner's Ex. Y (Wendorf Settlement) at 2. Mr. Wendorf testified that in its study S&L made several assumptions with respect to the decommissioning of Duke Energy Indiana's plants. For example, they assumed that the only thing necessary to decommission an ash pond was to pump it dry and cover the ash pond with approximately two feet of soft soil. They also assumed that there was sufficient room on site to dispose of all the non-hazardous debris and that there was sufficient fill material on site to cover all this debris. *Id.* at 3. They also assumed that tens of thousands of feet of underground pipe and electrical conduit could be left in place and it would not be necessary to fill in the cooling

lake at the Gibson Generating Station. In Mr. Wendorf's opinion, many of these assumptions were conservative and minimized dismantling cost numbers – *i.e.*, the estimated costs represent the lower end of potential dismantling costs.

Mr. Wendorf estimated that the net cost of dismantling each of Duke Energy Indiana's generation stations in 2008 dollars are: Gallagher Generation Station - \$29,906,000; Wabash River Generating Station excluding the Wabash River Repowering Project - \$32,508,000; Cayuga Generating Station - \$38,410,000; Gibson Generating Station - \$132,341,000; Edwardsport Generating Station - \$13,117,000; and Noblesville Generating Station - \$6,042,000. *Id.* at 6. The details of these estimates are contained in Mr. Wendorf's exhibits, Petitioner's Exs. Y-1 through Y-6.

**(3) Request for Creation of a Regulatory Asset.**

**(a) Company's Initial Proposal.** In the absence of the creation of a regulatory asset for the undepreciated/unrecovered costs associated with the existing meters which will be replaced with "smart meters," GAAP would require that such costs be recovered on an accelerated basis.<sup>10</sup> The Company thus proposed that the Commission authorize it to create a regulatory asset for such costs, so that such costs could be recovered over the original remaining life of the meters (approximately 20 years), rather than on an accelerated basis. This treatment will allow the Company to amortize the regulatory asset so that there is no incremental revenue requirement/rate impact related to the replaced meters. In order for the Company to create this proposed regulatory asset, SFAS 71 requires that it must be probable that such costs will be recovered through rates in future periods; in order to meet this probability standard, the Commission's Order should specifically approve the proposed regulatory asset accounting and ratemaking treatment. *See* Petitioner's Ex. K (Freeman Direct) at 28-29.

**(b) Testimony Presented by the OUCC and the Company's Rebuttal Position.** Mr. Majoros testified for the OUCC with respect to Duke Energy Indiana's proposed regulatory asset for accelerated meter retirements. Public's Ex 2 (Majoros Direct) at 3, 6-10. Mr. Majoros recommended that the Commission not approve Duke Energy Indiana's request for a regulatory asset because it was not necessary. Instead, he recommended that the Commission adopt a 20 year projection life to calculate the depreciation rate for all meters.

Mr. Danny Wiles disagreed with Mr. Majoros testimony that the proposed regulatory asset for existing meters was unnecessary. Petitioner's Ex. U (Wiles Rebuttal). While Mr. Wiles did not believe that Mr. Majoros proposal to use a 20 year projection life to calculate the depreciation rate for all meters would lead to a significantly different result from the Company's proposal, he testified that absent the creation of the proposed regulatory asset, GAAP would require that the undepreciated existing/replaced meter cost be amortized and recovered over the

---

<sup>10</sup> Specifically, Statement of Financial Accounting Standards No. 71 ("SFAS 71"), paragraph 9, states that "Rate actions of a regulator can provide reasonable assurance of the existence of an asset. An enterprise shall capitalize all or part of an incurred cost that would otherwise be charged to expense if both of the following criteria are met: (a) it is probable that future revenue in an amount at least equal to the capitalized cost will result from inclusion of that cost in allowable costs for ratemaking purposes and (b) based on available evidence, the future revenues will be provided to permit recovery of the previously incurred cost rather than to provide for expected levels of similar future costs ...." (Footnotes omitted.)

actual remaining life taking into account that they are being replaced. In other words, the costs would need to be recovered on an accelerated basis – over four or five years – rather than the 20 year period that the Company proposed. *Id.* at 4-5. The Company’s regulatory asset proposal is intended to keep the recovery period (and thus the annual costs to customers for those meters) the same as if they were not being replaced. *See also* Petitioner’s Ex. Q (Freeman Rebuttal) at 13-14.

