

Report to the
Regulatory Flexibility Committee
of the
Indiana General Assembly



2009

*Indiana Utility
Regulatory Commission*

Tradition. Transition. Innovation.

EXECUTIVE SUMMARY

The Indiana Utility Regulatory Commission (Commission) presents its *Report to the Regulatory Flexibility Committee of the Indiana General Assembly for 2009* (Report or 2009 Report). The 2009 Report highlights key issues currently faced by the Commission and Natural Gas, Electric, Communications, and Water/Wastewater utilities in the state of Indiana.

Over the course of the last year, the Commission has taken a proactive approach and reached out to utilities both large and small. The Commission re-examined the public utility standard and adopted changes that more accurately describe utilities in Indiana. The Commission also made itself more accessible and acknowledged individual utility needs. For example, the Commission hosted small utility workshops where utility company personnel could be trained on a variety of subjects. This was in response to recommendations from the 2007 Client Survey. The Commission also responded to the current financial challenges faced by many Indiana utilities, by first, enhancing its internal expertise and, second, working collaboratively with the utilities to address the issues on a broader scale. This advanced preparation proved to be beneficial, especially when dealing with an unusually high number of financial issues this past year.

The Commission was also successful in its implementation of new processes and procedures. As required by law, the Communications Division eliminated many policies and rules that were in place prior to July 1, 2009 in addition to executing its new responsibilities. The Commission also formed a Regional Transmission Team responsible for actively engaging the Midwest ISO, PJM, and associated organizations. The team has accomplished much with regard to regional transmission planning, most significantly, the Eastern Interconnect study. The Commission also capped fees for small utilities in General Administrative Order 2009-9 after working with various stakeholders.

In an effort to provide a context for the discussion of current issues, this year's Report provides an overview of recent issues; considers the current industry landscape; and discusses immediate actions to ensure utilities will be prepared to meet all customer demands while addressing ever-changing legal and legislative requirements in a cost-

effective manner. Even though many topics are unique to the individual Divisions, there are also overlapping issues. This Executive Summary contains a brief overview of these cross-sector and sector-specific matters that are more fully addressed in the Report. For your convenience, a topical index, list of acronyms, and glossary are also included.

An overarching issue that impacted utility operation during the past year is the state of the economy and the financial markets in the United States. Indiana utilities were affected by the financial crisis over the last year. All utilities were affected by the disruptions in the financial markets that limited access to capital, even by the historically conservative utility sector. These and other economic factors presented issues never before seen. Those that navigated these waters successfully provided a valuable service to their ratepayers. Those less attentive to financial issues, as with the case of Indianapolis Water, created financial hardships that will adversely impact ratepayers for many years.

The Commission continues to monitor the financial state of its jurisdictional utilities and has instituted a financial taskforce that is developing a more formalized and systematic monitoring plan, which includes identifying “trip wires” or signals of impending financial issues for Indiana utilities. Doing so allows the Commission to facilitate communication earlier and assist the utilities before their financial situations become dire. It should be noted that, in general, Indiana’s utilities are faring relatively well and have managed to maintain financial stability despite current market conditions.

NATURAL GAS

Compared to the 2007-2008 heating season addressed in the Commission’s 2008 report, the 2008-2009 winter heating season saw an increased demand for natural gas due mainly to colder weather. As discussed more fully in this year’s Report, during 2008 and 2009, the price of natural gas was extremely volatile, reaching unprecedented levels of more than \$13.00/Dth during the summer of 2008 compared to current prices at or below \$3.00/Dth.

Typically, price swings are based on the fundamentals of supply and demand. However, during the first half of 2008, supply and demand factors could not fully explain

dramatic price swings that seemingly were caused in part by speculation in the oil and commodities market. Lower prices prevailed in the second half of 2008 due to a relatively cool July and August; an overall decrease in demand caused by the economic downturn; and an increase in storage levels that exceeded the five-year average. An additional moderating effect on price was the absence of significant hurricane activity or other disruptions to the production and shipment of natural gas. Even though the price of gas on the spot market has remained relatively stable recently, economic recovery and potential legislative action may result in increased demand for natural gas in the near future.

With respect to future issues that may impact the natural gas industry, the Natural Gas section of this Report focuses on a number of key issues including:

- Shale Gas – The rapid, recent emergence of unconventional sources of natural gas supply such as shale has exploded the overall supply of natural gas in the United States.
- Gas Pipeline Infrastructure – Indiana’s interstate gas pipeline infrastructure is expanding, with the Rockies Express Pipeline expected to be operational by the end of 2009, and new federal regulation will affect intrastate distribution systems.
- Energy Efficiency and Rate Decoupling – The Commission has implemented rate decoupling as a regulatory mechanism and continues to evaluate the effects of decoupling and energy efficiency on utilities and customers.
- Adjustable Rate Mechanisms – A variety of adjustable rate mechanisms (trackers) are available and being utilized by gas utilities.

ELECTRICITY

Indiana has consistently ranked as one of the lowest cost states for providing electricity to its citizens. Currently, Indiana ranks as the 13th lowest cost electric provider in the United States. Neighboring states' average residential rates for 2008 rank as follows: Kentucky 6th, Ohio 25th, Illinois 32nd, and Michigan 31st. Even though energy demand decreased in 2008 as a result of the economic downturn, it is likely that the overall cost and long-term demand for electricity in Indiana will continue to rise in the foreseeable future.

An increase in the overall long-term cost of electricity may be attributable to several factors including: an increased demand for electricity; costs associated with the construction of new generation plants; costs associated with additional environmental regulations; costs to repair or replace aging infrastructure; and cost increases for fuel and transportation. The Indiana State Utility Forecasting Group (SUFG) predicts that rates will continue to increase and anticipates that Indiana will need an additional 6,100 MW by 2015 to meet expected load growth and maintain sufficient reserve margins. This additional capacity can be achieved through a combination of new generation, renewable resources, and demand-side management programs. According to the SUFG, Indiana's electricity demand and peak usage will increase 2.46% per year over the next twenty years.

The overall cost for electricity is also dependent on utilities' reserve margins and available generation capacity, both of which could be impacted by pending and future legislation. For example, future environmental regulations could place limitations on carbon emissions and may result in the retirement of generating units and the curtailment of operating hours. Steps to address future legislative requirements could include: wider participation in Regional Transmission Organizations; the construction of new, more efficient, generating facilities; and enhanced efforts to reduce energy usage through the implementation of enhanced demand side management (DSM) programs throughout the state.

With regard to the recovery of costs, tracking mechanisms are a cross-industry issue. Under Indiana law, utilities may request the tracking of revenues and/or expenses that are substantial, variable, and largely outside of a utility's control. Utilities may also request the tracking of capital investments in generation resources and clean coal technologies. These mechanisms allow utilities to request the timely recovery of specific costs outside of a base rate case in specific proceedings for this purpose. In Indiana, fuel and certain environmental costs, are examples of expenses that may be tracked by electric utilities pursuant to statute. A utility's ability to track certain costs reduces financial risk to the utility, helps support its earnings, and is viewed favorably by credit rating agencies.

With respect to future issues that may affect the electric industry, the Electricity section of this Report focuses on a number of key issues including:

- Infrastructure – Construction and utilization of new transmission and generation in the state including the development of wind energy. The Report further discusses challenges faced by the Commission with respect to oversight of transmission siting in Indiana.
- Demand Side Management and Demand Response – This includes energy conservation programs, advanced metering programs, and the “Smart Grid.”
- Regional Transmission Organizations and Federal Issues – The Report discusses the benefits and challenges of RTOs and the role of the Federal Energy Regulatory Commission. The Report also considers the possible impacts of carbon legislation.

COMMUNICATIONS

Historically, the Indiana communications industry was regulated under a traditional regulatory framework where communications providers typically offered only a single type of service, which meant that consumers generally had one provider for telecommunications service and another for video service. However, as communications

services continue to evolve, providers are beginning to offer multiple services, thereby altering this traditional landscape.

In 2006, the General Assembly changed the communications industry in Indiana when it passed House Enrolled Act 1279 (HEA 1279 or 1279). With the exception of basic telecommunications service, HEA 1279 eliminated regulation in the Indiana telecommunications industry. With the enactment of 1279, the General Assembly intended to create an environment in which competition could flourish and in which consumers could benefit from having more options when choosing between communications service providers. Since the passage of 1279, providers have shifted from the traditional structure of offering one type of service to offering bundles and packages of services. As a result, consumers are purchasing telephone, Internet and cable services from a single provider.

Since the enactment of HEA 1279, the Commission's role has transitioned from communications regulator to market monitor. The Commission's new role includes observing how the market is reacting to the framework created by HEA 1279 and reporting these results to the General Assembly. The General Assembly uses the information it receives from the Commission to formulate policies designed to benefit Indiana consumers. The Commission also has ongoing responsibilities to resolve disagreements between video service providers that hold Certificates of Franchise Authority and municipalities regarding the amount of gross revenue on which a franchise fee should be based. The Commission is currently reviewing a complaint filed by the city of Indianapolis against Bright House Networks with respect to this issue. As the state's sole franchising authority, the Commission also enforces the FCC's video customer service standards. The Commission monitors and tracks all video service complaints according to these standards through the Consumer Affairs Division.

Looking forward, the Commission will continue to gather the data necessary to gauge the impact that HEA 1279 has had in the development of a competitive market for communications services in Indiana. In furtherance of this objective, the Communications Report focuses on the following key issues:

- Industry Landscape – Investment by providers in infrastructure continues to allow for economic growth opportunities that were not previously available.
- Regulatory Developments – The Commission continues to serve as the sole franchise authority for providers of video services. Also, the Commission oversees the assignment and approval process for implementing new area codes.
- Indiana Universal Service Fund (IUSF) – The purpose of the IUSF is to provide cost recovery to allow companies in high cost areas to continue to offer services at rates that are reasonable and affordable.

WATER/WASTEWATER

Indiana’s water and wastewater utilities vary in both their size and the degree to which they are regulated by the Commission. There are approximately 835 water systems statewide, but only 125 are regulated by the Commission. The Commission has overlapping jurisdiction with agencies such as the Indiana Department of Environmental Management, the Department of Health, and the United States Environmental Protection Agency.

Increased demand has impacted water utilities. As water usage continues to increase, water availability varies from year-to-year as a result of weather. Even though Indiana has generally not suffered from water shortage issues, recent weather patterns have demonstrated the dramatic impact that weather plays with respect to the availability of water during the summer months. As a result, water conservation and efficiency programs are increasingly being emphasized in order for water utilities to be prepared to address any imbalance between supply and demand.

Water and wastewater utilities face challenges as a result of aging infrastructure. This concern is compounded by the fact that water and wastewater utilities have the highest capital requirements of any utility sector. However, funds from the American Recovery and Reinvestment Act (ARRA) are providing \$122 million for shovel-ready Indiana

water and wastewater projects. Unfortunately, \$122 million falls far short of the amount needed. In addition, Rural Development Loans and Grants are available as a result of ARRA funding of the State Revolving Loan Fund.

Additional issues currently being addressed by the Water/Wastewater Division include the Commission's recent approval of a flat-fee charge for rate cases filed by small municipal utilities that limits costs that would otherwise be charged by the Commission. The Commission has also updated its meter testing standards to ensure uniformity with current AWWA Water Supply Practices.

With respect to future issues that may impact the water industry, the Water/Wastewater section of this Report focuses on a number of key issues including:

- **Troubled Utilities** – Small, troubled utilities continue to present regulatory challenges to the Commission. The Commission is actively monitoring select small utilities in an effort to educate owners and prevent utilities from becoming troubled.
- **Simplified Regulation** – The Commission continues to implement new policies to reduce costs and simplify regulation for small water utilities. The Water/Wastewater Division is currently working to expand the Small Utility Rate Process to include utilities with 10,000 customers or less. In addition, the Commission is continuing its educational outreach programs to the industry, providing technical assistance and resources to meet the growing needs of water and wastewater utilities statewide.
- **Outside-city Rates** – Many municipalities charge customers outside their corporate boundaries higher rates than inside-city customers. This raises questions about whether the city rate is cost-justified and non-discriminatory since the Commission, in many cases, does have authority to review and approve these rates.

2009 NATURAL GAS REPORT

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I. NATURAL GAS OVERVIEW

Industry Structure

The Indiana Utility Regulatory Commission regulates the rates and charges of intrastate pipelines and local distribution companies, and through its Pipeline Safety Division, the infrastructure that transports natural gas.

The natural gas industry consists of three systems: producers (the gathering system), interstate and intrastate pipelines (the transmission system), and local distribution companies (LDCs) (the distribution system). Interstate pipelines, regulated by the Federal Energy Regulatory Commission (FERC), carry natural gas across state boundaries; intrastate pipelines, regulated by state commissions, carry natural gas within state boundaries. States, including Indiana, that have certified pipeline programs are delegated federal authority by the U.S. Department of Transportation to conduct inspections, investigate accidents, and enforce state and federal safety regulations. Consequently, the IURC regulates the rates and charges of intrastate pipelines and LDCs, and through its Pipeline Safety Division (Pipeline Safety), regulates the infrastructure that transports natural gas.

Production Overview

The production of natural gas begins with raw natural gas extracted from the wellhead. Initial purification of natural gas occurs at the wellhead before entering the low-pressure, small diameter pipelines of the gathering system. The natural gas is then re-purified at the processing station. Purified natural gas consists of approximately 90 percent methane, compared to raw natural gas that is generally 70 percent methane combined with a variety of other compounds. For safety reasons, before allowing natural gas into the pipeline system, it is required to meet certain standards.¹

¹ http://www.naturalgas.org/naturalgas/processing_ng.asp

The vast majority of natural gas consumed in Indiana is from out-of-state production, predominantly the Gulf of Mexico.

The vast majority of natural gas consumed in Indiana is from out-of-state production, predominantly the Gulf of Mexico. In 2007, Indiana consumed approximately 536 million dekatherms (Dth) of natural gas², of which roughly 3.6 million Dth³, or less than one percent, was from production within the state. This illustrates Indiana's reliance upon the transmission system to carry natural gas from the gas producing regions of the country into the state.

The transmission system includes interstate and intrastate pipelines that carry gas from producing regions to LDCs, industrial consumers, and power generation customers. The Heartland Pipeline (Heartland) and the Ohio Valley Hub (OVH) pipeline are the two intrastate pipelines under the Commission's jurisdiction. The Commission governs the pipelines' operations, services, and rates.

Heartland is a 25-mile pipeline running west to east connecting the Midwestern Gas Transmission (MGT) interstate pipeline in Sullivan, Indiana to Citizens Energy Group's (Citizens) underground storage facility in Greene County. Heartland supplies firm and interruptible transportation services with a design capacity of 80,000 Dth per day on a firm basis and up to an additional 10,000 Dth per day on an interruptible basis. OVH, located in Knox County, connects two interstate pipelines (Texas Gas Transmission and MGT) to the Monroe City Gas Storage Field. OVH has a storage capacity of approximately 2.7 million Dth and firm transmission capacity of 60,000 Dth per day. Firm transportation service takes priority over interruptible service.⁴ Consequently,

² http://tonto.eia.doe.gov/dnav/ng/ng_cons_sum_a_EPG0_VC0_mmcfc_a.htm

³ http://tonto.eia.doe.gov/dnav/ng/ng_prod_sum_a_EPG0_FPD_mmcfc_a.htm

⁴ <http://www.aga.org/Kc/aboutnaturalgas/glossary/default.htm?id={6864429D-6294-4BE9-9CB2-64939E9A82FC}>

interruptible transportation service customers receive an incentive (slightly lower cost) due to susceptibility for interrupted gas supply, especially during peak periods.⁵

LDCs

The Commission regulates the rates and charges of twenty-one natural gas utilities in Indiana, with operating revenues totaling \$2.9 billion.

Gas passes through the transmission system and enters the distribution system, where LDCs take ownership to sell and deliver the gas to retail customers. The Commission regulates the rates and charges of twenty-one⁶ natural gas utilities in Indiana with operating revenues totaling \$2.9 billion⁷ (Appendix A). The amount of plant in service is \$4.3 billion, and the total rate base is \$1.7 billion.

Of the regulated utilities, one is a not-for-profit, two are municipalities, and eighteen are investor-owned utilities (IOUs). Pursuant to statute, municipal utilities may elect to “opt out” of the Commission’s jurisdiction for rates and charges in favor of local control in determining rates; however, these utilities still remain under Pipeline Safety’s jurisdiction.⁸ Seventeen gas utilities have elected to “opt out” of the Commission’s oversight.

The three largest IOUs providing gas service in Indiana are Northern Indiana Public Service Company (NIPSCO), Indiana Gas Company, Inc. (Indiana Gas), and Southern Indiana Gas & Electric Company, Inc. (SIGECO). NiSource is the parent company of NIPSCO, and Vectren Energy Delivery (Vectren) is the parent company of Indiana Gas and SIGECO. NIPSCO and SIGECO are combination utilities, providing gas and electric service. Citizens, a public charitable trust (treated as a municipal for purposes of regulation), serves mainly the Indianapolis metropolitan area. Citizens and the three IOUs mentioned above represent the four largest natural gas utilities in Indiana.

⁵ <http://www.aga.org/Kc/aboutnaturalgas/glossary/default.htm?id={6EC7604A-70E0-4508-A990-41D3AC4C21B9}>

⁶ Per the Commission Orders in Cause Nos. 43342 & 43611, Boonville Natural Gas and Chandler Natural gas merged and retained Boonville’s name.

⁷ 2008 Annual Reports filed with the Commission

⁸ Pursuant to I.C. § 8-1.5-3-9

Age-Profile

While the majority of the transmission and distribution mains in Indiana are less than 50 years old, almost half of all transmission mains are between 40 and 50 years old.

Indiana’s natural gas infrastructure consists of more than 80,000 miles of jurisdictional intrastate pipelines, including more than 39,000 miles of distribution and service mains⁹ and approximately 1,800 miles of transmission mains as demonstrated by Table 1.

Table 1

Age Profile of Jurisdictional Transmission and Distribution Mains in Indiana

Years Old and Older	Transmission Mains		Distribution Mains	
	Number of Miles Mains	Percentage of Total Main Miles	Number of Miles Mains	Percentage of Total Main Miles
70	2.0	0.11%	742.3	1.89%
60	2.8	0.16%	402.6	1.03%
50	275.0	15.35%	2,732.4	6.97%
40	692.7	38.66%	9,379.8	23.92%
30	233.0	13.00%	4,807.6	12.26%
20	171.6	9.58%	7,032.9	17.94%
10	211.2	11.79%	8,175.7	20.85%
0	126.6	7.07%	5,147.5	13.13%
Other	77.0	4.30%	787.1	2.01%
Total	1,791.9	100.00%	39,207.9	100.00%

While the majority of the transmission and distribution mains in Indiana are less than 50 years old, almost half of all of the transmission mains were built during the 1960s. This demonstrates the aging infrastructure of our pipeline system. Fortunately, federal guidelines for integrity management¹⁰ require that operators make every effort to assess threats to their pipelines, with age being an obvious threat. It is anticipated that replacement of aging infrastructure will continue to be an ongoing focus as demand for service continues to increase.

⁹ Service mains are used to transport natural gas from the distribution system to the end user’s property for final use.

¹⁰ A risk-based approach to pipeline safety that resulted from the Pipeline Safety Act of 2002.

The distribution system requires frequent construction of new mains in order to meet the demand of new customers. In the last 20 years in Indiana, approximately 34% of the distribution mains were placed in service as compared to roughly 18% of the transmission system. While the age of the distribution system is younger than the transmission system, operators must continue to remain aware of integrity management and assess threats to their pipelines.

Demand

LDCs serve three main customer classes: residential, commercial, and industrial. The residential customer class consists of single-family homes and small multi-family dwellings. Most residential customers use the LDC as their natural gas supplier, but residential customers in the NIPSCO service territory have the option of electing an alternative natural gas supplier under NIPSCO's "Choice Program," which was approved by the Commission through an alternate regulatory plan. Those customers (approximately 14% of NIPSCO's total residential customers) elect to contract with an alternative supplier for their natural gas needs with NIPSCO providing the transportation service.

The residential class consumed approximately 153 million Dth of natural gas in 2008.¹¹ A snapshot of the cost of natural gas paid by Indiana consumers is provided in the Residential Gas Bill Analysis, Appendix B, which reflects rates for the month of January in each of the past five years. Due to gas cost adjustments (GCAs) that change rates frequently (in some cases monthly), the analysis does not necessarily reflect current billing amounts.

The commercial customer class typically consists of office, retail, and wholesale facilities in addition to larger residential complexes. Some commercial class customers may choose to receive bundled service or transportation service from the LDC. In 2008, the commercial class consumed approximately 82 million Dth of natural gas.¹²

¹¹ http://tonto.eia.doe.gov/dnav/ng/ng_cons_sum_dcu_SIN_a.htm

¹² http://tonto.eia.doe.gov/dnav/ng/ng_cons_sum_dcu_SIN_a.htm

The industrial customer class typically purchases the highest volume of gas both individually and collectively. This class may receive bundled service or buy gas directly from one or more producers and/or marketers, paying the LDC solely for the transportation costs associated with delivering the gas from the city gate to the industrial customers' facilities. In 2008, Indiana's industrial customers consumed about 286 million Dth, the fourth highest amount in the U.S.¹³

Existing Policy

Pipeline Safety Act of 1968 and the State's Pipeline Safety Program

The Pipeline Safety Act of 1968 promotes pipeline safety through exclusive federal authority for regulation of interstate pipeline facilities, and federal delegation to the states for all or part of the responsibility for intrastate pipeline facilities under annual certification or agreement.

The Pipeline Safety Act of 1968 established the federal pipeline safety program. Chapter 601 of Title 49 of the United States Code (49 U.S.C. Chapter 601) provides the statutory basis for this program and establishes a framework and organizational structure for the federal/state partnership. This framework promotes pipeline safety through exclusive federal authority for regulation of interstate pipeline facilities, and federal delegation to the states for all or part of the responsibility for intrastate pipeline facilities under annual certification or agreement. Chapter 601 authorizes federal grants-in-aid for up to 50 percent of a state agency's personnel, equipment, and activity costs for its pipeline safety program. Therefore, the federal/state partnership is the cornerstone for ensuring uniform implementation of the pipeline safety program nationwide.

Chapter 601 authorizes federal grants-in-aid for up to 50 percent of a state agency's personnel, equipment, and activity costs for its pipeline safety program.