**(c) Settlement Agreement Provisions Relating to Creation of a Regulatory Asset.** The Settlement Agreement provides that the Commission should approve the creation and subsequent recovery of a regulatory asset as proposed by Duke Energy Indiana for existing/replaced meters. Petitioner’s Ex. AA (Freeman Settlement) at 11-12.

**(4) Request for Interim Accounting Deferral Authorizations.** The Company proposed that the Commission authorize it to defer post-in-service financing costs and operating expenses for accounting purposes until such costs are included in rates via either of its proposed rate mechanisms (*e.g.*, the distribution formula rate or the SmartGrid Rider). Although the Company’s proposed ratemaking mechanisms minimize the differences between cost incurrence and cost recovery, some timing differences will remain between the time of cost incurrence and the subsequent recovery of such costs in rates. This requested treatment will prevent earnings erosion, and will match the recovery of the SmartGrid Initiative costs with the recognition of such costs on the Company’s financial statements. As with the proposed regulatory asset, discussed above, in order for the Company to engage in this interim deferred accounting, it must be probable that such costs will be recovered through rates in future periods. In order to satisfy this probability standard, the Commission Order in this proceeding should specifically approve the interim deferred accounting and ratemaking treatment proposed. *See* Petitioner’s Ex. K (Freeman Direct) at 29-30. Although several parties objected to the Company’s overall proposed ratemaking for its SmartGrid Initiative, as discussed above, no party objected to this specific portion of the Company’s request.

The Settlement Agreement provides that the Company should be authorized to defer its SmartGrid Initiative deployment costs, net of associated savings and increased revenues, on an interim basis, until such net costs are reflected in the SmartGrid Rider (subject to the Rider Caps). Petitioner’s Ex. AA (Freeman Settlement) at 12-14.

**(5) Proposal for Recovery of “Lost Revenues.”**

**(a) Company’s Initial Proposal.** “Lost revenues” are the lost contribution to fixed cost recovery caused by reduced kWh sales that directly result from a utility’s efficiency actions. The voltage reduction strategy that the Company proposed to implement in connection with its SmartGrid Initiative, if implemented across all hours (instead of just at peak demand times) would result in “lost revenues.” Accordingly, the Company proposed the inclusion of a traditional “lost revenue” recovery proposal in its SmartGrid Rider. Without “lost revenue” recovery, a utility is placed in the position of having to choose between its customers and its shareholders. Before actually implementing that “lost revenue” recovery mechanism though, the Company proposed to return to the Commission with additional detail about the “lost revenues” that will result from the voltage reduction strategy, based on an EPRI “green circuits” study that is currently underway. Without a mechanism to adequately address “lost revenues,”

the Company does not plan to implement the voltage reduction strategy outside of peak times. See Petitioner's Ex. K (Freeman Direct) at 12-13.

**(b) Testimony Presented by the OUCC and the Company's Rebuttal Position.** On this issue, the OUCC recommended that the IURC defer any decision on "lost revenue" recovery until Duke Energy Indiana files its detailed proposal after completing the EPRI "green circuits" study. Public's Ex. 3 (Eckert Direct) at 16.

In rebuttal, the Company agreed with the OUCC's proposal to defer any decision on "lost revenues" until the EPRI "green circuits" study is completed and the Company files a detailed proposal. The Company emphasized, however, that it did not intend to implement the voltage reduction strategy outside of peak demand times until a lost revenue recovery mechanism was in place. Petitioner's Ex. Q (Freeman Rebuttal) at 16.

**(c) Settlement Agreement Provisions Relating to Recovery of "Lost Revenues."** The Settlement Agreement provides that the issue of "lost revenues" resulting from an implementation of a voltage reduction strategy across all hours will be deferred to a separate proceeding, following completion of EPRI's "green circuits" study. The Settlement recognizes, however, that the Company will not implement its voltage reduction strategy except at peak demand times unless/until there is a mechanism in place for "lost revenue" recovery. Petitioner's Ex. AA (Freeman Settlement) at 8.

**(d) Other Provisions of the Settlement Agreement.** The Settlement Agreement also provides that: (1) the Company will work with the OUCC, the Commission's Consumer Affairs Division, and other interested parties to propose an acceptable method of notifying customers of remote involuntary disconnection, and will request a waiver of applicable Commission rules before proceeding with any such method; (2) the Company will not work to eliminate or weaken the winter disconnect moratorium during the time period the SmartGrid Rider is in effect; (3) the Company will not require (although it may offer) time-differentiated pricing for low-income customers, during the time period the SmartGrid Rider is in effect; and (4) the Company will actively participate in support of development of smart grid interoperability standards. Petitioner's Ex. V (Arnold Settlement) at 11-12. The Settlement Agreement further states that the Settling Parties agree that the Commission should decline to exercise its full CPCN jurisdiction over the Renewable Distributed Generation Initiative pilot project.