The United States Department of Transportation (USDOT), Pipeline and Hazardous Material Safety Administration (PHMSA), and the Office of Pipeline Safety (OPS) are

¹³ http://tonto.eia.doe.gov/dnav/ng/ng_cons_sum_a_EPG0_vin_mmcf_a.htm

responsible for protecting the people and the environment in the U.S. through a comprehensive pipeline safety program. Under delegation from the Secretary of the USDOT, the OPS directly administers the program and develops, issues, and enforces minimum safety regulations for interstate and intrastate pipelines. These regulations ensure safety in the design, construction, testing, operation, and maintenance of pipeline facilities; and the siting, construction, operation, and maintenance of liquefied natural gas (LNG) facilities. The OPS confirms compliance with regulations through operator inspections, enforcement actions, and accident investigations. To ensure consistency and compliance with the regulations, the PHMSA/OPS Office of Training and Qualification conducts training and researches, collects, and analyzes safety data. The OPS also administers grant-in-aid funding to states.

Indiana participates in the pipeline safety grant allocation program through the voluntary submission of a certification pursuant to Section 60105 of Chapter 601. Under this certification, the Commission, on behalf of the OPS, assumes safety responsibility with respect to intrastate facilities over which it has jurisdiction under state law (submissions for gas and hazardous liquid programs are separate certifications). These laws allow Indiana to enforce each federal safety standard through injunctive and monetary sanctions. The state may also adopt additional or more stringent standards for intrastate pipeline facilities, provided such standards are compatible with federal regulations.

In 2008, Pipeline Safety conducted 1,046 inspections and resolved 149 probable violations.

Pipeline Safety administers the Indiana pipeline safety program, established by statute.¹⁴ Annually, the division completes a minimum of one in-depth inspection of each gas pipeline operator and covers 50 percent of each operator's inspection units. These inspections may cover operating procedures, operating records, specialized inspections, follow-up inspections, field inspections, operator training, or any combination of these types of inspections. Upon discovery of a probable violation, an operator receives a

¹⁴ I.C. § 8-1-22.5

written notice and is subject to additional enforcement, as needed. In 2008, Pipeline Safety conducted 1,046 inspections and resolved 149 probable violations.

Additionally, Pipeline Safety investigates new operators, determines jurisdictional authority, and incorporates new operators into the program. It also conducts investigations into each pipeline accident reported to the National Reporting Center. Most often, the investigations take place on-site unless the incident is determined to be non-jurisdictional. Upon completion of an investigation, the division prepares a written report.

Another area of responsibility is the prevention of damage to underground facilities. Pipeline Safety promotes the education of public and emergency officials/responders in recognizing, reporting, and responding to gas-related emergencies and conducts training sessions for pipeline operators in the state. The division also maintains records for each operator, inspection, and compliance action. Records include, but are not necessarily limited to, inspection records, correspondence and compliance actions, and incident reports. State and federal annual reports, including unaccounted-for-gas and construction project reports, are also retained.

Federal Energy Regulatory Commission Orders

The impact of federal regulation is important to the LDCs, especially since the Federal Energy Regulatory Commission (FERC) oversees the rates, and terms and conditions of sales for resale and transportation of natural gas in interstate commerce. FERC operates as an independent agency in the regulation of interstate pipelines, interstate infrastructure proposals, and liquefied natural gas (LNG) terminals. While the marketplace determines the price of commodity gas, the IURC approves gas purchases along with distribution-related costs. All costs approved by the IURC include FERC-related costs associated with supplying gas to the end-use consumers.

Order 636, commonly known as the Restructuring Rule, provided for pipeline companies to change from being merchants of natural gas to being transporters of natural gas and allowed open-access transportation services regardless of who owns the gas.

In April 1992, the FERC issued Order 636, commonly known as the Restructuring Rule. This rule sought a more efficient use of the interstate natural gas transmission system by changing the way pipeline companies conduct business. Order 636 provided for pipeline companies to change from being merchants of natural gas to being transporters of natural gas and allowed for open-access transportation services regardless of who owns the gas, thereby increasing competition between sellers. Order 636 also required interstate pipeline companies to separate transportation and sales services. This separation, also known as unbundling, ensured that suppliers compete for gas purchasers on an equal basis. Pipeline companies offer a variety of transportation services such as unbundled no-notice, firm transportation service, open-access storage, and a capacity release program that ultimately created a secondary market, allowing for the release of surplus firm capacity for transportation and storage.

The FERC continues to revise previous Orders to promote a more efficient capacity release market. In July 2008, the FERC issued Order 712. This Order revised regulations governing interstate natural gas pipelines to reflect changes in the market for short-term transportation services on pipelines and to improve the efficiency of the capacity release program. These FERC revisions originated from two proceedings in which pipeline companies requested that the rate caps be lifted on short-term capacity release transactions and gas marketers requested clarification as to how the capacity rules operated in relation to asset management arrangements (AMAs).¹⁵ The use of AMAs by a pipeline shipper allows a natural gas marketer to optimize several parties' transportation services and competitive gas supplies, which reduces the as-delivered cost of natural gas to those customers.

¹⁵ A delivery of a portion of its capacity by a capacity holder to an asset manager who agrees to supply the gas needs of the releasing shipper.

In turn, FERC regulations allow pipeline companies and LDCs to realize benefits from the capacity release market and AMAs. These benefits include greater flexibility in managing pipeline capacity contracts and the creation of value-added capacity on interstate pipelines. The value or dollars from the capacity release program is then shared with customers in gas cost filings amongst Indiana’s four largest utilities.

II. NATURAL GAS LANDSCAPE

Infrastructure

Rockies Express Pipeline – Interstate Pipeline

The Rockies Express Pipeline (REX) is a major interstate pipeline project that begins in Rio Blanco County, Colorado and will end in Monroe County, Ohio, costing approximately \$4.4 billion. The proposed route in Indiana will traverse the counties of Vermillion, Parke, Putnam, Hendricks, Morgan, Johnson, Shelby, Decatur, and Franklin. The joint developers of the project are: Kinder Morgan Energy Partners, L.P.; Sempra Pipelines and Storage, a unit of Sempra Energy; and ConocoPhillips.¹⁶

The proposed routing of REX through Indiana may diversify the state’s natural gas sources of supply and could cause downward pressure on price.

Upon completion, REX will be the largest natural gas pipeline in North America, spanning nearly 1,700 miles with a capacity of 1.8 billion cubic feet per day. Moreover, REX will link natural gas supplies in the Rocky Mountains to major markets in the upper Midwest and Eastern U.S. Historically, there has been a substantial price disparity between Rocky Mountain gas and gas supplies in the eastern U.S. The proposed routing of REX through Indiana may diversify the state’s natural gas sources of supply and potentially cause a downward pressure on price.

The REX pipeline system will be comprised of three sections: 1) Rockies Express–Entrega (REX-Entrega); 2) Rockies Express–West (REX–West); and 3) Rockies

¹⁶ Preliminary Determination of Non-Environmental Issues; FERC Docket No. CP06-354

Express–East (REX–East). Rex-Entrega is a completed 328-mile pipeline running throughout Colorado. The REX-West project, sprawling 713 miles¹⁷ from Weld County, Colorado to Audrain County, Missouri¹⁸ began full service on May 20, 2008. The REX-East portion of the project will be approximately 638 miles and extend from Missouri to Ohio, passing through Indiana. The FERC’s environmental staff concluded that the Rockies Express East Project, with recommended mitigating measures, would result in limited adverse environmental impact.¹⁹ REX-East is the last segment to be completed and is expected to be operational by the end of 2009.²⁰

The PHMSA requested assistance from Pipeline Safety to observe and report on construction of the REX pipeline in Indiana. Pipeline Safety also monitors the restoration of the right-of-way for the REX pipeline. In 2008, IURC engineers spent 53 days inspecting the construction of the REX pipeline; as of March 2009, Pipeline Safety spent 96 days providing the PHMSA assistance through inspections of this project. This cooperative effort is expected to continue until the project is complete.

Resources

Energy Efficiency

Prior to the effective date of the Energy Independence and Security Act of 2007 (EISA), the Commission issued orders fulfilling most requirements of the Act by approving decoupling mechanisms and energy efficiency programs.

The Energy Independence and Security Act of 2007 was signed into law on December 19, 2007. The EISA provisions promote energy independence in the United States by increasing energy efficiency measures and increasing usage requirements for clean renewable fuels. The requirement in Title V, the Energy Savings in Government and Public Institutions, affects the Commission by amending the Public Utility Regulatory Policies Act of 1978. The amendment requires natural gas utilities to adopt

¹⁷ http://www.rexpipeline.com/docs/rex_inserviceupdate0516.pdf

¹⁸ http://www.rexpipeline.com/index_west.html

¹⁹ FERC 4/11/08 press release, <http://www.ferc.gov/industries/gas/enviro/eis/2008/04-11-08.asp>

²⁰ <http://www.rexpipeline.com/docs/04-30-07-REX-East-Filing.pdf>

policies that establish energy efficiency as a priority in their business operations and planning processes. The amendment also requires regulatory agencies to evaluate rate design modification and provide for the following:

- Instituting decoupling programs;
- Creating incentives for utilities to successfully manage energy efficiency programs; and
- Adopting rate designs promoting energy efficiency in each customer class.

Prior to the effective date of the EISA, the Commission issued orders fulfilling most requirements of the act.²¹

The Commission established oversight boards to govern the energy efficiency programs, comprised of representatives from various energy groups, utilities, state agencies, consumer groups, and educational institutions such as the State Utility Forecasting Group (SUFG) at Purdue University.

Utility-sponsored energy efficiency programs have been included in most of the approved decoupling rate designs that separate a utility's profits from its sales while providing for an allowed rate of return. Although decoupling does not itself produce energy efficiency, the two concepts are linked as gas utilities are advocating conservation efforts with the assurance of cost recovery. Currently, four Indiana gas utilities have decoupling mechanisms approved which are linked with energy efficiency programs.²²

The Commission established oversight boards to govern the energy efficiency programs. The oversight boards are comprised of representatives from various energy groups, utilities, state agencies, consumer groups, and educational institutions such as the State Utility Forecasting Group (SUFG) at Purdue University. The representatives on the oversight boards use a consensus decision-making process to approve a proposed

²¹ In Cause Nos. 42943 & 43046, the Commission approved an energy efficiency program in the December 1, 2006 order. In Cause No. 43051, the Commission approved an energy efficiency program in the May 9, 2007 order. In Cause No. 42767, the Commission approved an energy efficiency program in the August 29, 2007 order.

²² These utilities are Citizens Gas & Coke Utility, Northern Indiana Public Service Company, Indiana Gas Company, Inc., and Southern Indiana Gas & Electric Company.

portfolio of programs as well as the associated costs and measures of program effectiveness. In order to complete an accurate evaluation of the energy efficiency programs, it will be necessary to gather twelve to eighteen months of data.

In the future, it is the Commission's expectation that the various individual utility programs will consolidate into a single statewide program that will allow for economies of scale and significant market influence not gained by smaller individual programs. Additionally, customers will benefit from a unified oversight board that will establish consistency in program structure, messaging, and education efforts throughout the state.

Renewables

Indiana has numerous opportunities for using renewable energy options as an alternative to conventional fuels such as natural gas, fuel oil, and coal.

Indiana has numerous opportunities for using renewable energy options as an alternative to conventional fuels such as natural gas, fuel oil, and coal. Since landfills are the largest human-generated source of methane emissions in the United States, capturing and using this methane for energy is a growing source of renewable energy. Currently, there are twenty²³ operational landfill methane gas (LMG) utilization projects in Indiana, with the potential to develop additional facilities in the future.

Another source of renewable energy is the creation of methane gas or renewable natural gas (RNG) from anaerobic digestion of waste from livestock. In northern Indiana, a project involving two dairy farms is in the process of becoming a supplier of pipeline-grade RNG. These farms are capable of producing approximately 900,000 Dth annually. However, in order for the farms to supply RNG, the utility will require upgrades to enable the gas to be transported throughout its system. Therefore, cooperation will be necessary between the farms and the utility.

²³ <http://www.epa.gov/landfill/proj/index.htm>

Given recent concerns regarding energy efficiency and environmental pollution, interest in agricultural, organic, and human-generated waste may lead to additional alternatives to conventional fuels.

Given recent concerns regarding energy efficiency and environmental pollution, interest in agricultural, organic, and human-generated waste may lead to additional alternatives to conventional fuels. Since sustainable sources of natural gas provide economic and environmental benefits, continued success of these types of projects is important to Indiana's energy future. Consequently, the Commission expects to review new proposals for RNG projects in the near future.

Coal bed methane ("CBM") is another alternative energy source for Indiana. CBM is similar to natural gas in that it is of pipeline quality, but unlike natural gas, it is located underground in un-mined coal seams that may be only a few hundred feet below the surface. Currently, there is one CBM project in southern Indiana that is expected to produce 1.6 million cubic feet of gas a day with a production forecast of approximately 2.0 million cubic feet per day.²⁴ The gas from this project will be delivered to Heartland Pipeline for end use by consumers within the state of Indiana.

Given Indiana's vast coal reserves, the prospect of using local coal sources for synthetic gas production is another alternative to importing natural gas into our state. The process, which is called "gasification," converts coal into substitute natural gas (SNG). The SNG²⁵ produced is of pipeline quality and may be used for home heating, manufacturing facilities, or in the generation of electricity. In the "Legislation" section of the Report, the gasification process is discussed and a more detailed explanation is provided.

Shale Gas

The emergence of unconventional sources of natural gas supply such as shale has affected the overall supply of natural gas in our country. A recent report by the Potential

²⁴ Commission Order in Cause No. 43500 dated December 17, 2008.

²⁵ I.C. 4-4-11.6 and modified IC 4-4-1.9-1.2.

Gas Committee²⁶ cites an unprecedented increase in the magnitude of U.S. natural gas. This is due to newly available drilling techniques of shale-gas potential throughout the Appalachian basin, in the Mid-Continent, Gulf Coast, and Rocky Mountain areas. This recent production of shale gas in the market the last two years is competitively priced relative to traditional or conventional gas supply. However, the price of discovery and the actual production of shale gas will vary depending on location and geological formation.

Pricing and Economics

Summer Pricing

It is important to note that utilities *do not* profit from the gas commodity portion of consumer bills as it is a dollar-for-dollar pass-through of the gas cost.

The natural gas market remains volatile in terms of pricing. During the summer of 2008, prices reached unprecedented levels peaking on July 3rd at \$13.31/Dth relative to the current pricing at or below \$3.00/Dth.²⁷ The most prominent impact of pricing is typically supply and demand. However, other factors contribute to market volatility as well. The FERC reported that speculation about the price of natural gas tends to attract financial investments in the commodities market. These additional, often short-term investments then compound price volatility, as demonstrated by this summer's price spike. But, absent these factors, a colder-than-normal January, a decline in imports from Canada, a shut-down of production at the Independence Hub²⁸, and extreme June temperatures also contributed to the summer price peak. The chart below demonstrates market volatility and shows the variation of pricing from April of 2008 to April of 2009.

²⁶ The Potential Gas Committee is an incorporated, nonprofit organization consisting of experienced volunteers in the natural gas field working independently in association with the Colorado School of Mines.

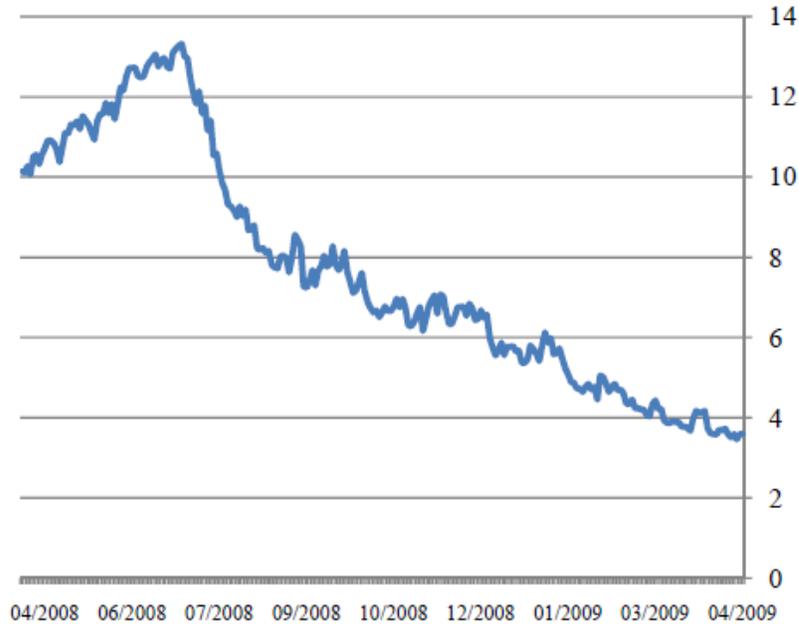
²⁷ NYMEX Natural Gas Futures (September 2009), August 26, 2009

http://www.nymex.com/ng_fut_cso.aspx

²⁸ A large natural gas production platform in the Gulf of Mexico.

Henry Hub Spot Prices for the Period

Dollars per MMBtu
4/16/2008 - 4/16/2009



The demand contributions associated with natural gas are due partially to environmental concerns such as carbon. Many electric utilities are now using natural gas, a clean-burning fuel, as a source for electric production. Weather also has a significant impact on the demand for natural gas. As expected, when the weather is colder than normal during the heating season, the demand for natural gas increases. Demand also increases if the weather is hotter than normal during the non-heating season, as natural gas is used for electricity peaking. Because gas consumption is typically lower in the summertime, gas utilities use this opportunity to replenish storage with lower-cost gas in preparation for the winter heating season. However, extreme temperature variations can increase the demand for natural gas during summer months, thereby affecting the price of gas as well as the price of electricity.

While demand is a significant driver of market volatility, other factors such as supply, storage, weather, and economic conditions contribute as well.

Supply is also a concern as the demand for natural gas increases. To keep balance in the market, new sources of supply are needed, especially since some conventional sources of supply are producing less natural gas and existing wells tend to experience a decline in production as they mature. Higher natural gas prices have increased interest in the exploration of unconventional sources that were once considered too costly to extract. New technology and lower extraction costs have also led to increased drilling of non-conventional gas supplies (e.g., coal bed methane, shale gas, and tight sands), which has contributed significantly to the supply of natural gas. For example, as conventional production declined in 2008, unconventional production that represented 51% of the total natural gas production in 2008, increased at a growth rate of 14% for the year.²⁹ As a result, these additional sources, along with an increase in overall working storage of natural gas led to a decline in natural gas prices during the spring of 2009.

It is important to note that utilities *do not* profit from the gas commodity portion of consumer bills as it is a dollar-for-dollar pass-through of the gas cost. In order for utilities to recover these costs, the overall weighted cost of gas and a utility's purchasing practices must be reviewed by the Commission and the Office of the Utility Consumer Counselor (OUCC), the state agency that represents ratepayers in proceedings before the Commission. In order for costs to be approved, each utility must demonstrate that its purchases were prudent. The Commission continues to encourage utilities to incorporate a diversified portfolio to mitigate price volatility and to have a flexible program to take advantage of market conditions.

Consumer Issues

Because current market prices are layered into a utility's portfolio mix, customers may pay a higher-than-market rate as it takes time for the higher cost gas to work through the process.

As natural gas prices decreased over the year, consumers raised concerns about high gas bills. Many consumers believed that as commodity costs decreased, utility bills

²⁹ FERC - 2008 State of the Markets Report, April 16, 2009

should follow suit and immediately reflect the decreased prices. However, utilities do not purchase the majority of their gas supply on a day-to-day basis since a portfolio mix can hedge against market volatility. Therefore, current market prices are layered into a utility's portfolio mix in the event that prices peak during abnormal times or storage capacity is compromised.

Because summer prices have been historically lower than winter spot market prices, utilities purchase the bulk of their gas prior to the winter heating season to meet consumer demand and provide for adequate supply. However, during the summer of 2008, prices peaked and utilities were faced with the dilemma of ensuring adequate supply for winter or holding out for lower prices when they were predicted to climb even higher. Since utilities elected to meet demand, they encountered storage limitations when a subsequent price drop took place during the heating season. While the gas must eventually be withdrawn, capacity and storage restrictions limit the process. This explains why customers paid a higher-than-market rate despite blending, as it takes time for the higher cost gas to work through the process.

Adjustable Rate Mechanisms

On average, the GCA mechanism accounts for approximately 75 percent of a residential customer's bill; fixed operating costs account for approximately 23 percent. All other trackers approved by the Commission account for less than two percent of a customer's monthly gas bill.

An adjustable rate mechanism (tracker) allows for the timely recovery of costs that are substantially outside the utility's control (e.g., federal regulations, market volatility). Through an expedited process, the Commission reviews the costs associated with the tracker mechanisms. The Commission has authorized the following trackers:

- Gas Cost Adjustment (GCA) – Pursuant to statute, the GCA mechanism allows a gas utility to recover the commodity cost of gas not recovered through rate case established rates. The GCA process allows a gas utility to recover incurred gas

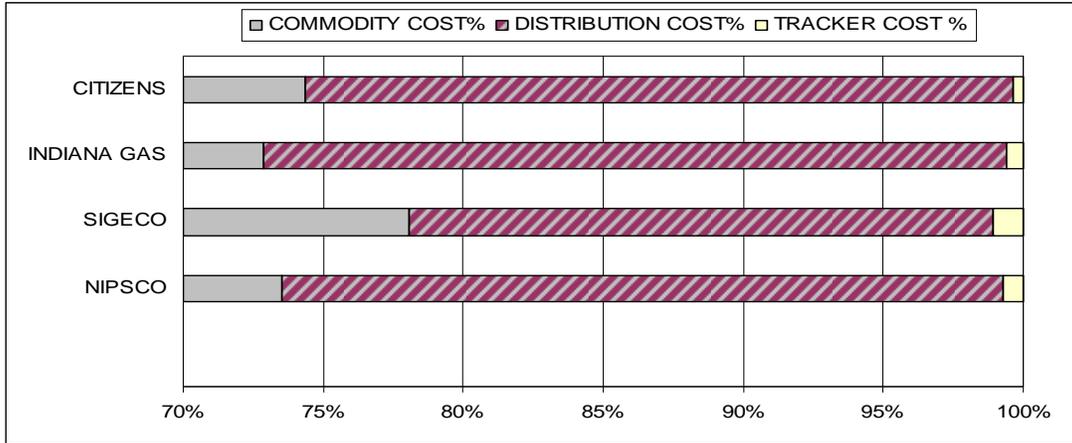
costs on a timely basis. The gas cost portion of a customer's bill is approximately 75 percent of the total.

- Pipeline Safety Adjustment (PSA) – The PSA allows the gas utility to recover prudently incurred, incremental non-capital expenses incurred to meet the requirements of the Federal Pipeline Safety Improvement Act of 2002 (PSIA). The PSIA imposes many new requirements on pipeline operators.
- Energy Efficiency Funding Component (EEFC) & Sales Reconciliation Component (SRC) – The EEFC provides funds for the utility to promote energy efficiency. The SRC allows recovery of the rate case level of expenses from residential and commercial ratepayers which would otherwise be lost due to reductions in revenue due to customer savings prompted by energy efficiency.
- Normal Temperature Adjustment (NTA) – The NTA reduces the risk of the gas utility not recovering approved margin due to warmer-than-normal temperatures and mitigates the possibility of over-earning due to colder-than-normal temperatures during the heating season.

In other words, trackers provide utilities with a better, simplified opportunity to achieve authorized returns. The recovery of costs associated with consumer benefits or for normal operations of the utility improves the financial health of the utility, which benefits both the utility and consumers. On average, the GCA mechanism accounts for approximately 75 percent of a residential customer's bill: operating costs account for approximately 23 percent. All other trackers approved by the Commission account for less than 2 percent of a customer's monthly gas bill. The following table demonstrates this cost analysis.

Table 2

***Four Largest Indiana Gas Utilities
Percentage of Residential Billing Components***



Decoupling

Decoupling separates the recovery of a gas utility's fixed costs from the volume of natural gas sold.

Traditional ratemaking allows a utility to recover fixed costs based on an estimated test year volume of natural gas sold. Hence, depending on sales, a utility may over or under recover costs. Fixed costs are non-commodity costs such as operational costs that do not vary with the quantity of gas sold. Under traditional ratemaking, a utility captures a portion of its fixed costs through the volume of natural gas sold. Therefore, a utility can recover fixed costs fully only when customers consume a certain threshold volume of natural gas as established in the utility's last rate case.

In recent years, retail customers have consumed less natural gas from year to year due to generally rising gas costs, weather variations, conservation efforts, and a new generation of more energy-efficient appliances. Current rates are based on historic or past usage, which may be difficult to sell the volumes of gas necessary to recover their fixed costs or earn an allowed return on investments, creating an incentive for the LDCs to encourage greater use. This conflicts directly with efforts to promote energy efficiency. For this reason, the Commission received a number of proposals to modify

current rate structures. These alternative rate design proposals are also known as “decoupling”. Decoupling separates the recovery of a gas utility’s fixed costs from the volume of natural gas sold. The Commission has a pending investigation³⁰ into these rate design alternatives and energy efficiency measures for natural gas utilities.

There are several decoupling rate designs. Some of the more prominent decoupling alternatives include straight-fixed variable, normal temperature adjustments (NTA), and revenue stabilization. These alternatives strive to break the link between the amount of gas sold and recovery of fixed costs. The Commission approved³¹ a variety of decoupling mechanisms that provide for the recovery of fixed costs based on sales volumes through a periodic tracker adjustment. The Commission also approved NTA decoupling mechanisms for many jurisdictional gas utilities.³²

By severing the link between cost recovery and sales volume, decoupling mechanisms can lead to a number of benefits, including:

- The development of energy efficiency programs without concerns about inadequate cost recovery;
- Economic development by reducing energy costs to businesses;
- Improved credit rating, thus lowering the cost of debt for capital that may also result in lower overall rates; and
- Reduction in variability in customer bills by smoothing weather-related volatility.

³⁰ In Cause No. 43180, the Commission is investigating rate design alternatives and energy efficiency measures for natural gas utilities.

³¹ In Cause Nos. 42943 and 43046, the Commission approved an alternative regulatory plan that includes a sales reconciliation decoupling mechanism for Southern Indiana Gas & Electric Company and Indiana Gas Company, Inc. In Cause No. 42767, the Commission approved an alternative regulatory plan that includes decoupling mechanism and energy efficiency for Citizens Gas & Coke Utility.

³² In Cause No. 42890, the Commission approved a Normal Temperature Adjustment mechanism for Indiana Gas Company, Inc. and Southern Indiana Gas & Electric Company. In the Consolidated Petition, Cause Nos. 43107, 43108, 43109, 43110, 43129, 43135, 43136, 43137 and 43141, a Normal Temperature Adjustment mechanism was approved for Midwest Natural Gas Corporation, Indiana Utilities, South Eastern Indiana Natural Gas Company, Fountaintown Gas Company, Community Natural Gas Company, Boonville Natural Gas Corporation, Chandler Natural Gas Corporation, Indiana Natural Gas Corporation, and Lawrenceburg Natural Gas Company. In Cause No. 43202, the Commission approved an NTA for Citizens Gas & Coke Utility and Citizens Gas of Westfield. In Cause Nos. 43208 and 43209, the Commission approved an NTA for Ohio Valley Gas, Inc. and Ohio Valley Gas Corporation.

Some observers argue that certain forms of decoupling could increase rates paid by consumers. Potential disadvantages include:

- The straight-fixed variable design may require a higher service charge to recover fixed costs, causing summertime bills, when natural gas usage is typically low, to be higher than under traditional rates. The overall bill impact, even if minimal, could potentially be higher.
- Some forms of decoupling rate designs may penalize customers for energy efficiency efforts because the utility is able to increase rates to compensate for reduced sales. This may reduce a customer’s natural incentive to conserve energy.
- Some view revenue stabilization as a “guarantee” of recovery of fixed costs and authorized returns. Opponents of this type of decoupling mechanism note that regulation provides a reasonable opportunity, not a guarantee, to earn a profit.
- Low-income customers may be at a disadvantage because their ability to conserve and reduce the commodity or natural gas component of their bills is limited due to the affordability of weatherization.

One condition of the American Recovery and Reinvestment Act of 2009 (ARRA) was that in order to receive federal stimulus dollars each State Regulatory Authority had to explore the implementation of a policy that more appropriately aligns utility financial incentives with customer energy efficiency measures.³³ Given that the Commission has already implemented these types of policies, it must continue to weigh the strengths and

³³ SEC. 410. ADDITIONAL STATE ENERGY GRANTS. (a) IN GENERAL —

Amounts appropriated under the heading “Department of Energy—Energy Programs—Energy Efficiency and Renewable Energy” in this title shall be available to the Secretary of Energy for making additional grants under part D of title III of the Energy Policy and Conservation Act (42 U.S.C. 6321 et seq.). The Secretary shall make grants under this section in excess of the base allocation established for a State under regulations issued pursuant to the authorization provided in section 365(f) of such Act only if the governor of the recipient State notifies the Secretary of Energy in writing that the governor has obtained necessary assurances that each of the following will occur:

(1) The applicable State regulatory authority will seek to implement, in appropriate proceedings for each electric and gas utility, with respect to which the State regulatory authority has ratemaking authority, a general policy that ensures that utility financial incentives are aligned with helping their customers use energy more efficiently and that provide timely cost recovery and a timely earnings opportunity for utilities associated with cost-effective measurable and verifiable efficiency savings, in a way that sustains or enhances utility customers’ incentives to use energy more efficiently.

weaknesses of any proposed alternative rate design, decoupling mechanism, or innovative proposal to allow appropriate cost recovery for utilities while assuring fair and equitable treatment of all natural gas customers.

III. NATURAL GAS GROWTH & INNOVATION

Legislation

SEA 423 – Substitute Natural Gas (P.L. 2-2009³⁴)

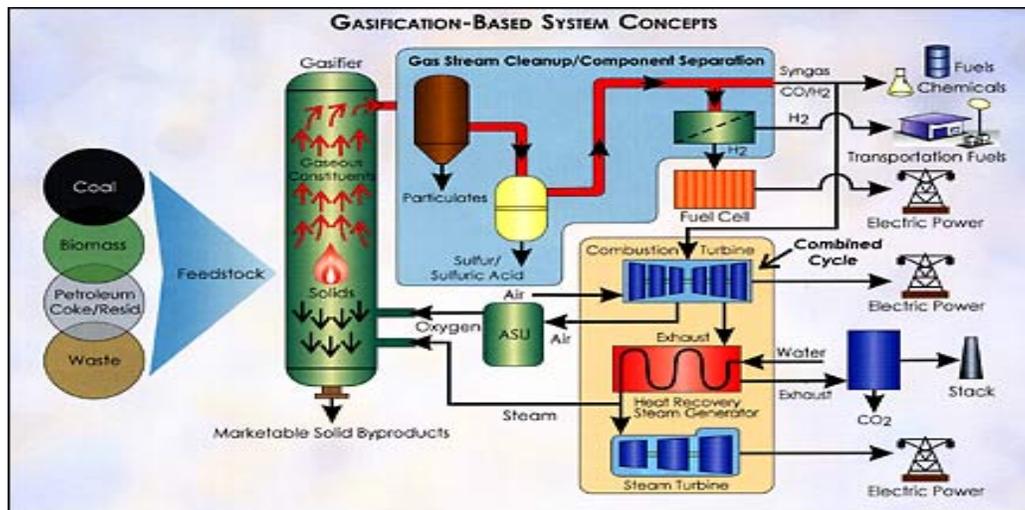
Governor Daniels, in keeping with Indiana’s homegrown clean energy initiative, signed into law a measure for a proposed gasification facility on March 24, 2009. This facility proposes to convert Indiana coal into pipeline quality gas for use ultimately by retail end-use customers. The gas utilities perform the function of delivery of the SNG to retail end-use customers. The Commission anticipates a docketed proceeding to address the certificate of need for the gasification facility and for approval of the contracts for the SNG by the utilities.

Coal gasification offers one of the most versatile and cleanest ways to convert coal into electricity, hydrogen and other valuable energy products. Rather than burning coal directly, gasification (a thermo-chemical process) breaks down coal into its basic chemical constituents. In a gasifier, coal is typically exposed to steam and carefully controlled amounts of air or oxygen under high temperatures and pressures. Under these conditions, molecules in coal break apart, initiating chemical reactions that typically produce a mixture of carbon monoxide, hydrogen and other gaseous compounds.

The environmental benefits of gasification stem from the capability to achieve extremely low SO_x, NO_x, and particulate emissions from burning coal-derived gases. Sulfur in coal, for example, is converted to hydrogen sulfide and can be captured by processes presently used in the chemical industry. In an Integrated Gasification Combined-Cycle (IGCC) plant, the syngas produced is virtually free of fuel-bound nitrogen since NO_x from the gas turbine is limited to thermal NO_x. Diluting the syngas

³⁴ SEA 423 created a new section, I.C. 4-4-11.6, and modified I.C. 4-4-1.9-1.2.

allows for NOx emissions as low as 15 parts per million. The gasification process is detailed below³⁵:



Coal gasification may offer a further environmental advantage in addressing concerns over the atmospheric buildup of greenhouse gases, such as carbon dioxide. If oxygen is used in a coal gasifier instead of air, carbon dioxide is emitted as a concentrated gas stream in syngas at high pressure. In this form, it can be captured and sequestered more easily and at lower costs. By contrast, when coal burns or is reacted in air, 79 percent of which is nitrogen, the resulting carbon dioxide is diluted and more costly to separate.

*SEA 487 – Underground Plant Protection (P.L. 62-2009)*³⁶

Pipeline Safety continued its efforts to improve Indiana’s damage prevention program and incorporate the nine elements of an effective damage prevention plan as outlined by Congress in the PIPES Act of 2006. The result of its efforts proved beneficial as it was awarded a \$100,000 State Damage Prevention Grant. With this funding, Pipeline Safety worked closely with Indiana 811 and other stakeholders to implement a pilot program designed to monitor the effectiveness of the existing system for requesting markings of underground facilities. In addition, grant funding provided the resources to conduct

³⁵ www.fossil.energy.gov

³⁶ SEA 487 modified and created several sections throughout I.C. 8-1-26 and added I.C. 8-1-2.6-4(c)(4).

stakeholder meetings to gather input concerning the state of Indiana's damage prevention program.

Adequate enforcement authority is considered a critical element of an effective damage prevention program, which is why SEA 487 provided the Commission with authority to impose a civil penalty on individuals that fail to abide by the rules and regulations set forth to ensure safe digging. Failure to implement effective enforcement could result in federal pre-emption of Indiana's authority with respect to this issue. SEA 487 also requires the Commission to report to the Regulatory Flexibility Committee on best practices concerning vertical location of underground facilities. Senate Enrolled Act 487 was introduced during the 2009 session of the Indiana General Assembly and was signed into law by Governor Daniels on May 1, 2009.

Rulemaking – Transportation of Gas, Hazardous Liquids, etc. – I70 IAC 5-3

Pipeline Safety drafted language incorporating reporting requirements for hazardous liquids into the current pipeline safety administrative rules. In addition, Pipeline Safety revised the existing rules for natural gas pipeline operators. Throughout the year, representatives from gas and liquid pipeline companies participated in workshops to discuss the proposed rules with the Commission. The participants worked diligently to develop rules that represent the consensus opinion of the stakeholders and to improve safety. The major discussion topics included requirements for operators to begin conducting leak surveys with gas detection equipment over portions of some customer-owned fuel lines, stricter reporting requirements for master meter operators, and clarification of reporting requirements for all operators. As the rules are promulgated and enforced, enhanced safety and a clear understanding of the conditions of the pipeline infrastructure can be expected.

IV. NATURAL GAS APPENDICES

Appendix A – Gas Utility Revenues

Gas Utility Revenues

Year Ending December 31, 2008

Utility Name	*Revenues	Percentage of Total Revenues
Northern Indiana Public Service Company	\$ 1,168,661,760	40.05%
Indiana Gas Company, Inc.	864,954,712	29.65%
Citizens Gas & Coke Utility	469,985,992	16.11%
Southern Indiana Gas & Electric Company	160,665,213	5.51%
Northern Indiana Fuel & Light Company, Inc.	55,339,367	1.90%
Kokomo Gas and Fuel Company	49,792,552	1.71%
Ohio Valley Gas Corporation	42,794,031	1.47%
Midwest Natural Gas Corporation	26,570,153	0.91%
Lawrenceburg Gas Company	16,137,858	0.55%
Indiana Natural Gas Corp.	11,962,223	0.41%
Community Natural Gas Co., Inc.	10,895,118	0.37%
Ohio Valley Gas, Inc.	7,261,140	0.25%
Indiana Utilities Corporation	6,277,837	0.22%
Westfield Gas Corporation	5,797,102	0.20%
Fountaintown Gas Co., Inc.	5,193,441	0.18%
**Boonville Natural Gas Corporation	6,453,278	0.22%
Aurora Municipal Gas	3,650,677	0.13%
South Eastern Indiana Natural Gas Company, Inc.	2,764,420	0.09%
Switzerland County Natural Gas Co., Inc.	2,120,964	0.07%
Valley Rural Utility	382,116	0.01%
Snow & Ogden	14,800	0.00%
Total	\$ 2,917,674,754	100.00%

*Data taken from 2008 Annual Reports filed with the Commission.

**The Commission approved the merger of Boonville Natural Gas and Chandler Natural Gas on January 30, 2009 pursuant to Cause No 43611.

2009 ELECTRIC REPORT

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V. ELECTRIC OVERVIEW

Industry Structure

The Commission has jurisdiction over electric service provided to approximately 2.6 million customers in Indiana. In 2008, Indiana’s average retail rates were the 12th lowest in the nation.

The Indiana Utility Regulatory Commission (Commission) sets retail rates for electric investor-owned utilities (IOUs) and some cooperative and municipal utilities. Additionally, the Commission reviews and approves the construction of generation facilities for Indiana’s electric utilities and long-term financing for IOUs, Indiana Municipal Power Agency (IMPA), and Wabash Valley Power Association (WVPA). Under certain circumstances, the Commission may review financing arrangements for rural electric membership cooperatives (REMCs) and individual municipal electric utilities, but this typically occurs through rate cases. State law allows municipal and cooperative utilities to remove themselves or “opt out” from the Commission’s jurisdiction. To date, 60 municipal and 39 cooperative electric utilities have withdrawn from the Commission’s jurisdiction.

- Indiana consumers receive electric service from 118 electric utilities.
- The Commission regulates twenty-five of these utilities that generated more than \$8 billion in revenue in 2008 and served more than 2.6 million electric customers. The amount of plant in service is \$26.8 billion with a total rate base of \$15.5 billion³⁷.
- Neighboring states’ average residential rates for 2008 rank as follows: Kentucky 6th, Ohio 25th, Illinois 32nd, and Michigan 31st.
- For 2008, Indiana’s average residential rates were the 13th lowest in the nation, as compared to the 14th lowest for 2007.

³⁷ 2008 Annual Report

- Neighboring states' average retail rates for 2008 rank as follows: Kentucky 4th, Ohio 24th, Michigan 31st, and Illinois 32nd.³⁸
- For 2008, Indiana's average retail rates were the 12th lowest in the nation, as compared to the 9th lowest for 2007.

Indiana's annual ranking for average retail rates over the 1998-2008 periods ranged from 10th lowest in 1998 to 4th lowest in 2002 to 12th lowest this past year. The variability in ranking is the result of many factors, including the timing of rate cases and adjustments due to fuel charges in Indiana. Indiana's reliance on coal contributes to its relatively low cost of electricity and has provided a measure of ratepayer insulation from the volatile nature of natural gas experienced in recent years. However, the general trend of increased coal prices observed since 2002 has eroded Indiana's competitive price advantage. Staff analysis shows that some Indiana utilities have seen coal prices increase more than 50% since 2002. Consequently, our ranking over this period has slipped from 4th to 12th. Kentucky, a similarly situated state, has not been immune to rising coal prices either, as its ranking slipped to 4th in 2008 as compared to 1st in 2002.

Five major IOUs operate in the state of Indiana. IOUs are for-profit enterprises funded by debt and equity. Indiana's IOUs are vertically integrated, which means they own facilities for generation, transmission, and distribution. These utilities are the most significant in terms of generation and the number of customers served, accounting for more than 90% of the electric power sales made by the state's regulated electric utilities to Indiana retail customers. The IOUs listed in descending order of 2008 total operating revenue are:

- Duke Energy Indiana, Inc. (DEI), a subsidiary of Duke Energy Corporation;
- Indiana Michigan Power Company (I&M), a subsidiary of American Electric Power Company, Inc. (AEP);
- Northern Indiana Public Service Company (NIPSCO), a subsidiary of NiSource Inc.;

³⁸ Energy Information Administration, Average Retail Price of Electricity to Ultimate Customers by End-Use Sector by State, Table 5.6B, historical result archive.

- Indianapolis Power and Light Company (IPL), a subsidiary of The AES Corporation; and
- Southern Indiana Gas & Electric Company (SIGECO), a subsidiary of Vectren Corp.

As of August 2008, 16 of the 72 municipally-owned utilities operating in Indiana remain under Commission jurisdiction for rate regulation. Furthermore, 51 of Indiana's 72 municipally-owned electric utilities are members of IMPA, including 11 of the 16 regulated by the Commission. A group of municipalities created IMPA in 1980 to jointly finance and operate generation and transmission facilities. Additionally, IMPA was established to purchase wholesale power and meet members' needs through a combination of owned generating facilities, member-dedicated generation, and purchased power. The Commission does not regulate the rates that IMPA charges its members.

As of July 2008, only 4 of the 40 electric distribution cooperatives operating in Indiana remain under Commission jurisdiction for rate regulation. Electric distribution cooperatives are customer-owned utilities, many of them being members of either Hoosier Energy Rural Electric Cooperative (Hoosier Energy) or WVPA. These two organizations are power generating and transmission cooperatives formed to supply power to distribution cooperatives. The Commission's regulation of Hoosier Energy and WVPA is limited to decisions to purchase, build, or lease generation facilities. In addition, the Commission retains jurisdiction over WVPA's long-term financing.

There are two Regional Transmission Organizations (RTOs) operating in Indiana: the Midwest Independent System Operator (Midwest ISO) and PJM Interconnection, LLC (PJM). These organizations are regulated by the Federal Energy Regulatory Commission (FERC). Although both the Midwest ISO and PJM are tasked with the reliable and non-discriminatory operation of regional transmission facilities, the RTOs also dispatch all of the generating facilities in their regions to ensure that the lowest cost combination of resources are on at any given moment. Additionally, the RTOs engage in long-term resource planning in an effort to achieve greater optimality in the construction of new resources (including peak reduction and energy efficiency) and act as a market monitor to guard against anticompetitive behavior. The Midwest ISO operates in fifteen states from

Pennsylvania on the east to Montana and the Canadian province of Manitoba in the west. The Midwest ISO is responsible for the operation of nearly 94,000 miles of interconnected high voltage power lines that support the transmission of more than 100,000 megawatts (MW) of energy in the Midwest. DEI, NIPSCO, IPL, SIGECO, Hoosier Energy, WVPA, and IMPA are all members of the Midwest ISO. The Midwest ISO is headquartered in Carmel, Indiana.

PJM coordinates the movement of wholesale electricity in all or parts of Delaware, Illinois, Indiana, Kentucky, Maryland, Michigan, New Jersey, North Carolina, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia. PJM dispatches about 163,500 MW of generating capacity over 56,350 miles of transmission lines. AEP, including its Indiana subsidiary I&M, is a member of PJM. PJM is headquartered in Valley Forge, Pennsylvania.

Age-Profile

Aging infrastructure continues to be a concern across all utility sectors. For the electric industry, the aging generation fleet is of particular concern due to the potential risk to system reliability and the rising costs associated with new construction.

The last base load generation unit in Indiana was completed in 1989, and it appears a new cycle of peaking and base load generation construction will be needed to meet demand across all consumer classes. To maintain approximately a 15% planning reserve margins,³⁹ all types of resources will be required nationally by 2015 and regionally by 2012.⁴⁰ In recent years, Indiana utilities have generally utilized wholesale purchases from other sources, rather than building capacity, to maintain reserve margins. Since it takes approximately three years to construct new gas-fired peaking generation, five to ten years to construct new coal-fired base load generation, and still longer to bring new nuclear generation online long-term planning is critically important.

³⁹ A reserve margin is the generation capacity that is available to the system operator if needed, but that is not currently generating electricity.

⁴⁰ The electric industry has historically maintained planning reserve margins in the 15% to 20% range. With the development of RTOs, reserve margins have fallen to reflect the benefit of more efficient regional coordination. In the Midwest ISO, for example, Indiana utilities have a 12.6% reserve requirement.