Mr. Arnold expanded on the issue of interoperability at the evidentiary hearing. He emphasized that the Company is focused on insuring interoperability of smart grid communication technologies. One of the key components of Duke Energy Indiana's smart grid design is the drive for standards and interoperability. From the beginning, the Company has recognized the need to move away from proprietary end-to-end networks and begin to build a network that is made up of standard, interoperable, exchangeable components. The Company also participates in the major standards groups that are advancing this, especially the recent process DOE commissioned through National Institute of Standards and Technology (NIST) to develop a smart grid interoperability and standards roadmap.

Communications interoperability is facilitated in Duke Energy Indiana's design by using commercially available communication networks to connect the smart grid to back-office systems. Interoperability is further enhanced with a design that moves that connection point close to the customer. In effect, that minimizes the amount of proprietary network to move the data and puts the majority of it on public carriers who today have standard interoperable networks.

Mr. Arnold also addressed privacy issues and cyber security issues at the evidentiary hearing. As to customer data privacy, he explained that Duke Energy has a Corporate Compliance Department that works with multiple departments such as Information Technology, Customer Services, Regulatory to coordinate the Company's Data Privacy and Identity Theft Protection Program. The Company's policies, procedures and training have evolved and will continue to evolve as the risks and exposures have evolved.

As to malware or viruses, Mr. Arnold expressed that no doubt Smart Grid will require the use of new, emerging technologies and to some degree will extend the Company's data network into and beyond the customer's meter. Subsequently, it is prudent to be concerned about cyber security. The challenge is to protect against anything that might affect the safety and reliability of our power grid as well as securing the additional data collected in support of delivering new and enhanced product and services to customers and to secure the privacy of customer data.

Mr. Arnold emphasized that Duke Energy places significant emphasis on cyber security. The Company employs an industry standard defense in-depth strategy to guard against cyber attack. This strategy relies on multiple layers of defense placed through Duke's Information Technology infrastructure such as firewalls, anti-virus, vulnerability management, log monitoring. A major component is continued vigilance with the issue and working closely with security experts.

**5. Commission Discussion and Findings.** Settlements presented to the Commission are not ordinary contracts between private parties. *United States Gypsum, Inc. v. Indiana Gas Co.*, 735 N.E.2d 790, 803 (Ind. 2000). When the Commission approves a settlement, that settlement "loses its status as a strictly private contract and takes on a public interest gloss." *Id.* (quoting *Citizens Action Coalition v. PSI Energy*, 664 N.E.2d 401, 406 (Ind. Ct. App. 1996)). Thus, the Commission "may not accept a settlement merely because the private parties are satisfied; rather [the Commission] must consider whether the public interest will be served by accepting the settlement," *Citizens Action Coalition*, 664 N.E.2d at 406. Furthermore, any Commission decision, ruling, or order – including the approval of a settlement – must be supported by specific findings of fact and sufficient evidence. *United States Gypsum*, 735 N.E.2d at 795 (citing *Citizens Action Coalition v. Public Service Co.*, 582 N.E.2d 330, 331 (Ind. 1991)). The Commission's own procedural rules require that settlements be supported by probative evidence. 170 IAC 1-1.1-17(d). Therefore, in this case, before the Commission can approve the Settlement Agreement, we must determine whether the evidence in this Cause sufficiently supports the conclusions that the Settlement Agreement meets the statutory requirements of the Alternative Utility Regulation Act and serves the public interest.

The Alternative Utility Regulation Act authorizes the Commission to approve an alternative regulatory plan if it concludes that the plan is in the public interest and enhances or

maintains the value of the energy utility's retail energy services or property, including practices, procedures and mechanisms focusing on the price, quality, reliability, and efficiency of the service provided by the utility. Ind. Code §§ 8-1-2.5-5 and 6. In determining whether the public interest will be served, the Commission is directed to consider factors such as: technological and operating conditions and competitive forces; benefits to the utility, its customers, and the state; the promotion of energy utility efficiency; and the ability of the utility to compete with other providers of functionally similar energy services or equipment. Ind. Code § 8-1-2.5-5. Pursuant to Ind. Code § 8-1-2.5-6(e), following notice and hearing, the Commission may approve, reject, or modify the energy utility's proposed plan if the commission finds that such action is consistent with the public interest. However, the commission may not order that material modifications changing the nature, scope or duration of the plan take effect without the agreement of the energy utility.