Table 1 shows the age profile for the coal and natural gas-fired fleet of electric generation owned by Indiana utilities (the columns in the table are cumulative). About 60% of the coal-based fleet is more than thirty years old, and more than 23% of that fleet is more than forty years old. Natural gas-fired generation is much newer, with only 28% of that fleet more than ten years old. Gas, however, is three to four times more expensive to operate than coal. As a result, gas units typically operate primarily in periods of high peak demand.

Table 1
Age Profile of Generating Units Owned by Indiana Utilities

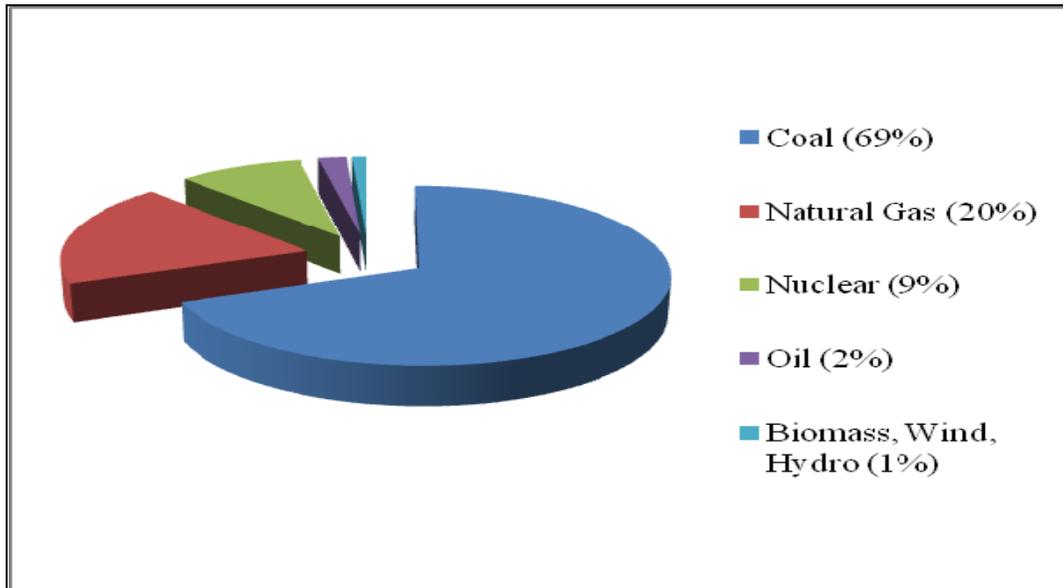
Years Old and Older	Number of Coal Based Units	MW of Generation (Summer Rating)	Percent of Total Coal Based Generation	Number of Peaking (Gas, Oil) Units	MW of Generation (Summer Rating)	Percent of Total Peaking Generation
50	25	1,671	10.1%	10	288	5.7%
40	39	3,886	23.6%	19	442	8.8%
30	54	9,773	59.3%	27	699	13.9%
20	65	15,365	93.3%	30	919	18.3%
10	68	16,475	100.0%	38	1,405	28.0%
0	68	16,475	100.0%	57	5,012	100.0%

Customers in the northeastern portion of Indiana are served by I&M's Cook Nuclear Generation Station located in Bridgman, Michigan. Cook Units 1 and 2 became operational in 1975 and 1978, respectively. In 2005, the units were relicensed by the Nuclear Regulatory Commission for commercial operation until 2034 for Unit 1 and 2037 for Unit 2.

Generation capacity from renewable resources, including wind and landfill gas, is increasing in Indiana. Renewable resources currently provide about 1% of the generation capacity serving Indiana consumers. Chart 1 shows the fuel mix of generation resources available to meet the electricity needs of Indiana consumers.

Chart 1

Generation Capacity by Fuel Type



Demand

A reserve margin is the amount of extra capacity available to serve load growth and to respond in the case of a system contingency, such as the unanticipated breakdown of a generation plant or a large transmission line.

The age profile of the generating fleet is one of two measures of electric system reliability. Reserve margin is the other. A reserve margin is the amount of extra capacity available to serve load growth and to respond in the case of a system contingency, such as the planned or unplanned outage of a generation plant or a high capacity transmission line. According to the State Utility Forecasting Group's (SUGF) latest forecast (2007)⁴¹, Indiana will need about 6,100 MW of additional resources (all types of generating capacity, demand response, efficiency, and transmission to import power) by 2015 to meet expected load growth and maintain sufficient capability to exceed forecasted peak demand by 15% for reserves.

⁴¹ <http://www.purdue.edu/discoverypark/energy/pdfs/SUGF/2007SUGFforecast.pdf>

This forecast projects electricity usage and peak demand to grow at annual rates of 2.46% over the twenty-year forecast. While the current recession may temporarily slow the growth of energy and demand, the expectation is that forecasted rates will resume over the forecast horizon. The SUFG will be updating their most recent forecast by the end of 2009.

Existing Policy

Indiana electric utilities operate under a traditional regulatory regime. Under this regulatory framework, the utility owns and operates generation, transmission, and distribution facilities in order to provide electric retail service to customers in a defined franchised service territory. Retail customers are billed for service based on the average embedded cost to serve, including an authorized reasonable rate of return on investment. Generation resources owned by the utility are economically dispatched such that generation output meets customer demand.⁴² The utility is responsible for short- and long-term planning to meet customer demand at the lowest reasonable cost.

Over the years, changes to federal energy policy that were implemented to encourage the development of a robust competitive wholesale energy market have led to the construction of merchant generating facilities and the establishment of RTOs. Indiana utilities that own transmission facilities have since transferred the operation of those facilities to either the Midwest ISO⁴³ or PJM.⁴⁴ They also participate in the markets conducted by those RTOs. In essence, the utilities sell the electric output from their generation to the RTO markets and then purchase electricity and the necessary transmission service to supply their end-use customers.

⁴² Under economic dispatch the lowest cost generation resources are used first with successively more expensive units coming online until total customer demand is met at any given point in time.

⁴³ *Joint Petition of Hoosier Electric Cooperative Inc., Indianapolis Power & Light Co., PSI Energy, Inc., Vectren Energy Delivery of Indiana, Inc. and Wabash Power Association, Inc. (Ind. Util. Reg. Comm'n, Cause No. 42027, Dec. 17, 2001); Verified Joint Petition of PSI Energy, Inc., Indianapolis Public Service Company, and Vectren Energy Delivery of Indiana, Inc. (Ind. Util. Reg. Comm'n, Cause No. 42685, June 1, 2005).*

⁴⁴ *In the Matter of the Commission's Investigation, Pursuant to IC Sec. 8-1-2-58, into the Status of the Transfer of Functional Control of Transmission Facilities Located in Indiana, by the Northern Indiana Public Service Company, (Ind. Util. Reg. Comm'n, Cause No. 42349, Sept. 24, 2003); In the Matter of the Commission's Investigation, Pursuant to IC Sec. 8-1-2-58, into the Status of the Transfer of Functional Control of Transmission Facilities Located in Indiana, by Indiana Michigan Power Company (Ind. Util. Reg. Comm'n, Cause No. 42350, Sept. 10, 2003); In the Matter of the Petition of Indiana Michigan Power Company, (Ind. Util. Reg. Comm'n, Cause No. 42352, Sept. 10, 2003).*

The benefits of RTOs for Indiana’s consumers are compelling.⁴⁵ In addition to greater reliability, RTOs encourage lower costs due to more efficient regional planning than what is possible by individual utilities acting alone. Because of the vast regional scope of the RTOs, Indiana customers should receive the financial and operational benefits of a more diverse resource mix and additional customer load diversity (e.g., Indiana might experience a peak demand due to hot weather while Montana has much more moderate weather) allowing the RTO to satisfy demand with relatively lower-cost resources. Additionally, because the reliability risk is diversified over the entirety of the RTOs footprint – from the Rocky Mountains to the Atlantic Ocean – the need for resources is reduced as evidenced by the lower planning and operating reserve margins than were maintained by Indiana utilities prior to the development of the RTOs.

While participation in RTOs provides benefits to Indiana end-use customers, it may be challenging to translate the costs and revenues associated with RTO participation into the traditional cost-of-service model traditionally used to set rates in Indiana. To better ensure that Indiana customers and utilities receive the benefits of participating in RTOs, the Commission has devoted staff resources to participate in the RTO processes. Because of the importance and the pervasiveness of the RTO’s impact for Indiana utilities and their customers, the Commission’s involvement with the FERC has increased dramatically.

VI. ELECTRIC LANDSCAPE

Infrastructure

Historically, utilities built generation and transmission resources to meet their customers’ forecasted needs for power and to supply sufficient excess generating capacity to address contingencies. Transmission was constructed primarily to connect

⁴⁵ The Midwest ISO states that they: “...provide annual benefits of between \$555 million and \$850 million. These benefits derive from improved reliability, increased efficiencies in the use of generation resources, and improved regional planning. During the next 10 years, this savings is expected to provide net benefits to the region of between \$4.6 billion and \$6.9 billion.”

<http://www.midwestmarket.org/page/Value%20Proposition>

While PJM has not conducted a similar analysis of net benefits, it is likely that they would have a similar order of magnitude.

each utility's generation to its load. Transmission interconnections to neighboring utilities were constructed for reliability reasons, rather than for routine power purchases and sales. The decisions of individual utilities to build generation and transmission rarely took into consideration the resources of others and gave even less consideration for the resource profile of regional utilities.

Indiana utilities continue to have an "obligation to serve" customer needs.⁴⁶ They must plan and build or purchase the resources necessary to meet those needs in a reliable and cost effective manner. RTOs now give the utilities more options to meet customer needs and provide access to wholesale energy markets so that the utilities can fully utilize generation resources.

Generation Facilities

As discussed in previous sections, Indiana's base load generation is aging. In order to maintain a 12% to 15% reserve margin, new generation capacity must be built. The Edwardsport Integrated Gasification Combined Cycle (IGCC) generating facility and wind resources are two ways Indiana utilities are planning to meet future needs.

The Edwardsport IGCC facility will be the first commercial-scale clean coal plant of its kind built in the United States in the last 10 years.

Edwardsport IGCC

In an order issued November 20, 2007, the Commission approved DEI's construction of the Edwardsport IGCC generating facility. The current estimated cost of the plant is \$2.35 billion with an in-service date of 2012. DEI expects to receive approximately \$450 million in state and federal tax incentives. The Edwardsport IGCC will have a capacity of 630 MW and will be designed to use Indiana bituminous coal.

⁴⁶ See, I.C. § 8-1-2.3 *et seq.*

The IGCC facility uses cleaner technology that reduces traditional air emissions by approximately 50% compared to a state-of-the-art pulverized coal plant.

The IGCC facility will utilize a gasification process to convert bituminous coal into a combustible gas called synthesis gas or “syngas” that is then used to generate electricity. The IGCC facility uses cleaner technology that reduces traditional air emissions by approximately 50% compared to a state-of-the-art pulverized coal plant. The facility also provides 90% or higher mercury capture at a fraction of the cost of a pulverized coal unit. The facility is located on approximately 220 acres adjacent to DEI's existing Edwardsport Generating Station in Knox County, Indiana.

Under traditional ratemaking, DEI would have constructed the facility and not been allowed recovery of the costs from ratepayers until the plant was completed (in approximately four years). However, applying Indiana’s clean coal technology statutes to the facility, DEI proposed and the Commission approved a pay-as-you-go plan, whereby costs of the plant, as it is being built, are passed on to ratepayers on a periodic basis as part of an ongoing review process. In addition, the Commission established an independent oversight process to monitor construction and retained the services of consultant Black and Veatch for this purpose. As of summer 2009, construction was considered approximately 30% complete.

Indiana is leading the development and implementation of coal gasification technology. The Edwardsport IGCC facility will be the first commercial-scale clean coal plant of its kind built in the United States in the last 10 years. The Commission also authorized DEI to spend up to \$17 million for a carbon capture study to analyze the feasibility of adding carbon capture to the plant.

There are numerous issues associated with carbon capture and sequestration that must be addressed if it is to be a viable tool to comply with likely future restrictions on carbon emissions. Various capture technologies to date have only been demonstrated on a small scale. The choice of capture technology is dependent on the type of coal generation technology used since each capture strategy creates unique conditions that affect the

performance of the generation plant and the technology for separating CO₂, making it ready for compression and storage.

Significant feasibility and cost issues also need to be resolved before it becomes feasible to sequester or store carbon, including the cost of permanent geologic storage, insurance, legal liability, property rights, and regulatory issues. For example, the storage potential of known geologic formations is vast, but proper site selection must consider whether the location is economical to reach; has adequate total storage volume, porosity, and permeability to store CO₂; and a cap rock sealant to keep the CO₂ trapped. State and federal governments must also consider legal, physical, and safety issues when developing an appropriate regulatory framework for CO₂ storage. Another issue that must be addressed is identifying the entity or entities responsible for the long-term care of an injection site, in addition to monitoring the integrity of the well against leakage, developing remediation plans, and examining the effectiveness of these plans. Effective resolution of these regulatory and institutional issues is critical to the successful widespread use of CCS and the continued use of coal.

Wind Generation Projects

Initial wind studies indicated that Indiana was not a prime location for the development of significant amounts of wind generation. Improved study methodologies have since shown that there are acceptable locations in Indiana for the installation of wind resources. As such, Indiana has become the fastest growing state for the development of new wind resources, which are primarily located in Benton County.⁴⁷ Table 2 shows the development of wind resources in Indiana.

⁴⁷ American Wind Energy Association Annual Wind Industry Report

Table 2
Indiana Wind Farms

Wind Projects	Nameplate Capacity (MW)	Estimated Availability at Peak (MW)*	Completion Date
Benton County Wind Farm	130	26	2008
Fowler Ridge Wind Farm I	300	60	2009
Fowler Ridge Wind Farm II	350	70	N/A
Fowler Ridge Wind Farm III	100	20	2009
Hoosier Wind Farm	100	20	2009
Meadow Lake Wind Farm**	200	40	2009
Total	1,180	236	

*Assumes 20% of nameplate capacity will be available during summer peak.

**Long-term goal is to produce 1,000 MW. Thus far, Meadow Lake Wind Farm has only filed for "Phase I" of the project, which consists of 200 MW.

The passage of either a state or federal renewable portfolio standard (RPS) or green house gas emission regulations (e.g., carbon emissions regulation) would likely make wind resources even more desirable than they are now. However, wind resources present some specific challenges.

First, the intermittent nature of wind power does not guarantee the resource will be available at the time of peak electricity demand. Data collected by the Midwest ISO shows that on average, between 2005 and 2008, wind capacity accounted for 23% of nameplate capacity⁴⁸. Because of the intermittent nature of wind availability, the Midwest ISO recently created a centralized wind forecasting system. This system has helped the Midwest ISO better predict available wind resources on an hour-to-hour basis. As additional wind capacity is installed across the Midwest ISO, its availability at peak will hopefully become more predictable. The development of technology, such as batteries, that stores wind energy for later use would also alleviate this problem. However, utilizing a battery backup system would also increase the cost of wind and potentially impact its economic viability.

⁴⁸ Nameplate capacity is the maximum output of a generating source.

For long-term planning purposes, Indiana utilities and the Midwest ISO typically assume a 20% to 30% capacity factor for wind resources at peak demand periods. Table 2 uses a 20% capacity factor to estimate the wind resources available during the summer peak as compared to installed capacity.

Another potential challenge associated with wind generation is that geographic areas that support wind typically are not located in large customer load areas. As individual states establish renewable portfolio or renewable energy standards, there is increasing pressure to build transmission facilities that will help move wind power from where it is generated to areas with renewable standards. This pressure may be further exacerbated if a federal renewable standard is established.

Transmission

RTOs and Planning

Changing planning from the narrower needs of individual utilities to a regional perspective is one of the primary advantages of Indiana utilities' membership in RTOs. A regional planning perspective should translate into reduced costs associated with the construction of new generation resources as a result of lower reserve margin requirements. It should also translate into more cost-effective planning and construction of transmission facilities.⁴⁹

⁴⁹ The Federal Power Act (FPA) and recent Amendments give the Federal Energy Regulatory Commission (FERC) increasingly broad powers over the siting, construction, and rates associated with electric transmission and a corresponding diminution of state authorities. However, unlike many other states that have authority over site selection of transmission facilities, the IURC does not have such statutory authority as a result, the United States Department of Energy (DOE) and the FERC have federal statutory authority to approve the siting of transmission within Indiana. The "Pioneer" proposal, despite the fact that it is proposed to be constructed solely within Indiana, demonstrates that the only legal recourse for Indiana is to be a party – like any other party – in proceedings before the FERC. The ability of Indiana to influence transmission within Indiana and regionally, is severely compromised by the lack of siting authority. Because of the growing importance of transmission and the increased federal authority over transmission, the IURC believes that the General Assembly may wish to consider whether it is appropriate to vest the IURC with siting authority as a natural compliment to its existing siting authority over electric generating facilities to satisfy statutory language to consider a broad regional perspective, to better optimize power supply for the benefit of Indiana, as part of strategy to address likely carbon requirements, to facilitate interconnection of small generators, and to better ensure that the broad public interest of Indiana is better protected rather than reliance on the federal government that has a different perspective on the definition of "public interest."

Since RTOs cover vast regions with a diverse supply of generating resources and customer demands, there is a substantial opportunity for RTOs to aggressively reduce reserve requirements without compromising reliability. Regionally, the Midwest ISO estimated that even a 1 to 1.25% drop in the planning reserve requirements would result in annual regional benefits of \$135 million to \$150 million. Therefore, reducing the reserve margin from 15% to 10% would result in annual regional savings in excess of \$675 million. Analysis conducted by the SUFG and the Commission suggest that Indiana might realize annual savings in excess of \$120 million. There should be significant annual reductions within the PJM as well.

The RTOs now have the primary responsibility for regional transmission planning even though Indiana utilities conduct transmission planning. While individual utilities focus planning on transmission necessary to deliver electricity to their customers, the Midwest ISO and the PJM's planning processes focus on the broader regional perspective. The RTOs analyze and plan for electricity flows across the entire region and thus are better able to optimize the timing, size, and location of new transmission. The RTOs' transmission planning process includes stakeholder participation to ensure a thorough review of the evaluation process and resulting transmission plan.

The Midwest ISO Transmission Expansion Plan (MTEP) 2008 identified 332 projects totaling an estimated \$2.4 billion required to maintain the reliability of the system through 2018.⁵⁰ Since the regional planning process was established in 2003, \$6.2 billion in new construction has been approved. Projects totaling \$2.2 billion have already been completed. The Midwest ISO estimates that these new transmission facilities will result in the ability to defer new generating capacity with an associated annual savings of \$60 million to as much as \$111 million. Since MTEP 2007, 1048 MW of wind generation interconnections have been approved, including a significant amount in Indiana.

In December 2008, the PJM approved \$1.6 billion in electric transmission systems additions and upgrades. With these newest upgrades, PJM's Board authorized nearly

⁵⁰ While the MTEP 2008 does not include recent proposals by Duke Energy and AEP to build the Pioneer facility (a 765 kV high voltage transmission line) in Indiana, it is now being studied jointly by the Midwest ISO and PJM.

\$13.3 billion in total transmission investment through the Regional Transmission Expansion Planning (RTEP) process. PJM's RTEP includes upgrades and new projects to maintain system reliability and to interconnect new generation. The plan considers the growth and changes in the broad, multi-state region. By not being limited to just one utility's service territory, the PJM planning process can determine the most effective and cost-efficient transmission solution no matter where it is located in the region.

Indiana Transmission Projects

In May 2008, SIGECO began the siting process for its first-ever 345 kV transmission line. The Midwest ISO approved the sixty-six mile line that will connect SIGECO's A. B. Brown generating plant with Big Rivers Electric Corp.'s Reid plant to the south and then later with DEI's Gibson plant to the north.⁵¹ The project reflects SIGECO's unique geography in southwestern Indiana and the resulting problems with import capability and heavy line loading. The project has a scheduled in-service date of June 2011 and is expected to cost between \$68 million and \$100 million depending on the ultimate route of the project. On October 30, 2008, the FERC approved two incentive rate treatments for the project.⁵² The FERC authorized recovery of all prudently incurred construction work in progress in rate base as well as all prudently incurred abandoned plant costs if the project is cancelled for reasons beyond SIGECO's control.

In addition, Duke Energy and AEP formed a joint venture, called Pioneer Transmission LLC (Pioneer Project), to build and operate a 240-mile, high-voltage 765 kV transmission line from the Rockport generating station in southwestern Indiana to Greentown, which is east of Kokomo. The preliminary estimated cost of the line and associated facilities is \$1 billion. The project has yet to be accepted into either the Midwest ISO or PJM regional transmission plans. The earliest in-service date is 2014 or 2015.

On March 27, 2009, the FERC approved a request for various rate incentives for the Pioneer Project resulting in an overall return on equity of 12.54%. For all the FERC

⁵¹ SIGECO's A. B. Brown plant and DEI's Gibson plant are both located in southwest Indiana near Evansville. Big River's Reid plant is located in Henderson, Kentucky.

⁵² *Petition of Southern Indiana Gas & Electric Co.*, 125 FERC ¶ 61,124 (2008)

approved incentives to become effective, the Pioneer Project must be approved through both the Midwest ISO and PJM transmission planning processes. Also, Pioneer must become a member of both the Midwest ISO and PJM and transfer operational control to the RTOs.

Resources

While the majority of Indiana’s electric needs are met through coal-fired generation owned by utilities, energy efficiency, demand-side resources, and renewable resources are becoming more important.

While the majority of Indiana’s electric needs are met through coal-fired generation owned by the utilities, energy efficiency, demand response resources,⁵³ and renewable resources are becoming more important. In response to the Commission’s 2009 Summer Reliability Survey, Indiana’s utilities reported a potential load reduction of 973 MW during peak periods.

The Commission investigation into utility demand-side management programs (DSM) in Cause No. 42693 is a staff, resource-intensive comprehensive evaluation of the benefits of energy efficiency and demand response resources in addition to the most cost-effective delivery means to implement economic and effective programs. While the Commission’s investigation is ongoing, Indiana’s electric utilities continue to operate DSM programs. Successful programs include load control (i.e., remotely turning off household appliances such as air conditioners and water heaters for brief periods during times of peak electric use), weatherization programs for residential customers, and demand response programs, such as interruptible rate programs, for large industrial customers. Further, the need for expansion of DSM programs has led SIGECO, NIPSCO, DEI, and IPL to each have cases before the Commission in which they seek approval to implement an expanded range of DSM programs, cost recovery, and shareholder performance incentives. Measurement and verification is a key concern in evaluating

⁵³ Energy efficiency refers to measures or technologies that reduce the consumption of energy while demand response resources refer to measures, technologies, or incentives and pricing programs that reduce or curtail load during peak periods.

demand response resources and energy efficiency programs. Shareholder performance incentives are often tied to demand and energy savings produced by the programs and funded by ratepayers as a recoverable cost. Without reliable measurement and verification, ratepayers may pay for results that have not occurred or shareholders may not be adequately rewarded for successful programs.

Renewable Energy

Renewable energy is a small part of the Indiana generation capacity portfolio, but it has been growing rapidly and has even received national attention. The American Wind Energy Association noted in its annual report for 2008 that Indiana saw its first utility scale project enter commercial operation in 2008, a 130.5 MW facility located in Benton County. By comparison, Illinois added 216 MW of wind capacity, and Michigan added 127 MWs. By the end of 2008, Illinois had a total of 915 MW of wind capacity, Michigan had 129 MW, and Ohio had 7 MW. Based on Commission approved projects, Indiana could add 700 MWs of wind capacity by the end of 2009 (see Table 2). In addition to the wind projects previously mentioned, WVPA owns approximately 33 MW of landfill methane gas generation, and on February 5, 2009, filed a petition seeking Commission approval to acquire and/or construct an additional 15 MW of landfill methane gas generation capacity.

Pricing and Economics

Rate Cases

Rate cases allow parties to review all costs and revenues incorporated into base rates, potentially identifying decreasing costs that offset increasing costs and pay special attention to complicated issues such as the return on equity, depreciation, and taxes.

In the past twelve months, the Commission completed the I&M rate case and, pursuant to a settlement agreement submitted by the parties, issued an Order on March 4,

2009. The Commission also commenced the proceeding for the NIPSCO rate case.⁵⁴ The I&M Order approved a \$41.6 million annual rate increase that included \$22.5 million of costs flowing through four tracker mechanisms. The Commission authorized a 10.5% return on equity and an overall rate of return of 7.62%. The new rates resulted in an overall 6.29% increase on an average residential customer bill. With regard to the NIPSCO rate case, the Commission began the evidentiary hearing for the first phase on January 12, 2009. During the hearing, participating parties questioned NIPSCO witnesses on the evidence it filed in support of the requested 9.8% overall rate increase. The Commission also conducted field hearings that allowed affected NIPSCO customers to voice their concerns about the proposed rate increase.

Rate cases allow parties to review all costs and revenues incorporated into base rates, potentially identifying decreasing costs that offset increasing costs, and pay special attention to complicated issues such as the return on equity, depreciation, and taxes. This holistic review, while potentially costly in terms of time and resources, should be a regular occurrence to ensure changing industry conditions are reflected in retail rates. Table 3 shows when the base rates for the five IOUs were approved and when the utilities are expected to file their next rate cases.

Table 3
IOU Rate Case Filings

Utility	Last Rate Case	Date of Order	Expected Rate Case Filings in the Future
Duke	Cause No. 42359	May 18, 2004	2011 – 2012 timeframe
NIPSCO	Cause No. 38045	July 15, 1987	Cause No. 43526 pending
I&M	Cause No. 43306	March 4, 2009	March 2014
IPL	Cause No. 39938	August 24, 1995	Unknown
SIGECO	Cause No. 43111	August 15, 2007	December 31, 2012

Prior to PSI Energy’s (now DEI) rate case filing in December 2002, the base rates for Indiana’s five investor-owned utilities were last revised in the early- to mid-1990s. Several factors contributed to the way in which the utilities were able to maintain

⁵⁴ *Petition of Indiana Michigan Power Company, (Ind. Util. Reg. Comm’n, Cause No. 43306, Mar. 4, 2009)* and *Petition of Northern Indiana Public Service Company, (Ind. Util. Reg. Comm’n, Cause No. 43526, Cause still pending)*

financial stability without increasing base rates during this extended period. First, the utilities' base rates reflected the relatively high cost of capital from the period in which they were set. As the cost of capital declined over time, the utilities were able to utilize the savings in this area to offset expense increases in other areas. Second, the last series of rate cases was, for the most part, driven by the need of the utility to incorporate significant new assets into rate base, specifically new baseload generating facilities and environmental compliance equipment. No new baseload generation has been built since that time, and peaking generation that has been built tends to be smaller in size and less expensive to construct. Third, new legislation and administrative rules allowed the utilities to recover a variety of costs (*e.g.*, environmental compliance, clean coal technology and demand-side management) through tracking mechanisms. Timelier recovery of these costs enabled the utilities to maintain financial integrity without petitioning for increased base rates through a rate case.

Adjustable Rate Mechanisms

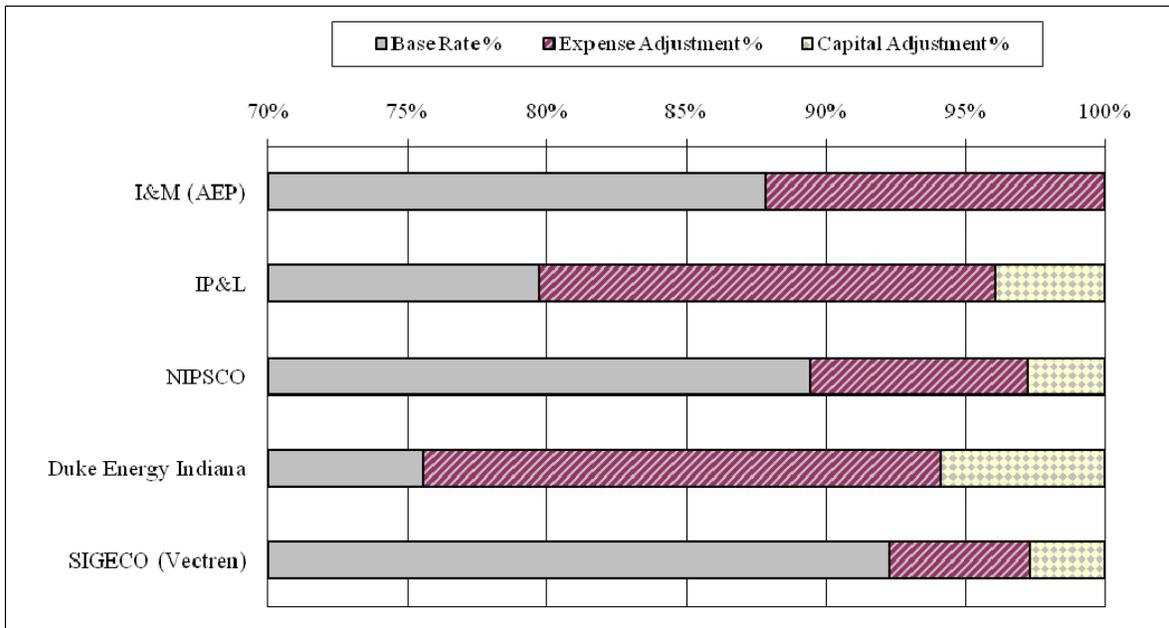
Indiana's regulatory statutes include adjustable rate mechanisms (trackers) as an integral part of regulation. Expenses that are characterized as largely outside the utility's control and materially significant are the intended goals of such trackers.

Indiana's regulatory statutes include adjustable rate mechanisms (trackers) for expenses and capital investments. Tracking mechanisms provide for a timelier recovery of specifically defined costs than a rate case. An expense tracker allows retail rates to be adjusted outside the context of a base rate case to reflect changes in operating expenses but does not include a return on such expenses. Expenses that are characterized as largely outside the utility's control and materially significant are the intended goals of such trackers. By comparison, a capital investment tracker allows a utility to reflect certain clean coal and energy generation capital costs in its rate base and to reflect the associated return on such investment in retail rates outside a base rate case. A capital investment tracker reduces the lag time between capital expenditures and cost recovery for the utility and is typically viewed favorably by credit rating agencies. Capital trackers have

historically been utilized by utilities to support major investments in upgrading coal generation plants to comply with increasingly stringent environmental regulations.

Table 4 shows a breakdown of how base rates, expense adjustments, and capital adjustments contribute to a residential customer’s bill. The makeup of these mechanisms vary in part due to the size of the utility, the magnitude of a company’s construction program, and how much time has elapsed since the last base rate case.

Table 4
Indiana Investor-Owned Electric Utilities, July 1, 2008 Residential Billing
% of Bill Comparison



The FAC has existed in Indiana for more than three decades and tracks a utility’s largest variable and unpredictable operating expense: fuel. Other expenses tracked have expanded in recent years to include DSM, emission allowances, purchased power capacity, clean coal technology operation and maintenance (O&M), and Midwest ISO/PJM management expenses. Direct pass-through of expense or revenue reflects current conditions in retail rates in a more real-time manner than traditional base rate case regulation. The pass-through of unpredictable revenues and expenses to ratepayers reduces volatility in the utility’s earnings and may enhance the utility’s credit rating.

VII. ELECTRIC GROWTH & INNOVATION

Legislation

Energy Independence & Security Act of 2007

The Energy Independence & Security Act of 2007 (EISA) is a sweeping, comprehensive energy law that focuses on improved efficiency standards and the research and development of energy technologies and infrastructure. Section 532 of Title V amends the Public Utilities Regulatory Policy Act of 1978 and requires the Commission to consider whether electric utilities should integrate energy efficiency resources into utility, state, and regional plans and adopt policies establishing cost-effective energy efficiency as a priority resource. It also requires the Commission to consider modification of rate designs to align utility incentives with the delivery and promotion of energy efficiency resources. The Commission included these considerations in its ongoing DSM investigation in Cause No. 42693. The Commission has until December 2010 to make a final determination on these standards.

Title XIII – Smart Grid establishes a federal policy to support the modernization of the nation’s electricity transmission and distribution system to maintain a reliable and secure electricity infrastructure that can meet demand growth and achieve the characteristics of a smart grid. Section 1307 of this Title requires the Commission to make a determination on whether an electric utility must demonstrate that it considered qualified smart grid facilities prior to undertaking investments in non-advanced grid technologies. It also requires the Commission to consider authorizing electric utilities to recover from ratepayers any costs relating to the deployment of a qualified smart grid system and the remaining book-value costs of any equipment rendered obsolete by the deployment of smart grid technology. The Commission opened Cause No. 43580 to investigate these requirements and has until December 2009 to make a final determination.

Carbon Legislation

Potential regulation of carbon emissions continues to be a critical environmental issue and will likely increase in significance for Indiana and the nation. Recent congressional activity has focused on implementing a cap-and-trade program. Under such a program, the federal government would set annual national limits on the aggregate emission of greenhouse gases, issue emission allowances consistent with the national limits, and enable firms or other entities to buy and sell these allowances. The national limit would be reduced over time, and the number of emission allowances issued each year would decline by a corresponding amount.

H.R. 2454, the American Clean Energy and Security Act, was introduced by Representatives Waxman (D-CA) and Markey (D-MA) and would require the implementation of a cap-and-trade model. An alternative bill, the Energy Production, Innovation and Conservation Act, has been introduced by Representative Barton (R-TX). The Waxman-Markey bill calls for a reduction in U.S. carbon emissions to 97% of 2005 levels by 2012, 83% by 2020, 58% by 2030, and 17% by 2050.

A key decision is whether to sell all of the emission allowances through an auction or to give some or all of the emission allowances away at no cost through an allocation process. Rep. Waxman initially called for a complete 100% auction of allowances but has recently proposed that electric utilities with local distribution companies receive 32% of the allowances made available each year through 2025. Such a provision would provide electric utility companies with 90% of the allowances needed for compliance with the program's annual cap. The allocation of free allowances to utility companies would begin to decrease in 2026, when carbon capture and storage ("CCS") technologies are anticipated to be more fully developed and ready for commercial deployment, and phase out completely by 2030. Also, 15% of the annual allowances will go to U.S. manufacturers that are within energy-intensive, trade-exposed industries. These free allowances will run from 2014 until 2025, at which point the President will decide whether they are still necessary.

Assuming that some or all allowances will be allocated, another important determinant of how a cap-and-trade program impacts the industry and residents of Indiana is the basis upon which an allocation is calculated. According to data for 2006 provided by the Energy Information Administration, Indiana-based generation facilities accounted for 3.21% of the nation's electricity; whereas, Indiana accounted for 2.88% of the nation's retail sales of electricity and 4.96% of CO₂ emissions. The allowances allocated to Indiana would vary considerably depending on which of these, or some combination, is used as the basis for allocating allowances. The Waxman-Markey bill uses a formula that distributes half of the electric utility allowances based on historical emissions and half based on electricity generation.

Two recent studies looked at the impact on electricity prices caused by reducing carbon emissions consistent with those proposed by the Waxman-Markey bill. The Electric Power Research Institute (EPRI) performed an analysis of the U.S. electricity sector's potential for reducing CO₂ emissions through the deployment of a portfolio of advanced technologies.⁵⁵ The full portfolio scenario includes coal-fired generation with CCS, renewable resources, nuclear generation, and significant efficiency improvements throughout the electricity production and delivery system and reduced consumption through greater end-use efficiency. The limited portfolio scenario assumes that CCS is not successfully deployed and that there is no expansion of the nuclear generation fleet. The study found that reducing CO₂ emissions to 40% below 2005 levels by 2030 and 80% below 2005 levels by 2050 could be accomplished, but at substantial cost to consumers and the economy. The real price of electricity in the full portfolio scenario was projected to be 80% higher relative to a future with no constraints on CO₂ emissions while the limited portfolio projected a 170% increase.

The Energy Information Administration (EIA) completed an analysis of the impact of the Waxman-Markey bill through 2030 using a number of different scenarios.⁵⁶ The

⁵⁵ Electric Power Research Institute, PRISM/MERGE Analyses 2009 Update, August 2009

⁵⁶ Energy Information Administration, Energy Market and Economic Impacts of H.R. 2454, the American Clean Energy and Security Act of 2009, August 2009
<http://www.eia.doe.gov/oiaf/servicerpt/hr2454/index.html>

study found that average electricity prices in 2020 were only 3 to 4 percent higher than the reference case. Electricity prices in 2030, however, were projected to be 19 percent above the reference case due to a higher emission allowance process and the phase-out of the allocation of free emission allowances to electric distribution utilities between 2025 and 2030. The study also found that receiving free allowances in proportion to output softens the impact of increased energy prices on energy intensive industries and industries that are vulnerable to international trade. Consequently, when energy prices increase under the Waxman-Markey bill, the reductions in output of these trade- and energy-vulnerable industries are predicted to be less than overall manufacturing impacts and mirror the impacts of total industrial shipments.

The studies performed by the EPRI and the EIA are the most recent of numerous studies to evaluate the possible impacts of carbon constraints on electricity prices, energy prices, gross national product, the average family, and other areas of interest. Each study has a different focus and is quite complex with regard to the built-in assumptions related to allocation of emissions, availability, and overall cost of CCS and the extent of investment in new nuclear generation plants.

Regardless of these difficulties one result is sure, regions of the country that are more heavily dependent on coal-fired generation will be much more adversely affected by carbon constraints than other regions. This result was highlighted by a study performed by the SUFG of proposed carbon legislation in 2007. The EIA projected the impact on the average price of electricity for the nation to be 10.4% in 2020 and 14.8% in 2025. The SUFG estimated the impact on Indiana electricity prices to be an increase of 33.6% in 2020 and 44.6% 2025.

If carbon legislation is passed, it is likely that the gap between relatively high cost states and those that have comparatively lower electric rates will close, but the relative position of Indiana to surrounding states may not change too much. Kentucky (in particular), Ohio, Illinois, and a very large part of the region are going to see large per capita increases in their “tax incidence” too (in the form of higher power costs) because of the dominance of coal-generated electricity in this region.

Illinois and Ohio have considerable amounts of nuclear power. Therefore, with regard to carbon dioxide, they will fare better than Indiana. However, Illinois and Ohio are facing substantially higher costs due to the problems with their retail competition efforts. It should also be noted that all states are likely to experience an increase in costs due to higher costs for fuel, materials, and labor once the economy recovers. In sum, Indiana's position relative to surrounding states may not change substantially.

In the past, the State Utility Forecasting Group, in collaboration with state agencies such as IDEM, has conducted analysis of the ramifications of other SO₂ and NO_x regulation for Indiana. It is anticipated that the SUFG will conduct a more comprehensive analysis of the implications of federal carbon dioxide regulations once the legislative requirements become more certain.

Transmission Legislation

Transmission siting authority was highlighted in Senate Bill 201 during the 2009 legislative session in the Indiana General Assembly. Senate Bill 201 included provisions for IURC oversight of transmission siting. The bill detailed the process and timeframe for decisions to be rendered by the IURC including significant public input by way of the Indiana Office of Utility Counselor (OUCC) and through public field hearings.

Nationally, Senator Bingaman (D-NM), chair of the Senate Energy and Natural Resources Committee, proposed an amendment to S. 949 regarding the planning, siting, and cost allocation of transmission projects of 345 kV and above. The FERC would coordinate the combining of transmission plans developed by RTOs and other planning entities into a single interconnection plan that would achieve specific policy goals. On siting, states would have one year from the time of filing the proposal to site a transmission project. If a state rejects or refuses to act on an application within the one-year timeframe, the FERC would then have the authority to site the project if it has been included in an interconnection-wide transmission plan. In terms of cost allocation, the FERC must establish the appropriate methodologies for allocating the costs of a project across the region benefitting from the project.

While the Commission may be able to monitor and participate in the transmission planning and cost allocation processes through the Midwest ISO and PJM work groups and the state organizations participating in those work groups, the Commission does not have transmission siting authority. In the absence of such authority, transmission siting would default to the FERC. However, as a federal agency, the FERC may not be fully apprised of the needs and desires of Indiana residents.

Net Metering

Net metering was a prominent issue for the Indiana General Assembly this year. There were two main bills on this issue. The first was House Bill 1347, sponsored by Representative Dvorak, which set the nameplate capacity limit at less than or equal to 1 MW for residential and other users with a maximum limit of 1% of the most recent summer peak load. In contrast, Senate Bill 300 set the nameplate capacity at less than or equal to 100 KW for users. These bills were significant departures from the IURC administrative rules⁵⁷ that set the limit at 10 KW, with no more than .1% of the most recent summer peak load.

Renewable Portfolio Standards

The Indiana General Assembly entertained various bills during the 2009 legislative session that dealt with renewable energy and portfolio standards (RPS). These bills, if passed, would have required Indiana's IOUs to meet at least 10% of their generation capacity through use of renewable energy resources. The bills included wind, solar, hydro, methane gas, clean coal, geothermal, and dedicated crops in their definition of renewable resources. The bills also included a detailed process tied to financial earnings for the IURC to examine and verify a utility's compliance with the proposed standards.

⁵⁷ I.A.C. 4-4.2

Technology

Smart Grid Initiatives and Plans

Similar to every other region across the nation, Indiana's infrastructure is becoming increasingly strained. To help combat and alleviate this strain, many companies in the electric industry are turning to what is called "smart grid" technology.

A component of a smart grid is the smart meter. These new meters allow for real-time or near real-time electric consumption data to be used to reduce load, help localize and minimize outages, and facilitate more accurate pricing. These meters use two-way communication to send the data to the necessary locations and allow all of the advanced features to interact with one another.

Other smart grid technological innovations allow for integrated communications with substations, transmission, and distribution systems, as well as with power generators. All of the data is collected via sensors throughout the electric grid. This allows for vast improvements in substation automation, demand response, distribution automation, supervisory control and data acquisition energy management systems effected through wireless mesh networks, power-line carrier communications, and fiber optics. The integration of the data communicated will allow for the real-time control and use of the information to optimize system reliability, asset utilization, and security.

As with any new, wide-sweeping technological innovations, implementation presents its own set of challenges. This is particularly true for the electricity industry where there are various regulatory levels—from local to state to federal. Issues to be addressed include:

- Vastly different regulatory environments and philosophies needing to be integrated;
- Limited abilities of utilities to rapidly deploy and transform their operations;
- Privacy concerns; and
- Costs associated with large-scale transformation.

Indiana utilities and the Commission are working to meet these challenges. For example, I&M recently initiated a smart metering pilot program in South Bend, Indiana, and DEI proposed the implementation of smart grid technology system-wide for its 770,000 Indiana customers. IPL, on the other hand, is studying “home networks,” time-of-use pricing, and smart meter networks. The Commission also has an open investigation to meet the smart grid consideration requirements of the Energy Independence and Security Act of 2007.

VIII. ELECTRIC APPENDICES

Appendix A – Electric Utility Revenues

Electric Utility Revenues

Year Ending December 31, 2008

Rank	Utility Name	Operating Revenues	% of Total Revenue
1	Duke Energy Indiana, Inc.	\$ 2,480,744,000	30.72%
2	Indiana Michigan Power Co.	2,138,185,632	26.48%
3	Northern Indiana Public Service Co.	1,357,821,072	16.82%
4	Indianapolis Power & Light Co.	1,078,563,304	13.36%
5	So. Indiana Gas & Electric Co. d/b/a Vectren	524,375,544	6.49%
6	Northeastern REMC	92,771,276	1.15%
7	Richmond Municipal	92,681,822	1.15%
8	Anderson Municipal		0.00%
9	Harrison County REMC	44,289,216	0.55%
10	Jackson County REMC	43,962,055	0.54%
11	Mishawaka Municipal	43,278,604	0.54%
12	Logansport Municipal	32,791,401	0.41%
13	Crawfordsville Municipal	31,499,685	0.39%
14	Frankfort Municipal	23,142,569	0.29%
15	Auburn Municipal	22,448,832	0.28%
16	Peru Municipal	20,689,762	0.26%
17	Lebanon Municipal	15,924,769	0.20%
18	Marshall County REMC	11,652,298	0.14%
19	Lawrenceburg Municipal		0.00%
20	Tipton Municipal	8,844,590	0.11%
21	Columbia City Municipal	8,531,618	0.11%
22	Knightstown Municipal	2,047,166	0.03%
23	Troy Municipal		0.00%
24	Kingsford Heights Municipal	561,656	0.01%
25	Straughn Municipal	147,100	0.00%
	Total	\$ 8,074,953,971	100.00%

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IX. COMMUNICATIONS OVERVIEW

Industry Structure

The communications industry in Indiana continues to transition from the historical model of a traditionally regulated market in which monopoly carriers provided single types of communications services to captive customers. Increasingly, communications service providers (CSPs) are now offering multiple services, utilizing several technology mediums to remain economically competitive with companies that were once in separate and distinct industries. Operating revenues for the communications sector are comparable to other utility industries. In 2008, the operating revenues for Indiana's local exchange carriers totaled \$2.949 billion.⁵⁸ For example, telephone companies now provide video service, cable companies provide telephone service, and both provide high-speed access to the Internet. The Indiana General Assembly recognized this competitive evolution, and in 2006, passed House Enrolled Act 1279 (HEA 1279)⁵⁹ requiring all CSPs to be similarly certified by the Commission.