Under the Alternative Utility Regulation Act, the Commission may approve a plan submitted by an energy utility as being in the public interest if the plan satisfies certain statutory criteria. Implicit in this statutory framework, which provides an opportunity for determinations to be made by the Commission regarding the plan but no corresponding requirement for an energy utility to adopt any changes made by the Commission to the plan, is the expectation that a complete and final plan be submitted to the Commission for its review. As any modifications of an Alternative Regulatory Plan by the Commission need not be accepted by an energy utility, consideration of a complete and final plan that provides details with respect to the entirety of the plan is necessary to allow the Commission to accurately and fully assess whether the plan is in the public interest under the Alternative Utility Regulation Act.

**A. Deployment and Cost Recovery Issues** As discussed more specifically herein, the Alternative Regulatory Plan submitted in this matter (as modified and fully reflected in the Settlement Agreement) is essentially comprised of two halves. One half of the plan provides for the deployment, and timely cost recovery thorough an agreed upon tracking mechanism, of new metering technology and distribution automation throughout Duke Energy Indiana's service territory at a total estimated capital cost of \$445 million. Under the terms of the Settlement Agreement, deployment will be monitored by a Deployment Collaborative consisting of the Company, the OUCC, and other interested settling parties. Settlement Agreement at 4. Notwithstanding the formation of a Deployment Collaborative, the Company retains ultimate decision making with regard to deployment issues. *Id.* In addition, under the terms of the Settlement Agreement, Duke Energy Indiana will be authorized to implement a SmartGrid Rider to be effective on January 1, 2010. The primary purpose of this new tracking mechanism is to provide for the timely recovery of the Company's SmartGrid deployment costs.<sup>11</sup> This half of the agreement is firm; is in need of no further review or collaboration by the parties to effectuate its stated objectives;<sup>12</sup> and, will have short and long term financial impacts on Duke Energy Indiana's ratepayers.

**B. Collaborative Workgroups to Address Unresolved Issues.** As provided in the Settlement Agreement, the second half of the Alternative Regulatory Plan is comprised of agreements by the parties to work collaboratively in an effort to consider several important issues

---

<sup>11</sup> The SmartGrid Rider also addresses the treatment of updated depreciation rates requested in this proceeding.

<sup>12</sup> This conclusion is notwithstanding the formation of the Deployment Collaborative as the Company retains ultimate decision making with regard to deployment issues under the terms of the Settlement Agreement.

that specifically address potential programs that could be implemented in the future to provide for the effective utilization of the technological capabilities of the newly installed meters. Under the terms of the Settlement Agreement the parties have agreed to establish a *Duke SmartGrid Initiative Pricing/Pilots Collaborative* (“Pilots Collaborative”). The Pilots Collaborative includes the following four subgroups: 1) a Residential and Small Commercial SmartGrid Pricing Subgroup (“Subgroup #1”); 2) a Large Commercial and Industrial Pricing Option Pilots/SmartGrid C&I Pricing Collaborative (“Subgroup #2”); 3) Home Area Network (“HAN”) Initiative/Pilot Program (“Subgroup #3”); and 4) a Plug-in Hybrid Electric Vehicle (“PHEV”)/Electric Vehicle (“EV”) Pilot Program (“Subgroup #4”) (Collectively, the Pilots Collaborative and the subgroups shall be referred to as “Collaboratives”).

As reflected in the Settlement Agreement, the Pilots Collaborative is to be comprised of representatives of Duke Energy Indiana, the OUCC, and other interested settling parties. Other non-voting members may be invited to participate in the Pilots Collaborative. Settlement Agreement at 6. The purpose of the Pilots Collaborative is to address the issues outlined in the Settlement Agreement; issues that arise once the SmartGrid deployment begins; or any other issues. *Id.* at 6-7. Decisions made by the Pilots Collaborative (or any subgroup of the Pilots Collaborative) must be unanimous in order for the group to move forward with implementation of the decision. *Id.* at 7. Should the Pilots Collaborative (or any subgroup) fail to reach a unanimous consensus on any issue, any Pilots Collaborative member may bring the issue before the Commission for final determination. *Id.* As proposed, the Pilots Collaborative shall have the ability to unanimously approve program modifications as long as changes do not go outside the guidelines set out in the Settlement Agreement or result in spending above capped spending levels. *Id.*

The Settlement Agreement also provides an overview of the activities to be undertaken by the collaborative subgroups. Parties to the Residential and Small Commercial SmartGrid Pricing Subgroup (“Subgroup #1”) will work within the framework provided in the Settlement Agreement to develop time differentiated pricing and bill information offers to residential and small commercial customers. This subgroup will work to develop detailed pricing offerings, the number of pilots, number of pilot participating customers, marketing of pilot offers, length of pilots, development of rates, and development of a proposal to be submitted to the Commission regarding an appropriate cost recovery mechanism. *Id.* at 8. Under this subgroup, implementation of the pricing pilots is contingent upon cost recovery approval acceptable to Duke Energy Indiana. *Id.* at 9.

Parties to the Large Commercial and Industrial Pricing Option Pilots/SmartGrid C&I Pricing Collaborative (“Subgroup #2”) will work to develop detailed pricing offerings, including number of pilots, number of pilot participant customers, marketing of pilot offers, development of rates, length of pilots, and cost recovery issues. *Id.* Pilot rate offers to be developed by this group will include real time pricing (“RTP”) including a two-part RTP design, and other time differentiated pricing offerings. *Id.* Under this subgroup, implementation of the pricing pilots is contingent upon cost recovery approval acceptable to Duke Energy Indiana. *Id.* at 10.

Parties to the Home Area Network (“HAN”) Initiative/Pilot Program (“Subgroup #3”) will explore the potential of the HAN pilot, including the testing of pricing options and a full range of appliances in association with residential energy management systems. *Id.* A pilot

project plan will be developed and submitted to the Commission for final approval. Implementation of the HAN pilot is contingent upon cost recovery approval acceptable to Duke Energy Indiana. *Id.*

Parties to the Plug-in Hybrid Electric Vehicle (“PHEV”)/Electric Vehicle (“EV”) Pilot Program (“Subgroup #4”) will work to develop a pilot program to be submitted to the Commission for final approval. Implementation of the PHEV/EV pilot is contingent upon cost recovery approval acceptable to Duke Energy Indiana. *Id.* at 11

**C. Framework for Commission Review.** Under the terms of the Alternative Utility Regulation Act, the Commission must review an Alternative Regulatory Plan presented to it to determine whether the plan is in the public interest. Within this framework the only portion of the plan (as presented in the Settlement Agreement) that can be considered by the Commission as a firm obligation of the parties is the portion that addresses the installation of meters and corresponding tracked recovery of costs. While agreement on the timing of the installation of meters and the associated recovery of costs are important initial steps in developing the smart grid program proposed by Duke Energy Indiana, this step alone was not presented to the Commission as the sole objective of the Alternative Regulatory Plan. Additional expectations form the basis of the Settlement Agreement and these uncertain and unresolved tasks must be considered as part of our public interest review of the specific factors outlined in the Alternative Utility Regulation Act.

Based on the incomplete picture regarding the additional steps that will be pursued, but may not be resolved by the parties to this proceeding, the Commission finds that Duke Energy Indiana’s Alternative Regulatory Plan, as currently comprised and presented in this proceeding under the terms of the Settlement Agreement, is incomplete. The only matters that will be pursued with certainty under the terms of the Settlement Agreement are the installation of new metering technology and cost recovery for this equipment. Remaining issues that could ultimately address the overall efficacy and utilization of the meters in a way that will make them “smart” are left for another day to be considered in working collaboratives between the parties. The uncertainty associated with the collaborative process is a central issue of concern to the Commission, as none of these collaborative efforts are required to bear fruit since implementation of determinations of the Collaboratives are contingent, in every instance, upon cost recovery approval acceptable to Duke Energy Indiana.

While we encourage the parties to continue the collaborative process outlined in the Settlement Agreement or consider smaller scale pilot or phased-in options to arrive at a fully developed alternative regulatory plan that could be considered by the Commission; with respect to our consideration of the Alternative Regulatory Plan presented to us in this matter we must conservatively surmise that, as nothing else is assured under the plan, nothing more than installation of the meters and cost recovery for the meters will be forthcoming. If that is ultimately the case, Duke Energy Indiana ratepayers will have paid for new smart meters without fully realizing the enhanced benefits that can be provided by the technology. While it appears that this is not the objective of the parties, that is the extent of the plan that we have been asked to find to be in the public interest in this proceeding.