**Commission involvement remains necessary in areas
where competition alone may not provide solutions.**

As a result of federal and state legislation, the Commission's focus has shifted to monitoring market behavior and its effects on consumers. Therefore, the Commission is in a unique position to provide the Indiana General Assembly with objective and valuable information that may be useful in formulating future regulatory policies.

Nonetheless, Commission involvement remains necessary in areas of the communications industry where competition alone may not provide solutions. Pursuant to federal law, the Commission resolves carrier-to-carrier disputes and manages policies regarding telephone numbering resources. Additionally, the Commission works to implement streamlined certification processes that facilitate competition by reducing barriers to entry and unnecessary regulatory lag. The

⁵⁸ 2008 Annual IURC Fee Billing Report

⁵⁹ P.L. 27-2006

Commission also protects consumers from unauthorized changes to their service and ensures continued access to basic communications services in high-cost areas of the state.

Age-Profile

The age-profile of communications infrastructure is dissimilar from other utility industries since CSPs mitigate the obsolescence of their infrastructure through the use of advances in computer technology. For example, the useful life of copper cabling in networks has been extended by some providers through the placement of advanced electronics. An increase in digital computing power also allows copper facilities to carry more information than was possible with older analog technology. Additionally, when investing in new infrastructure, providers are choosing to use new technologies such as fiber, terrestrial wireless, and Internet protocol.

Demand

Many consumers prefer to purchase multiple communications services from a single provider.

Consumer demand is driving the transformation of the communications industry. Regulatory distinctions between types of providers are fading because customers are demanding additional types of communications services from the same provider. Gone are the days when consumers were content having each type of service provided by a different company. Rather, in the interest of convenience and cost savings, many consumers now prefer to purchase multiple communications services from a single entity in a bundle or package often at considerable cost savings. Advances in technologies, coupled with capital investments in communications infrastructure, have made it possible for CSPs to offer multiple products such as voice calling, data, and video services. Widespread adoption of “triple play” (telephone service, Internet access, and video service) or even “quadruple play” (triple play, plus mobile wireless service) has resulted in multiple providers offering packages and

bundles of services to consumers, leading to increased competition and customer choice.

Existing Policy

IURC authority has changed and evolved but has not been eliminated.

Indiana's most recent significant development in regulatory communications policy is HEA 1279⁶⁰, which represents an overall paradigm shift. These statutes make substantial changes to communications policy by reducing or eliminating the Commission's jurisdiction in many areas; however, they also preserve Commission jurisdiction in some areas and add jurisdiction in others. The following are specific areas of retained Commission jurisdiction:

- Dual-party relay access service to hearing impaired and speech impaired persons;
- Universal dialing codes;
- Market monitoring to ensure legislation is achieving intended objectives;
- Enforcement of slamming and cramming rules;
- Obligations under the Federal Telecommunications Act of 1996 concerning universal service;
- Issuance of certificates of territorial authority for CSPs;
- Maintenance of records for CSPs;
- Data collection and reporting responsibilities;
- Providers of last resort; and
- Interconnection and carrier-to-carrier disputes.

HEA 1279 also provides authority for the Commission to continue to enforce federal telecommunications law that grants oversight and enforcement responsibilities to states. New statutory authority was given to the Commission in the areas of video

⁶⁰ HEA 1279 was passed into law in March 2006. Its legal citation is P.L.27-2006.

franchising and the establishment and administration of the Indiana Lifeline Assistance Program (ILAP).

X. COMMUNICATIONS LANDSCAPE

Infrastructure

**Infrastructure investment allows for economic
growth opportunities not previously feasible.**

According to the Indiana Office of Community and Rural Affairs (OCRA), there has been more than \$1 billion invested in telecommunications infrastructure in Indiana in the last three years.⁶¹ Twenty-first century business practices and continuing changes in consumer needs drive infrastructure investment in the communications industry. Infrastructure investment enables economic growth opportunities not previously feasible. This is true in many communities throughout Indiana, including Ellettsville, where Smithville Digital is connecting its 30,000 residential customers across south-central Indiana with high-speed IP service capable of downloading full-length movies in a matter of seconds. Additional rural carriers such as Ligonier Telephone Company, Inc.; Rochester Telephone Company, Inc.; Miles Communications Corporations d/b/a Enhanced Telecommunications Corporation; Central Indiana Communications, Inc. d/b/a Hancock Communications; and others are also making investments in infrastructure to make high-speed IP services available to their customers. Beyond satisfying customer needs, these investments are making the region more economically competitive since they help rural communities attract new businesses and opportunities, while retaining current businesses that might otherwise have relocated due to a lack of adequate Internet service.

⁶¹ *Smithville Digital bringing fiber optics to thousands of homes*, (Herald-Times-McClatchy-Tribune Information Services via COMTEX) April 12, 2009
<http://www.tmcnet.com/usubmit/2009/04/12/4126274.htm>

**Indiana ranks 11th highest in the nation for the
percentage of road miles covered by mobile 3G.**

Another type of successful infrastructure investment is mobile wireless high-speed Internet. According to a study by CostQuest Associates, Indiana ranks 11th highest in the nation for the percentage of road miles covered by mobile 3G. The 3G technology represents the next generation wireless services and includes high-speed Internet service. Investment in 3G technology creates an environment inviting to businesses and consumers who demand more advanced mobile communications technology. The CostQuest president noted, “States are recognizing that ubiquitous coverage is increasingly seen as a market differentiator in attracting businesses, population and capital investment...it seems to be an important part of their economic development portfolio.”⁶²

Similar infrastructure investments will likely continue with the help of funding from the American Recovery and Reinvestment Act (ARRA).⁶³ This legislation provides over \$7.2 billion nationally for high-speed Internet deployment, adoption, and mapping.⁶⁴ The ARRA will provide Indiana carriers and other entities with the opportunity to apply for loans and grants to expand high-speed IP infrastructure across the state. In order to qualify for the grants and loans offered by the Rural Utility Service (RUS), at least 75% of the area to be served must be a “rural area without sufficient access to high-speed [Internet] services to facilitate rural economic development.”⁶⁵ Indiana, as a state with un-served and underserved rural areas, may see expanded high-speed access as a result of these programs. The Commission does not have any explicit or delegated responsibilities with regard to the ARRA selection process or specific project funding. Other agencies, in their official capacities, may require the Commission’s assistance and knowledge base. In those instances, the staff is willing to provide guidance as needed to facilitate the process.

⁶² Shahrabani, and Wilson, *Study Ranks Mobile Broadband Coverage by State*, CostQuest Associates, July 21, 2008

⁶³ 111 P.L. 5

⁶⁴ Stanton and Kirby, *Broadband and Video: ARRA offers \$7.2B in Broadband Grants, No Credits; NTIA, RUS Plan Rapid Deployment of Funds*, Telecommunications Reports, March 1, 2009, Vol. 75, No. 5, pg. 3-5

⁶⁵ 111P.L. 5, Section 6002

Rural-area customers of non-rural ILECs may be deprived access to advanced services.

Areas served by rural incumbent local exchange carriers (ILEC), which benefit from universal service funding, often enjoy access to advanced services that are not available to customers of other communications providers. This disparity is caused by the fact that in Indiana, non-rural ILECs (i.e., the largest companies in Indiana, AT&T, Verizon, and CenturyLink) serving rural exchanges do not have access to universal service funding. As a result, the customers of these providers can be deprived of access to advanced services such as high-speed IP service. Lack of access to universal service funding can also make it difficult for non-rural ILECs to sustain quality service in high cost areas or invest in advanced technologies.

Regulatory Development

Certificate of Territorial Authority

Information collected on CSP CTA applications is invaluable when tracking developments in competition and providing useful information to policymakers.

The Commission has an active role in the development of competition in the communications industry in Indiana. The Commission serves as the sole franchise authority for providers of video service and also issues certificates necessary to provide various communications services in Indiana. The Commission has adopted internal processes that ensure the statutory timeframes are met while also providing feedback to applicants regarding certification and franchise requirements. When providers apply for certificates for video service franchise or communications service certification, the Commission ensures that applicants provide complete and accurate information through an expedited, streamlined process. Information required on the CSP CTA and video service franchise applications is vital to the Commission's ability to track market trends, developments, and provide key feedback to policymakers. The Commission also conducts an annual survey of CSPs that provides additional insight into the competitive landscape across Indiana.

Interconnection Arbitration and Dispute Resolution

Another important role the Commission plays is arbiter of disputes between carriers. Some disputes involve federal law and policies designed to promote competition in the telecommunications industry. Additionally, state law charges the Commission with hearing disputes related to video service obligations, such as local franchise fee calculations, redlining allegations, and issues related to public, educational, and government (PEG) channels. These responsibilities present the Commission with opportunities to gauge the market and monitor its functionality.

Numbering Issues

The Commission works to delay new area code implementation through oversight of numbering resource assignment and number conservation measures.

The Commission also supports competition by ensuring that adequate telephone numbering resources are available in Indiana and promotes conservation of telephone numbers by tracking resource assignments and managing carrier requests for additional numbers. The Commission further oversees the assignment and approval process for implementing new area codes when necessary. New area code implementation can be expensive for businesses and disruptive to residential consumers due to changes in dialing patterns or new area codes. The Commission works to leverage existing resources through number conservation measures such as number pooling in order to forestall new area code implementation. Once it becomes necessary, the Commission will order new area code implementation, but only after carefully considering the costs and benefits of the options available.

Table 1
Area Code Life Projections

Area Code	Projected Exhaust Date
812	2012 3Q
317	2015 1Q
765	2017 1Q
219	2030 3Q
260	2032 3Q
574	2035 2Q

Source: North American Number Plan Administration, 2009-1 NRUF and NPA Exhaust Analysis, Released April 2009

Indiana Universal Service Fund (IUSF)

**Without universal service support, some residents of the state
would pay significantly more for telephone services.**

The Commission plays a significant role in the continued availability of affordable basic telecommunications services in many parts of the state. The IUSF mitigates the high cost of providing basic services and is designed to benefit consumers in all regions of the nation by providing access to comparable services at comparable rates. Without universal service support, some residents of the state would pay significantly more for telephone service, have less access to advanced services, and possibly experience poorer quality of service than those living in urban areas. In October 2007, the Commission implemented a state universal service fund for Indiana (IUSF) that is funded by a 0.54% surcharge on all intrastate retail telecommunications services.

Streamlining Efforts under HEA 1279

HEA 1279 outlines specific changes that must be implemented by July 1, 2009.

HEA 1279 outlines significant communications policy changes to be in place by July 1, 2009. These changes focus on parity in the regulatory treatment of CSPs and streamlining regulation by removing unnecessary requirements. Over the past year, staff

members have collaborated with industry stakeholders to develop a proposal for streamlining and eliminating certain Commission rules and procedures. One example of this is the new streamlined CTA form which is now available to all communications service providers operating in Indiana

Certification Requirements for CSPs

HEA 1279 mandates a single CTA to operate as a CSP after June 30, 2009, reducing the regulatory review of CSPs entering the Indiana marketplace. As a result, new types of CSPs, such as Internet service providers, VoIP providers, and cable providers with local franchises that may not have previously interacted with the Commission must now obtain certification from the Commission.

Elimination of Rules and Policies

Staff reviewed the Commission's administrative rules at 170 IAC 7 and identified those that should be eliminated, modified, or retained.

Indiana Code 8-1-2.6-4.1 requires the Commission to "...identify and eliminate rules or policies that are no longer necessary, in the public interest, or for the protection of consumers." Staff reviewed the Commission's administrative rules at 170 IAC 7 and identified those that should be eliminated, modified, or retained. These changes will be reflected in an upcoming rulemaking. In other streamlining efforts, the Commission eliminated the annual report filing requirement for CSPs in the spring of 2009 and the requirements for most tariffs effective July 1, 2009. However, the required filing of access tariffs, rates charged by ILECs to payphone service providers, and information regarding local service offerings by Eligible Telecommunications Carriers (ETC)/ Providers of Last Resort (POLR) will remain.

The Commission will also streamline the IURC T-7 tariff, which is used as a repository for pricing information and terms and conditions of services offered by all ILECs. The IURC T-7 tariff remains an appropriate vehicle for housing uniform requirements that apply to multiple providers; therefore, the Commission will maintain the sections pertaining to low-income programs, IUSF, and dual-party relay service.

Indiana Lifeline Assistance Program

The Indiana General Assembly recognized the need to encourage telephone affordability for Hoosiers and a higher telephone subscribership rate. Using HEA 1279 as a vehicle, the General Assembly directed the Commission to implement rules for the establishment of a state lifeline assistance program no later than July 1, 2008 and for the program to be operational no later than July 1, 2009.⁶⁶

The Commission held workshops with industry personnel and interested parties to coordinate the appropriate level of outreach, verification requirements, and administrative oversight of the program. After notice and hearing, the Commission approved a funding mechanism for the ILAP in November 2007. Rules for the program were then adopted on May 14, 2008, thereby meeting the requirement in HEA 1279. However, the Indiana Office of Management and Budget (OMB) raised concerns related to program cost. Consequently, the program was not operational by July 1, 2009. The Commission is committed to the process and continues to work diligently with the OMB and industry stakeholders to obtain all necessary approvals for the implementation of the ILAP.

Mergers

**In the last year, two mergers were announced that directly affect Indiana providers and consumers: 1) CenturyTel acquired Embarq
2) Frontier has proposed to acquire Verizon's wireline properties.**

Many mergers have taken place during the past few years among U.S. telecommunications providers. Carriers are joining forces in order to enhance revenues and cut operating expenses to better position themselves in the market, which now includes strong, new competitors from the cable TV and wireless companies. In the last year, two mergers were announced that directly affect Indiana providers and consumers. The first merger involved CenturyTel acquiring Embarq and the second merger involved Frontier acquiring Verizon's wireline properties. Both mergers have focused on expanding services to rural areas.

⁶⁶ I. C. § 8-1-36-8

Executives from both CenturyTel and Embarq stated that the newly merged entity will be a stronger, more competitive company, particularly in rural areas. The resulting company will have close to 8 million access lines and 2 million broadband customers and will operate in 33 states once approved by state and federal regulatory commissions.⁶⁷ Another company making its mark in rural areas is Frontier Communications, which recently announced that it will acquire Verizon wireline properties in 14 states. After the acquisition, Indiana will be the second largest state, by number of access lines, in Frontier's footprint. Frontier has a reputation of providing quality service in rural areas, and industry analysts predict that there will be an increase in broadband availability. Frontier Chief Executive Maggie Wilderotter stated that Frontier will expand access and capability to customers, which will enable them to receive high-speed Internet services in Verizon's territory.

After the acquisition, Indiana will be the second largest state, by number of access lines, in Frontier's footprint.

Video Customer Service Standards

On March 19, 2009 the Commission began enforcing the Federal Communications Commission's (FCC) Customer Service Standards on holders of state-issued video franchises. In this capacity as the sole video franchise authority in Indiana, the Commission provides a venue for consumers to file complaints regarding their video service. This is also a benefit to providers because they have uniform and consistent standards by which they are measured. By the end of 2008, the IURC Consumer Affairs Division had received 305 complaints from consumers regarding service and issues governed by the FCC's standards.

Disputes between Video Providers and Municipalities

Indiana Code § 8-1-34 allows governmental units and holders of video franchises to file disputes with the Commission for resolution. Since the passage of HEA 1279 in 2006, the Communications Division has received numerous informal inquiries from

⁶⁷ <http://www.fiercetelecom.com/story/centurytel-acquire-embarq/2008-10-27>

municipalities. It was only recently that the first formal complaint was filed by a municipality against a video provider. On June 8, 2009, the Consolidated City of Indianapolis (Indianapolis) filed its complaint against Bright House Networks, LLC (Bright House) alleging that the calculation of the gross revenues upon which franchise fees are calculated⁶⁸, is inaccurate. Indianapolis also alleges that Bright House is erroneously charging for the installation of a cable drop connection to the Marion County Clerk's Office.⁶⁹ The Commission scheduled the evidentiary hearing for January 25, 2010.

Pricing and Economics

The Commission's annual report to the Regulatory Flexibility Committee of the General Assembly includes the following statutory requirements:

- An analysis of the effects of competition and technological change on universal service and on pricing of all telecommunications services offered in Indiana;⁷⁰ and
- An analysis of the status of competition and technological change in the provision of video service to Indiana customers.⁷¹

When considering rates for basic local telephone service, plus the interstate and intrastate subscriber line charges, it appears that most Indiana wireline customers are paying between \$16.65 and \$32.13 per month, excluding taxes, surcharges, and fees.

Indiana's percentage of households with telephone service is among the lowest in the nation.

Based on data from the Census Bureau's July 2008 Continuing Population Survey (CPS), the FCC estimated that 92.6% of Indiana households had a telephone from which people in the household could both make and receive calls, including cell phones, traditional phones, and any other type of phone. This figure was among the lowest in the nation. The comparable U.S. percentage for July 2008 was 95.4%.

⁶⁸ I.C. § 8-1-34-24

⁶⁹ I.C. § 8-1-34-29

⁷⁰ I.C. § 8-1-2.6-4(c)(2)

⁷¹ I.C. § 8-1-2.6-4(c)(1)

FCC data shows significant decreases in ILEC access lines from December 1999 to the present and significant increases in mobile wireless telephone subscribers during the same period. This could be a reflection of changes in technology and customer expectations. These trends are demonstrated in Appendix A.

The CDC estimated that only 2.5% of U.S. households lack either a landline phone or a wireless phone as of June 2008. In Indiana, the comparable number is 7.4%.

Changes in technology and customer lifestyles have undoubtedly played a part in the decreasing role of stand-alone wireline phone service and the increasing role of wireless service. Nevertheless, when considering wireline and mobile wireless services together, there has been an increase in the percentage of Indiana households that had a telephone from which people in the home could make and receive calls from 90.3% in November 1983 to 92.6% in July 2008. Indeed, the U.S. Centers for Disease Control and Prevention (“CDC”) estimated that only 2.5% of U.S. households lack either a landline phone or a wireless phone, as of June 2008. “Wireless substitution” is probably the most likely explanation for the decreases in both ILEC and CLEC lines. For example, the CDC estimated that as of June 2008,⁷² 16.58 to 18.4% of all U.S. households and 13.8% of Indiana households were wireless-only.⁷³ Wireless substitution puts competitive pressure on traditional wireline providers who lose customers to wireless providers.

Analysis of Video Competition

Video Franchises in Indiana

Video providers are another type of competitor in the communications services market. HEA 1279 made the Commission the sole issuer of new video service franchises beginning July 1, 2006. Prior to HEA 1279, local franchise authorities, such as counties and municipalities, issued franchises to video service providers. HEA 1279 also

⁷² *Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, January – June 2008*. U.S. Centers for Disease Control and Prevention, Division of Health Interview Statistics, National Center for Health Statistics, Table 1 (Dec. 2008)

⁷³ *Wireless Substitution: State-level Estimates From the National Health Interview Survey, January – December 2007*, Unnumbered Table, “Modeled state-level estimates of the percentage of wireless-only households and the percentage of adults living in wireless-only households: United States, 2007,” U.S. Centers for Disease Control and Prevention, National Health Statistics Reports, Number 14, March 2009

permitted video service providers with existing local franchises to convert those into state-issued franchises within a limited time period or keep the local franchises in place until they expire. Accordingly, some video service providers continue to provide service under locally-issued franchises and will do so until those franchises expire.

Seven companies received new state-issued franchises in 2008.

As of December 31, 2008, there were 36 video service providers (VSPs) providing service in Indiana. Of those, 26 received state-issued video service franchises, while the other 10 continue to provide service under local franchises. Seven state-issued franchises were issued in 2008. Four of those were for new providers or existing providers offering service in new areas. The remaining three involved existing cable companies that either chose to terminate their existing local franchises or had their franchises expire. As of the writing of this report, four providers with state-issued franchises were not yet providing service.

Video Availability in Indiana

As of December 31, 2008, video service (as defined in the statute) was available in about 96% of the Indiana zip codes, and nine carriers began offering service in 30 zip codes that did not have video service prior to the passage of HEA 1279.

Because I.C. § 8-1-34(14) defines video service as “the transmission to subscribers of video programming and other programming service through facilities located at least in part in a public right-of-way,” competitive alternatives that do not meet that definition, including satellite, are not considered in this discussion. According to the best information available to the Commission, as of December 31, 2008, video service (as defined in the statute) was available in about 96% of the Indiana zip codes, and nine carriers began offering service in 30 zip codes that did not have video service prior to the passage of HEA 1279.

Competition in Indiana's Video Market and its Effect on Pricing and Availability

Before HEA 1279, Indiana had limited direct competition in the video service market as defined by I.C. § 8-1-34(14). At that time, cable companies that possessed locally-issued franchises provided video service. Typically, local franchise authorities issued only one local franchise agreement in a particular geographic area, which resulted in a single choice of video service provider.

Since the passage of HEA 1279, the rate of video competition has accelerated.

HEA 1279 provided the means for increased competition, and new competitors are emerging in Indiana. Since the effective date of HEA 1279, the Commission issued new video service franchises to 13 providers to offer service in areas not previously covered by local franchises. According to information provided to the Commission by communications providers, as of December 31, 2008, eight new video providers were actively competing for customers in Indiana.

Table 2

***New Video Providers
Actively Competing in Indiana***

	2008	2007	2006
# New Providers	8	6	2
# Zip Codes	161	106	5

The lack of uniformity in the packages and combinations of channels offered by video service providers makes it difficult to accurately gauge the changes in pricing attributable to competition. Nonetheless, the Commission is anecdotally aware of incumbent cable providers reducing prices to retain customers after a new video service provider offers competing services. Also, data regarding price changes viewed in combination with data regarding the level of competition in a given geographical location can provide some insight into the effect of competition on the pricing of video services.

According to the information provided to the Commission, there were some changes in the pricing of basic video services from 2007 to 2008 that seem to correlate with the presence of competition. Of the 163 zip codes where there was a decrease in the average price of basic video service, 157 of those zip codes had multiple providers.

Technologies used to Provide Video Service in Indiana

New video service providers are using various amounts of fiber optic cable in their network designs. Only time will tell which approach is more successful.

The technologies used to provide video service across Indiana vary among providers. Some providers utilize co-axial cable, while others use state-of-the-art fiber optic cable. According to data gathered from the Commission’s annual survey, the incumbent cable providers have largely upgraded their systems to hybrid fiber/coax. The new video providers, in contrast, are using either all fiber (fiber to the home or FTTH) or a combination of fiber and copper (fiber to the node) to provide video service. AT&T’s U-verse™ is an example of fiber-to-the-node, where many homes utilize the same fiber optic cable but have their own individual shorter runs of legacy copper cable. In contrast, Verizon provides fiber optic cable all the way to the customer’s premise, which is known as fiber-to-the-home. While AT&T’s approach has lower capital costs, the lower available bandwidth results in fewer channels delivered to the customer’s television at any one time. Therefore, it is more like accessing a Web page on your computer, one at a time. Verizon’s video service implementation, on the other hand, is more capital intensive but uses the higher bandwidth to deliver all channels simultaneously to the customer at one time.

XI. COMMUNICATIONS GROWTH & INNOVATION

Legislation

The communications industry is premised upon innovation through technological advancement. It is natural then that recent legislative actions in Congress and the Indiana General Assembly have focused on these technological advancements.

Broadband Data Improvement Act (P.L. 110-204)

On October 10, 2008, Congress signed into law the Broadband Data Improvement Act in order to identify service area and technology gaps that are present throughout the United States so that federal policymakers are able to target resources more precisely and direct funds to the most vulnerable market segments within rural and urban areas. This law requires the FCC to:

1. Compile a list of geographical areas that are not served by any provider of advanced telecommunications capability, including high-speed, switched, and broadband telecommunications capability that enables users to originate and receive high-quality voice, data, graphics, and video telecommunications;
2. Determine the population, population density, and average per capita income for each area when census data is available; and
3. Make certain international comparisons.

The law also requires the FCC to conduct and make public periodic surveys of consumers in urban, suburban, and rural areas across all customer classes to evaluate the national characteristics of broadband service capability. It further requires an expansion of the American Community Survey conducted by the Bureau of the Census to elicit information, including native lands, to determine what households own or use a computer, if they subscribe to Internet service and, if so, by dial-up or broadband. The law further requires the Comptroller General to report to specified congressional committees on additional broadband metrics or standards so that the United States can compare its deployment and penetration of broadband to other countries and provide users with more accurate information about the cost and capability of their broadband connections.

House Enrolled Act 1561

The Indiana General Assembly has taken steps to gain additional leverage for economic development opportunities in Indiana. As technology continues to advance among all utility sectors, P.L. 152-2009, the High-Speed Internet Service Deployment

and Adoption Initiative, provides for the creation of a statewide geographic information system (GIS), by census block, of available telecommunications and information technology services, including high-speed Internet service. Public law 152-2009 set definitional parameters for the Indiana Economic Development Corporation (IEDC), the entity charged with the GIS implementation. This statute defined high-speed Internet service as a connection to the Internet that provides capacity for transmission at an average speed of at least three hundred eighty-four (384) kilobits per second downstream, regardless of the technology or medium used to provide the connection. The IEDC is directed by this statute to establish the following priorities:

- Extend deployment of high-speed services to areas where Internet connections are unavailable or the only available connections are at average speeds less than 200 kbps downstream;
- Extend deployment of high speed services to areas where the only available connections provide average speeds between two hundred (200) kilobits per second and 1.5 megabits per second downstream); and
- Support programs to promote broadband adoption throughout Indiana.

Technology

Developments in technology continue to shape the communications services marketplace. VoIP, IPTV⁷⁴, and next generation wireless technologies are all stimulating the industry. The increased availability of IP and next generation wireless technologies will allow increases in consumer-to-consumer interaction and the sharing of user-generated content, particularly video content. Evidence shows that consumers desire new communications services applications that include higher connection speeds and more capacity. For example, 4G wireless technology will allow wireless providers to offer higher speeds and more network capacity and offer consumers an Internet experience similar to what they enjoy today using a desktop or laptop computer. In order to meet

⁷⁴ According to the International Telecommunications Union, IPTV is defined as multimedia services such as television/video/audio/text/graphics/data delivered over IP-based networks managed to provide the required level of QoS, security, interactivity, and reliability.

these demands and remain competitive, CSPs must continue to invest in technologies that support high bandwidth capacity required by these applications.

XII. COMMUNICATIONS APPENDICES

Appendix A – Trends in Telephone Subscribership

Trends in Telephone Subscribership

1999 to 2007 (US & Indiana)

	ILEC Lines	CLEC Lines	Total LEC Lines	Mobile Wireless Telephone Subscribers
U.S.				
1999	181,202,853	8,194,243	189,397,096	79,696,083
2000	177,561,022	14,871,409	192,432,431	101,043,219
2005	143,757,708	33,975,336	177,733,044	192,053,067
2007	129,720,167	28,716,591	158,436,758	249,253,715
Total Change 1999-2007	(51,482,686)	20,522,348	(30,960,338)	169,557,632
Indiana				
1999	3,559,946	96,091	3,656,037	1,318,975
2000	3,574,414	191,921	3,766,335	1,715,074
2005	3,070,315	493,540	3,563,765	3,442,612
2007	2,765,611	283,833	3,049,444	4,675,372
Total Change 1999-2007	(794,335)	187,742	(606,593)	3,356,397

Across the country, ILECs lost more than 50 million access lines, while CLECs gained approximately 20.6 million access lines, and mobile wireless telephone subscribers increased by almost 170 million. In Indiana, ILEC lines decreased by 794,000 and CLEC lines increased by 188,000, for a total net decrease of 607,000. The number of mobile wireless telephone subscribers in Indiana increased by almost 3.36 million.

Appendix B – State-Issued Certificates of Franchise Authority

State-Issued Certificates of Franchise Authority

As of 12/31/08

Company Name	Date Granted	New or Existing Provider	Date in-service for new providers
AT&T Indiana	8/30/06	New	12/28/06
Daviess-Martin County Rural Telephone Corporation	9/13/06	New	10/1/07
Avenue Broadband Communications (f/k/a Charter)	11/30/06	Existing	
Time Warner Cable	12/06/06	Existing	
Comcast	11/30/06	Existing	
FirstMile Technologies	12/20/06	Existing	
Insight Communications Midwest, LLC	12/06/06	Existing	
LIG TV	11/30/06	New in requested service area	12/1/06
PSC	12/13/06	New in requested service area	12/1/07
Verizon North, Inc.	12/20/06	New	7/17/07
Adams Wells TV	2/07/07	New	Not yet providing service
Bright House Networks, LLC	2/28/07	Existing	
Sigecom, LLC	1/24/07	Existing	
Endeavor Communications	3/14/07	New	3/14/07
WOW! Internet, Cable and Phone	3/22/07	Existing	
Acme Communications	6/06/07	New	Not yet providing service
Citizen's Telephone Corporation	7/25/07	Existing	
New Paris Telephone Co.	10/30/07	New	Not yet providing service
Cequel III Communications II, LLC	1/4/08	Existing	
Smithville Telecom, LLC	7/9/08	New	
Time Warner NY Cable, LLC	7/16/08	Existing	
Windjammer Communications	8/20/08	New	
Cinergy MetroNet, Inc.	9/10/08	New	
Sunman Telecommunications Corp.	9/17/08	New	
Central Indiana Communications, Inc.	10/1/08	Existing	
Mediacom Indiana, LLC	10/8/08	Existing	

Appendix C – FCC Registered Video Service Providers in Indiana

FCC Registered Video Service Providers Active in Indiana

As of 12/31/08

Adams

Comcast (formerly Insight)
Mediacom Indiana, LLC

Allen

Comcast
Mediacom Indiana, LLC
Verizon North

Bartholomew

Avenue Broadband Communications (formerly Charter)
Comcast

Benton

Comcast (formerly Insight)
Full Choice Communications, Inc.

Blackford

Comcast

Boone

AT&T
Bright House Networks, LLC
Full Choice Communications, Inc.
Comcast (formerly Insight)

Brown

Avenue Broadband Communications (formerly Interlink)
Comcast (formerly Insight)

Carroll

Comcast

Cass

Comcast (formerly Insight)
Full Choice Communications
Galaxy American Communications

Clark

Insight Communications Midwest, LLC

Clay

Avenue Broadband Communications (formerly Interlink)
Cequel III Communications II, LLC, d/b/a Suddenlink
Glass Antenna Systems, d/b/a Globalcom, Inc.

Clinton

Comcast
Mulberry Cooperative Telephone Company, Inc.
Tri-County Communications Corp

Crawford

Avenue Broadband Communications (formerly Charter)

Daviess

Avenue Broadband Communications (formerly Charter)
Cequel III Communications II, LLC, d/b/a Suddenlink
Daviess Martin Rural

De Kalb

Mediacom Indiana, LLC

Dearborn

Comcast
Sunman Telecommunications Corporation
Time Warner Entertainment Company, LP

Decatur

Comcast
Sunman Telecommunications Corporation

Delaware

AT&T
Comcast

Dubois

Avenue Broadband Communications (formerly Charter)
Insight Communications Midwest, LLC
Perry-Spencer Communications, Inc.

Elkhart

Comcast
Mediacom Indiana, LLC
New Paris Telephone's Quality Cablevision, Inc

Fayette

Comcast

Floyd

Insight Communications Midwest, LLC

Fountain

Comcast

Franklin

Comcast

Fulton

Comcast
Full Choice Communications, Inc.
Galaxy American Communications
RTC Communications Corporation
TV Cable of Winamac, Inc.

Gibson

Avenue Broadband Communications (formerly Charter)
Cequel III Communications II, LLC, d/b/a Suddenlink
Insight Communications Midwest, LLC

Grant

Bright House Networks, LLC
Comcast (formerly Insight)
Oak Hill Cablevision, Inc.
The Swayzee Telephone Co, Inc.

Greene

Cequel III Communications II, LLC, dba Suddenlink
Comcast (formerly Insight)
Full Choice Communications, Inc.

Hamilton

AT&T
Bright House Networks, LLC
Comcast

Hancock

AT&T
Bright House Networks, LLC
Comcast (formerly Insight)
Indiana Fones, Inc.

Harrison

Windjammer Communications, LLC
Insight Communications Midwest, LLC

Hendricks

AT&T
Avenue Broadband Communications (formerly Charter)
Bright House Networks, LLC
Comcast
Clay County Rural Telephone Coop.

Henry

Comcast (formerly Insight)
Indiana Fones, Inc.

Howard

AT&T
Comcast (formerly Insight)

Huntington

Citizens Telephone Corp
Comcast

Jackson

Cinergy MetroNet
Comcast
Insight Communications Midwest, LLC

Jasper

Comcast
Mediacom Indiana, LLC
TV Cable of Rensselaer, Inc.

Jav

Comcast (formerly Insight)

Jefferson

Time Warner

Jennings

Comcast
Cinergy Metronet, Inc.

Johnson

AT&T
Avenue Broadband Communications (formerly Charter)
Comcast

Knox

Avenue Broadband Communications (formerly Interlink)
Cequel III Communications II, LLC, d/b/a Suddenlink
Cinergy Metronet, Inc.

Kosciusko

Comcast
Mediacom Indiana, LLC

La Porte

Comcast
Mediacom Indiana, LLC

Lagrange

Comcast
Mediacom Indiana, LLC
Ligtel Communications, Inc.
New Paris Telephone's Quality Cablevision, Inc.

Lake

AT&T
Comcast
Mediacom Indiana, LLC
WideOpen West Illinois, LLC

Lawrence

Avenue Broadband Communications (formerly Interlink)
Comcast (formerly Insight)
Daviess Martin County Rural

Madison

AT&T
Bright House Networks, LLC
Comcast (formerly Insight)

Marion

AT&T
Bright House Networks, LLC
Comcast

Marshall

Comcast
Mediacom Indiana, LLC
Windjammer Communications, LLC

Martin

Avenue Broadband Communications (formerly Charter)
Daviess Martin County Rural

Miami

Comcast
Full Choice Communications
Oak Hill Cablevision, Inc.

Monroe

Comcast (formerly Insight)

Montgomery

Accelplus
Comcast
Full Choice Communications
Galaxy American Communications
Tri-County Communications Corp

Morgan

Avenue Broadband Communications (formerly Charter)
Comcast
Clay County Rural Telephone Co.

Newton

Mediacom Indiana, LLC
TV Cable of Rensselaer, Inc.

Noble

Comcast
Ligtel Communications, Inc.
Mediacom Indiana, LLC

Ohio

Comcast

Orange

Avenue Broadband Communications

Owen

Comcast (formerly Insight)

Parke

Cequel III Communications II, LLC, d/b/a Suddenlink
Full Choice Communications
Comcast
Avenue Broadband Communications

Perry

Avenue Broadband Communications
Comcast
Perry-Spencer Communications, Inc.

Pike

Avenue Broadband Communications

Porter

Comcast
Mediacom Indiana, LLC

Posey

Insight Communications Midwest, LLC
Telecommunications Management, LLC, d/b/a NewWave
Sigecom, LLC

Pulaski

Mediacom Indiana, LLC
TV Cable of Winamac, Inc.

Putnam

Cinergy Metronet, Inc.
Clay County Rural Telephone Cooperative, Inc.
Galaxy American Communications
Glass Antenna Systems, Inc, d/b/a Globalcom, Inc.
Comcast (formerly Insight)
Full Choice Communications

Randolph

Comcast
Time Warner Entertainment Company, LP

Ripley

Comcast
Sunman Telecommunications Corporation
Miles Communication

Rush

Comcast

Scott

Insight

Shelby

Comcast (formerly Insight)

Spencer

Avenue Broadband Communications (formerly Charter)
Perry-Spencer Communications, Inc.
Time Warner

St Joseph

Comcast
Mediacom Indiana, LLC
Windjammer Communications, LLC

Starke

Mediacom Indiana, LLC

Steuben

Mediacom Indiana, LLC

Sullivan

Cequel III Communications II, LLC, d/b/a Suddenlink
Comcast (formerly Insight)

Switzerland

Time Warner

Tippecanoe

Comcast
Tri-County Communications Corp

Tipton

Comcast (formerly Insight)

Union

Comcast
Time Warner Entertainment Company, LP

Vanderburgh

Insight Communications Midwest, LLC
Sigecom LLC
Telecommunications Management, LLC, d/b/a NewWave
Windjammer Communications, LLC

Vermillion

Comcast (formerly Insight)
Full Choice Communications
Galaxy American Communications
Avenue Broadband Communications

Vigo

Avenue Broadband Communications (formerly Interlink)
Cequel III Communications II, LLC, d/b/a Suddenlink
Time Warner Entertainment Company, LP

Wabash

Comcast
Mediacom Indiana, LLC

Warren

Comcast (formerly Insight)
Full Choice Communications

Warrick

Avenue Broadband Communications (formerly Charter)
Insight Communications Midwest, LLC
Sigecom, LLC
Time Warner

Washington

Insight Communications Midwest, LLC

Wayne

Comcast (formerly Insight)
Windjammer Communications, LLC

Wells

Comcast
Craigville Telephone Company
Mediacom Indiana, LLC

White

Comcast

Whitley

Mediacom Indiana, LLC

Appendix D – 2007 Indiana High-Speed Connections by Technology

The following table shows a comparison between the technology-specific Indiana high-speed connection data reported by the FCC for the periods ending June 30, 2006, June 30, 2007, and December 31, 2007:

Indiana High-Speed Connections by Technology

June 30, 2006 – December 31, 2007 Comparison

	# of Connections					% of Total		
	6/30/2006	6/30/2007	12/31/2007	6/30/2007 - 12/31/2007 Change By Technology Type		6/30/2006	6/30/2007	12/31/2007
Cable Modem	490,020	410,438	439,417	28,979	7.06%	41.07%	22.68%	19.38%
ADSL	443,473	566,103	635,507	69,404	12.26%	37.16%	31.28%	28.03%
Mobile Wireless, Satellite, Power Line, and Other	213,338	773,007	1,125,424	352,417	45.59%	17.88%	42.71%	49.64%
Traditional Wireline	13,291	11,042	8,931	-2,111	-19.12%	1.11%	0.61%	0.39%
Fiber to the End User	22,192	34,449	41,861	7,412	21.52%	1.86%	1.90%	1.85%
Fixed Wireless	6,296	10,834	11,965	1,131	10.44%	0.53%	0.60%	0.53%
SDSL	4,649	3,855	3,932	77	2.00%	0.39%	0.21%	0.17%
Total	1,193,259	1,809,728	2,267,037	457,309	25.27%	100.00%	100.00%	100.00%

Source: "High-Speed Services for Internet Access: Status as of June 30, 2006", "High-Speed Services for Internet Access: Status as of June 30, 2007", and "High-Speed Services for Internet Access: Status as of June 30, 2007", Table 9, Industry Analysis and Technology Division, Wireline Competition Bureau (FCC: January 2007, March 2008, and January 2009).

* Mobile Wireless, Satellite, Power Line, and Other were combined to preserve confidentiality.

The December 2007 figures represent considerable change over the June 2006 and June 2007 figures. FCC data showed that cable modem service accounted for 41.07% of the total Indiana broadband connections in June 2006, 22.68% in June 2007, and 19.38% in December 2007. ADSL made up 37.16% of the total in June 2006, 31.28% in June 2007, and 28.03% in December 2007. The aggregated category of mobile wireless, satellite, broadband over power lines (BPL), and "other" accounted for 17.88% of the

total Indiana high-speed connections in June 2006, 42.71% in June 2007, and 49.64% in December 2007. Together, these three categories represent 97.06% of the Indiana total, as of December 31, 2007. Though the collective share of the total Indiana high-speed connections held by these three categories remained almost constant, their relative shares changed dramatically.

Appendix E – High-Speed Connections by Zip Code

The table below shows that at least some portion of every Indiana zip code had at least one high-speed connection as of December 31, 2007. Some zip codes were served by multiple providers. This does not mean, however, that high-speed service was available in the entirety of any particular zip code.⁷⁵ For example, if a particular zip code had five companies providing at least one high-speed connection as of December 31, 2007, it cannot be determined from the FCC data whether all five companies served the entire zip code. It is also possible that some portion(s) of a zip code did not have any high-speed connections or providers.

Percentage of 5-Digit Geographic Zip Codes with Number of Holding Companies Providing One or More High-Speed Connections in Indiana

As of December 31, 2007

	Percentage of ZIP Codes	Number of Holding Companies
	0%	0
	1%	1
	3%	2
	96%	3 or More
Total # of Zip Codes	688	

Source: High-Speed Services for Internet Access: Status As of Dec. 31, 2007, Table 17. FCC Industry Analysis and Technology Division (IATD) - Wireline Competition Bureau. January 2009; IATD Web site, <http://www.fcc.gov/wcb/iatd/comp.html> "Zip Codes by Number of High-Speed Service Providers. As of 12/31/07. Posted 01/09."

⁷⁵ In its Form 477, the FCC asks companies to list the zip codes in which they provided at least one high-speed connection in the reporting period. If a provider lists one high-speed connection in a particular zip code, the entire zip code is considered to have high-speed lines in place. This creates a misleading picture of the status of high-speed deployment. Also note that the FCC high-speed data for December 2007 does not fully capture the mobile nature of wireless traffic.

2009 WATER/WASTEWATER REPORT

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XIII. WATER/WASTEWATER OVERVIEW

Industry Structure

Commission Jurisdiction

There are many types of legal entities that provide water and wastewater service to Hoosiers. These include investor-owned, municipal, not-for-profit, water authorities, regional water/wastewater districts, and conservancy districts.

The legal form of a utility determines whether the utility is subject to the Commission’s jurisdiction and the extent of the Commission’s regulatory oversight.

The legal form of a utility determines the existence and extent of the Indiana Utility Regulatory Commission’s (“Commission”) regulation. For example:

- The rates and “terms and conditions” of investor-owned water and wastewater utilities are regulated by the Commission.
- The rates of municipal water utilities and water conservancy district and territory expansions are also regulated by the Commission.
- Investor-owned water and wastewater utilities with fewer than 300 customers and municipal water utilities, regardless of the number of customers, are able to remove themselves or “opt out” from the Commission’s jurisdiction.⁷⁶
- Rates and “terms and conditions” for not-for-profit water and wastewater utilities are regulated by the Commission *unless* they have opted out.
- The Commission does not regulate municipal wastewater utilities, nor does it regulate regional water/wastewater districts.⁷⁷

Certificates of Territorial Authority (CTAs) authorize utility service in a defined area; however, not all utilities are required to obtain them. For example, investor-owned and not-for-profit wastewater utilities are required to obtain CTAs from the Commission,

⁷⁶ See, Ind. Code 8-1-2.7 (not-for-profit, conservancy districts, cooperatives, and investor-owned with 300 or fewer customers) and I.C. 8-1.5-3-9 (municipalities).

⁷⁷ In 2005, a law was enacted that provides campgrounds served by regional sewer districts with the ability to appeal to the Commission’s Consumer Affairs Division for an informal review of a disputed matter. See, I.C. § 13-26-11-2.1.

whereas, municipal wastewater utilities, regional wastewater districts, and conservancy districts are not. Likewise, water utilities are not required to obtain CTAs. Consequently, they have no service territory regulation except when the Commission acts to resolve territorial disputes between them regardless of whether the water utilities are regulated by the IURC⁷⁸.

The Commission regulates approximately 118 out of 824 water utilities, and 54 out of 531 wastewater utilities.

Although the Commission only regulates and has partial oversight over a small number of the state’s water and wastewater utilities, it should be noted that they serve approximately 90% of Indiana water consumers. According to the Commission’s 2007 Annual Report and data from the Indiana Department of Environmental Management (IDEM), the Commission regulates approximately 118 out of 824 water utilities, and 54 out of 531 wastewater utilities. Table 1 shows the 10 largest regulated water utilities.