Accordingly, in reviewing the plan submitted and determining whether the public interest will be served, the Commission has considered the specific provisions set forth in the Alternative Utility Regulation Act including: technological and operating conditions and competitive forces; benefits to the utility, its customers, and the state; the promotion of energy utility efficiency; and the ability of the utility to compete with other providers of functionally similar energy services or equipment. The Commission has also considered whether the plan enhances or maintains the value of the energy utility's retail energy services or property, including practices, procedures and mechanisms focusing on the price, quality, reliability, and efficiency of the service provided by the utility. Ind. Code § 8-1-2.5-5 and 6.

Based on the agreement presented to us in this proceeding the Commission cannot find that the Alternative Regulatory Plan (as presented in the Settlement Agreement) will offer long term benefits to Indiana ratepayers. Therefore, inasmuch as important matters that will impact the efficacy of the program remain unresolved by the terms of the Settlement Agreement, the Commission finds that the Alternative Regulatory Plan, as modified by the Settlement Agreement and presented to us for our consideration in this matter, is not in the public interest and is hereby rejected by the Commission.<sup>13</sup>

As the proposed Settlement Agreement has been denied by the Commission, within ten (10) days, the parties shall file a proposed procedural schedule with the Commission to allow for consideration of the underlying request for relief presented in this matter. In reaching this conclusion, the Commission notes that certain aspects of the current administrative record may now be stale, specifically with respect to potential funding of the SmartGrid initiative under the American Recovery and Reinvestment Act of 2009. As discussed in the Settlement Agreement, the Company committed to make reasonable and good faith efforts to seek federal stimulus funds under the ARRA for its SmartGrid and Renewable Distributed Generation initiatives to reduce costs to customers. Under the terms of the Settlement Agreement, the details regarding how such stimulus funds received were to be considered by the Deployment Collaborative.

While the Commission has declined to endorse the collaborative approach recommended by the parties in this matter, we do recognize that the receipt of stimulus funds by the Petitioner could have a direct impact on the underlying proposal presented in this Cause. Therefore, we find that the procedural schedule developed by the parties should provide an opportunity for the Petitioner to supplement the record regarding funding received under the American Recovery and Reinvestment Act of 2009. The procedural schedule should also provide an opportunity for the Petitioner to address the deficiencies identified by the Commission with respect to the Settlement Agreement as it relates to the potential utilization of such funding and to allow for responses to any such proposals from the parties to this Cause.

**6. Confidentiality of Trade Secret Information.** Duke Energy Indiana filed a Motion for Protection of Confidential and Proprietary Information on November 7, 2008 and a Second Motion for Protection of Confidential and Proprietary Information on January 16, 2009. Such motions were supported by the affidavits of Mr. Kent Freeman and Mr. Todd Arnold. In Docket Entries issued on November 25, 2008, and January 27, 2009, the Presiding Officers

---

<sup>13</sup> As the Commission has rejected the Alternative Regulatory Plan presented as the central request in this proceeding, the Commission has not considered additional issues related to this request that were presented in this matter.

preliminarily found such information (“Confidential Information”) to be protected trade secrets. We now find that the Confidential Information is exempted from public disclosure and will continue to be held as confidential by the Commission.

**IT IS THEREFORE ORDERED BY THE INDIANA UTILITY REGULATORY COMMISSION, that:**

1. The Petitioner’s proposed Alternative Regulatory Plan, as contained in the Settlement Agreement, is hereby rejected by the Commission consistent with the findings set forth in this Order.

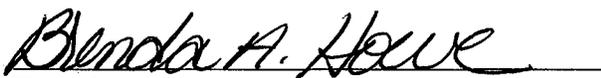
2. Within ten (10) days of the date of this Order, the parties shall file a proposed procedural schedule with the Commission to allow for consideration of the underlying request for relief presented in this matter. As set forth herein, the procedural schedule developed by the parties should, among other things, provide an opportunity for the Petitioner to supplement the record to address issues regarding funding received under the American Recovery and Reinvestment Act of 2009.

3. The Confidential Information presented in this proceeding is found to be a trade secret excepted from public access, and will continue to be held as confidential by the Commission.

4. This Order shall be effective on and after the date of its approval.

**ATTERHOLT, GOLC, LANDIS AND ZIEGNER CONCUR; HARDY ABSENT:**  
**APPROVED: NOV 04 2009**

**I hereby certify that the above is a true  
and correct copy of the Order as approved.**



**Brenda A. Howe**  
**Secretary to the Commission**