Table 1

10 Largest Regulated Water Utilities Ranked by Number of Customers

1	Indianapolis Water Company	301,129
2	Indiana American Water Co.	282,593
3	South Bend Municipal Water	82,528
4	Fort Wayne Municipal Water	70,234
5	Evansville Municipal Water Works	60,495
6	Mishawaka Municipal Water	30,036
7	Hammond Municipal Water Works	28,286
8	Lafayette Municipal Water Works	25,547
9	Schererville Municipal Water	23,541
10	Anderson Municipal Water Works	22,921

Source: 2007 Commission Annual Reports

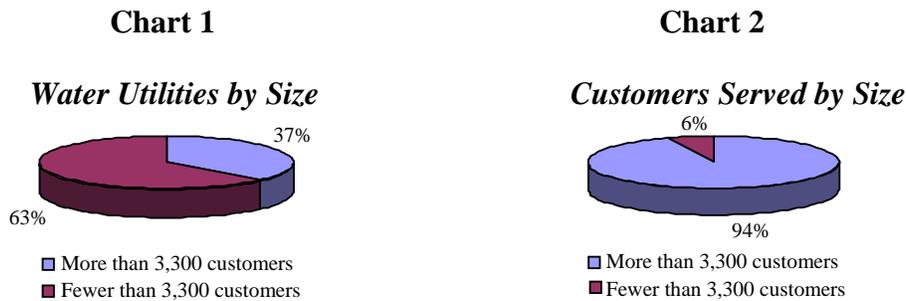
The Commission-regulated water systems have \$3.4 billion in utility plant in service and annual revenues of \$501.2 million. The total rate base is \$2.1 billion. The

⁷⁸ I.C. 8-1-2-86.5

Commission-regulated wastewater utilities have \$176.4 million in utility plant in service and annual revenues of \$26.5 million. The total rate base is \$64.9 million.⁷⁹

Industry Characteristics

In Indiana, the water and wastewater industries tend to be regional or local in nature. Numerous smaller utility systems serve a relatively small percentage of the population, while a small number of larger utility systems serve the majority of the population. For example, Chart 1 shows that 63% of regulated water utilities serve fewer than 3,300 customers. Chart 2 shows that these utilities only serve 6% of the water utility customer population.



Source: Commission 2007 Annual Reports

Acquisition and Consolidation

The pace of water/wastewater mergers and acquisitions by investor-owned utilities has slowed recently, but several municipalities have acquired utility property through the condemnation process.

Over the last seven years, the pace of mergers and acquisitions by investor-owned utilities has slowed significantly as the most attractive utilities have been acquired; however, transactions are still taking place. Indiana's largest investor-owned utilities, including Indiana Cities, United Water's Indiana properties, Northwest Indiana Water, and several smaller utilities were acquired by Indiana-American in the 1990s. As a result, Indiana-American is now the state's largest investor-owned water utility, serving

⁷⁹ 2007 Annual Reports filed with the Commission

approximately 283,000 customers throughout many regions of the state. In 2008, Aqua Indiana purchased South Haven Sewer Works, the third largest wastewater utility in Indiana by revenues. A case is also pending before the Commission wherein Indiana-American is seeking to acquire the Waveland Municipal Water Department.

Several municipalities have acquired private utilities in recent years and all such acquisitions required Commission approval. In 2006, the town of Winfield acquired Winfield Utilities, Inc., an investor-owned wastewater utility. The city of Fort Wayne completed its acquisition of a large portion of Utility Center Inc.'s system by initiating the condemnation process in civil court, an action later affirmed by the Indiana Supreme Court. In its decision, the Supreme Court held that under I.C. §§ 8-1-2-92 and 93, an investor-owned utility license, permit, and franchise is conditioned on the ability of municipalities to purchase utility property.

This Supreme Court decision appears to have cleared the way for future acquisitions by condemnation. In April 2008, the town of Cedar Lake filed a condemnation action against Utilities, Inc. The parties reached a settlement that was approved by the Commission in April 2009. Another condemnation action was initiated earlier this year by the city of Jeffersonville to obtain utility property that is operated by Wastewater One, Inc. and owned by the United States Army.

In light of the recent transactions, several issues have been raised. One of which is in regard to setting the fair value of the property to effect a change in ownership. Another issue rests with the determination of whether or not the customers acquired through the condemnation process should be required to pay more for water than existing customers. Although there is a general lack of consensus on these issues, the Indiana General Assembly remedied one aspect of the condemnation matter. Going forward, when a municipality condemns the property of a public utility, customers shall bear the costs associated with the condemnation process through their normal rates and charges. No additional surcharge or special fee can be added to utility bills.

In some instances, the Commission classifies water and wastewater utilities as “troubled.”

In some instances, the Commission classifies water and wastewater utilities as “troubled”. The utilities that become “troubled” are typically small utilities (fewer than 300 customers) that were constructed by a developer as part of a housing development.

To determine whether or not a utility is troubled, the Commission, under Indiana law, may examine several key factors including: technical, financial, and managerial capacity; the physical condition and capacity of the plant; the utility’s compliance with state and federal law or the Commission’s orders; and provision of service to customers. If the utility has continued violations even after the Commission orders it to remedy the deficiencies, the Commission can order the acquisition of the utility by a new owner or appoint a receiver to operate the utility and work to find a new owner.⁸⁰

Investor-owned water and wastewater utilities with fewer than 300 customers can withdraw from the Commission’s jurisdiction, preventing oversight of the very entities that are most likely to become “troubled”.

The Commission’s primary goal, however, is to prevent utilities from becoming troubled. Both the Commission and the IDEM have rules regarding the operational abilities of water and wastewater utilities. IDEM’s New Public Water System Capacity review requires a new public water supply system commencing operation after October 1, 1999 to demonstrate its technical, managerial, and operational abilities to serve.⁸¹ Commission staff members participate in this review process. The Commission has similar requirements for a start-up wastewater utility.⁸²

⁸⁰ See, I.C. 8-1-30, *et seq*

⁸¹ See, 327 I.A.C. § 8-3.6, Demonstration of New Public Water Supply System Capacity

⁸² See, 170 I.A.C. § 8.5-3-1, Application for certificate of territorial authority

The Commission continues to actively monitor several utilities that can be described as troubled systems. However, the Commission’s ability to perform this function is limited by the ability of investor-owned utilities to withdraw from the Commission’s jurisdiction.

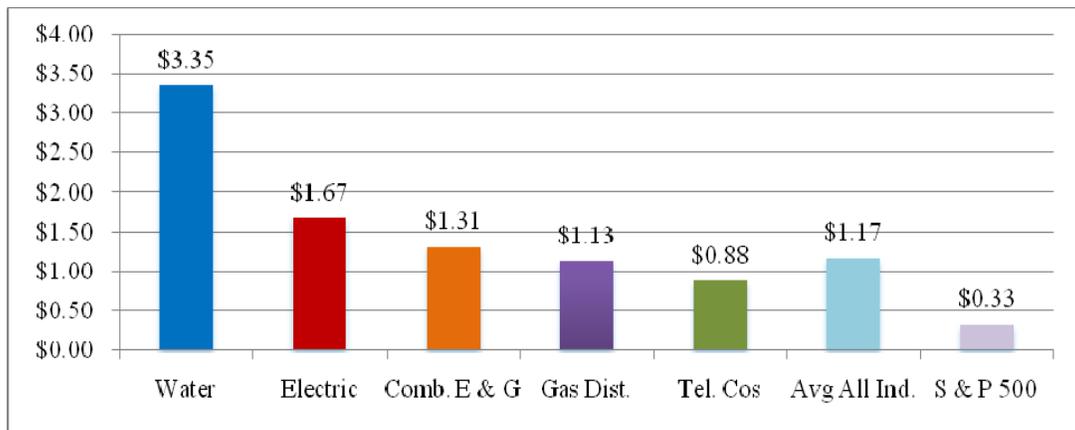
Once withdrawal occurs, the Commission no longer has the ability to proactively monitor the progress and development of the systems that are historically most likely to become troubled.

Age-Profile

Following World War II, much of the United States’ drinking water and wastewater infrastructure was built. A significant portion of this infrastructure has aged and will need full-scale replacement over the next several decades. This is problematic because the water sector remains the most capital intensive of all utilities due to high capital costs and relatively low revenues, investing more capital per dollar of revenue earned than any other industry. Chart 3 shows that in 2008 the water industry invested twice as much capital per dollar of revenue as any other utility sector, close to three times the average of all industries and ten times the ratio of the entire Standard & Poor’s 500. Consequently, water utilities are increasing general rates and exploring other ways to increase revenues as discussed in Section II.

Chart 3

Capital Invested per Dollar of Revenue



Source: AUS Utility Reports – 2008

Demand

Total Indiana Withdrawals

The demand for water comes from a variety of sources and activities. The generic term for water demand is *withdrawal*.

The demand for water comes from a variety of sources and activities. The generic term for water demand is *withdrawal*, defined as those uses which involve the physical removal of water from the ground or surface source.⁸³ The state of Indiana divides significant water withdrawal (each facility having the capability of withdrawing greater than 100,000 gallons per day) into six categories: Public Supply (water supply utilities, mobile home parks, apartment complexes, and schools); Energy Production (power generation, coal preparation, and heating and cooling); Industrial (manufacturing process, and sand and gravel operations); Agriculture (irrigation, golf courses, and field drainage); Rural Use (livestock watering and fish hatcheries); and Miscellaneous (construction dewatering, snow-making, fish and wildlife areas, and lake-level maintenance).

Total withdrawals in Indiana have increased from 3,300 billions of gallons (BG) in 2003 to 3,384 BG in 2007. More than half of this increase was due to an increase in withdrawals for energy production.

Many factors influence withdrawal, such as annual precipitation, summer temperatures, population growth, and water efficiency. Table 2 shows public supply increasing from 250,470 millions of gallons (MG) in 2003 to 274,541 MG in 2007.⁸⁴ Furthermore, it shows that the majority of withdrawal is from energy production.

⁸³ *Indiana's Water Shortage Plan*, May 2000

⁸⁴ According to the 2007 Commission Annual Reports, total water sold from the top nine utilities in Indiana increased from 123,660 MG in 2003 to 131,138 MG in 2007. One utility from the top ten was not included because the records were not accurate.

Table 2

Total Indiana Withdrawals 2003 - 2007 (Millions of Gallons)

Withdrawal	2003	2004	2005	2006	2007
Public Supply	250,470	250,022	265,747	255,694	274,541
Energy	2,167,477	2,279,527	2,224,456	2,239,931	2,212,198
Industry	825,261	838,083	784,843	799,533	822,730
Agriculture	43,590	39,228	62,064	37,084	61,686
Rural	4,566	4,182	4,162	3,898	4,230
Miscellaneous	6,172	7,986	7,108	6,267	6,303
TOTAL	3,299,539	3,421,031	3,350,385	3,344,412	3,383,695

Source: Department of Natural Resources.

While Table 2 shows that energy production uses more water than any other category, most water is returned to its original source. Withdrawal includes consumptive and non-consumptive uses. According to Indiana’s Water Shortage Plan,

*Consumptive uses are those that, because of evaporation, transfer out of the basin of origin, incorporation into manufactured products or other processes, preclude the return of some or all of the withdrawn water to its source. Non-consumptive uses are those in which the withdrawn water is returned to the supply system undiminished in volume.*⁸⁵

Table 3 shows that 98% of energy production withdrawal is returned to its original source.

Table 3

Percentage of Consumptive Use by Sector in Indiana

Public Supply	Self-Supply Domestic	Self-Supply Irrigation	Self-Supply Livestock	Self-Supply Industrial	Self-Supply Fossil Fuel Power Plants
15%	10-15%	90%	80%	6%	2%

Source: Department of Natural Resources

Existing Policy

Water and Wastewater Quality

Utilities that provide drinking water and treat wastewater are subject to strict federal regulations to address the issues of safe drinking water and protection of the state’s ground and surface water. Water quality regulation falls under the Safe Drinking Water Act

⁸⁵ *Indiana’s Water Shortage Plan, May 2000*

(SDWA), passed in 1974 and amended in 1996. The United States Environmental Protection Agency (EPA) is the primary federal agency to implement the SDWA and is required to set standards for drinking water. The standards, which are enforced by IDEM, are health-related, focusing on inorganic and organic chemicals and microorganisms; and aesthetics, focusing on taste, odor, and appearance. These standards are developed by setting a maximum contaminant level and maximum contaminant level (MCL) goal, both of which are periodically updated.

Potable water and wastewater effluent is highly regulated.

The principal law governing the quality of surface water is the Federal Water Pollution Control Act or Clean Water Act (CWA), most recently amended in 1987. Similar to the SDWA, the EPA is charged with implementation of the CWA and sets standards for wastewater effluent, while delegating enforcement to the IDEM.⁸⁶ Several wastewater utilities under the Commission’s jurisdiction have been under consent decrees due to violation of the CWA. In some cases, infrastructure improvements were required to resolve problems. The cornerstone of water quality is the issuance of a National Pollution Discharge Elimination System (NPDES) permit, which allows utilities to discharge wastewater effluent into waterways. The Commission regularly makes approval of sewer CTAs contingent on the successful receipt of NPDES permits and requires sewer utilities to provide proof of issuance of the permit before authorization is granted.

XIV. WATER/WASTEWATER LANDSCAPE

Infrastructure

Indiana communities and rural areas need safe, reliable water and wastewater systems to prosper economically. However, a funding shortfall in Indiana exists due to the need to replace aging infrastructure and its attendant high capital requirements. The Indiana Advisory Commission on Intergovernmental Relations report, titled “Financial Needs for Wastewater and Water Infrastructure in Indiana,” (January 2003) estimates that the

⁸⁶ To the extent that wastewater treatment is provided by a septic system or constructed wetland, the Indiana State Department of Health (ISDH) is the jurisdictional agency.

statewide wastewater and drinking water infrastructure needs for the period 2000 to 2020 will require \$12.4 to \$13.9 billion in funding. Some recommended projects include: correction of combined sewer overflows (CSOs); wastewater conveyance and treatment; remediation of failing septic systems; storm water conveyance and management; drinking water production; and treatment and distribution facilities. Annual investments made by governmental entities between January 1990 and March 2002 were approximately \$253 million, far short of the estimated \$658 million investment needed annually to meet the needs identified in this report.

**The EPA projects that Indiana’s drinking water
infrastructure needs from 2007 to 2027 will be \$5.9 billion.**

The EPA’s Drinking Water Infrastructure Needs Survey and Assessment (“Needs Assessment”) supports the results of the Indiana Advisory Commission on Intergovernmental Relations. Every four years since 1997, the EPA provides a Needs Assessment to Congress on the anticipated costs of the investments to install, upgrade, or replace equipment in order to deliver safe drinking water over the next 20 years.⁸⁷ The report surveys community water systems and not-for-profit non-community water systems with the scope limited to those needs eligible to receive Drinking Water State Revolving Fund assistance.⁸⁸

According to the 2007 Needs Assessment, Indiana’s water project needs over the next 20 years were \$5.9 billion, which is an increase of 23% from the 2003 Needs Assessment.⁸⁹ As shown in Chart 4, the greatest need, \$4.5 billion, is underground infrastructure (transmission/distribution and storage).

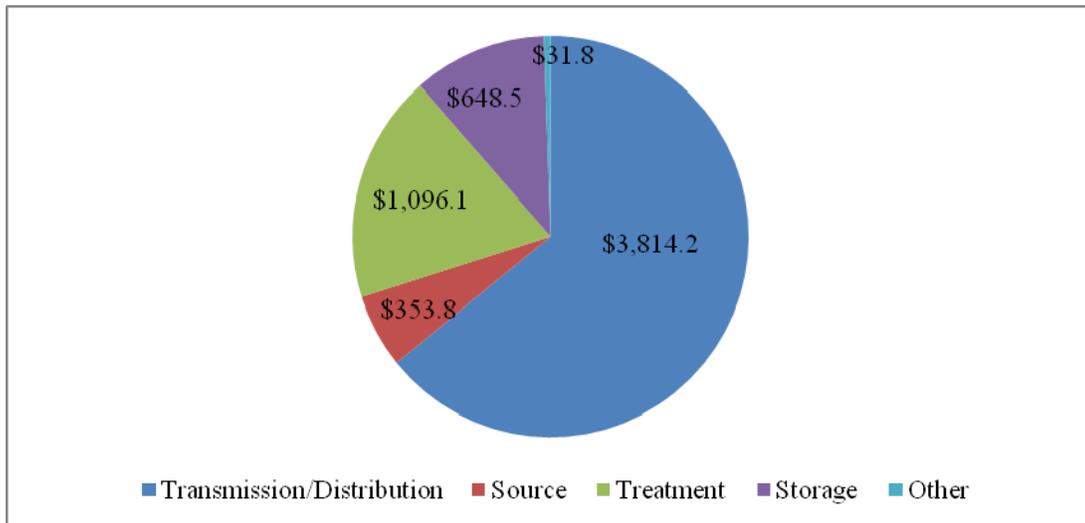
⁸⁷ For example, the 2009 Report is based on the 2007 Survey and 2005 Report is based on the 2003 Survey.

⁸⁸ A community water system is a public water system that serves at least 15 connections used by year-round residents or that regularly serves at least 25 residents year-round. Cities, towns, and small communities such as retirement homes are examples of community water systems. A non-community water system is a public water system that is not a community water system and that serves a nonresidential population of at least 25 individuals daily for at least 60 days of the year. Schools and churches are examples of non-community water systems.

⁸⁹ Data was not broken out between Commission regulated and non-regulated water utilities.

Chart 4

Indiana Water Utility 20-Year Needs (Millions of 2007 Dollars)



Source: 2007 Needs Assessment

Funding Programs

**Numerous federal and state funding options
are available for infrastructure investment.**

Numerous federal and state funding options are available for infrastructure investment. Grants from the EPA are leveraged in bond markets to generate State Revolving Loan Fund (SRF) loan proceeds. The Indiana Finance Authority (IFA) administers these funds through low-interest loans at 20-year terms to investor-owned, municipal and not-for-profit utilities. The American Recovery and Reinvestment Act of 2009 (ARRA) provided the IFA with an additional \$122 million for shovel-ready wastewater and drinking water infrastructure projects. IFA was able to supplement these funds and make it possible to fund projects worth \$250 million. Approximately \$74.6 million of the approximate \$96.8 million in drinking water projects funded in the first two rounds of awards was granted to Commission-regulated water utilities.

Rural Development Loans and Grants are also available to rural areas and towns serving a population of fewer than 10,000. Extended 40-year terms are available at

market or below-market interest rates, depending on community demographics. As part of the ARRA, Indiana will receive approximately \$73.5 million to fund one jurisdictional and fifteen non-jurisdictional utility projects. Grants for planning and up to 75% of project costs are available. Planning and construction grants are available to non-entitlement cities⁹⁰, towns, or counties through the Community Focus Fund that is administered through the Indiana Office of Community and Rural Affairs (OCRA).

As part of the ARRA, Indiana will receive approximately \$73.5 million to fund one jurisdictional and fifteen non-jurisdictional utility projects.

Although the amount of SRF funding to investor-owned and not-for-profit utilities is limited, there are other options available. For example, another avenue to obtain low interest rate loans is Private Activity Bonds (PABs), municipal bonds issued to finance facilities for investor-owned or not-for-profit water utilities.⁹¹ The benefits of reduced financing costs go directly to utility customers, rather than to shareholders, owners, or parent companies. The federal government sets the overall loan volume cap for each state, then allocates that amount based on a formula (*see* I.C. § 4-4-11.5). Since 1995, Indiana has used all of the federal allocation each year, with 9% of the overall dollar amount allocated to the IFA. Besides water projects, the IFA funds other types of projects, such as manufacturing projects.

Loans and grants are available for utility infrastructure investment through the State Revolving Fund, Rural Development Loans and Grants, and the Community Focus Fund.

Under the current funding regime, investor-owned and not-for-profit utilities are discriminated against because they have limited access to low-cost debt. Without access to low-cost debt, costs to serve those customers increase despite the fact that all customers pay federal income tax to support the funding programs. To gain access to additional SRF funding, several not-for-profit utilities have converted to water authorities

⁹⁰ Non-entitlement cities must go through a state funding program instead of receiving funds directly from the federal government.

⁹¹ PABs are not available to private wastewater utilities.

to avoid the volume cap for PABs. The National Association of Regulatory Utility Commissioners (NARUC) and the National Association of Water Companies support federal legislation to lift the ban on wastewater utilities and to remove water projects from the volume cap.

Resources

While frequently a topic in the arid Southwest, and even recently in the Southeast, water supply issues have seldom been of concern to the relatively water-rich Midwest. The water supply in Indiana has generally been plentiful, but over the past few years, water rights and access issues have arisen. In fact, Indiana has not always been able to economically access the amount of water needed, and has found that even areas that typically have plenty of water go through periods of drought.

New Sources of Supply/Enhanced Reliability

Maintaining quality ground and surface water is critical because contaminated water cannot be considered a resource. In Indiana, much of the water supply comes from aquifers, which utilities tap into by digging wells. To increase the reliability of water from rivers, reservoirs are constructed. Reservoirs play an important role in water treatment since they allow time for particles to settle and serve as the beginning of natural biological treatment. Although not a natural resource, water tanks also play an important role as a source of backup supply due to their ability to help maintain sufficient water pressure in systems for potable water and fire suppression.

Not every water utility in Indiana has its own source of supply. Based on the Commission's Annual Reports, 15% of the Commission-regulated water utilities share source-of-supply infrastructure through wholesale purchase agreements.

While statewide water shortages do not exist, water efficiency programs are being developed at the national, statewide, and individual water utility levels.

Water Efficiency

Water efficiency programs are being developed by individual utilities and at state and national levels in an effort to manage customer usage. In fact, the second largest water utility in the state, Indiana-American, recently filed a water efficiency plan with the Commission. At the state level, Indiana is developing its own water conservation and efficiency goals and objectives, and implementing a voluntary or mandatory water conservation and efficiency program by October 2010 as required by the Great Lakes Compact. At the national level, the EPA has developed the WaterSense[®] program to encourage water efficient products, services, and practices.

One concern associated with water efficiency planning is summer watering and the shortages that are often caused by it. Because water shortages can occur with relative frequency, it is important for our utilities to address this issue. Summer watering costs utilities millions of dollars due to the need to find and/or build additional water supply, in addition to building water treatment plant capacity to meet peak demands while that capacity sits idle for the remainder of the year.

In severe cases of drought, water shortages can lead to low water pressure, which adversely affects fire protection. Additionally, low water pressure can also lead to water contamination. Municipal utilities have recently started taking actions to control water usage during periods of low supply. While some municipalities have passed ordinances that levy fines to customers when they irrigate on restricted days, there are other utility initiatives, mainly outside of Indiana, that modify rate structures so that water is priced to provide incentives for consumers to conserve water and reduce consumption.

Utilities can reduce the need to develop new sources of supplies by reducing the amount of unaccounted-for-water. Unaccounted-for-water is different from water loss, which is simply water pumped and purchased subtracted by water sold; unaccounted-for-water includes water the utility can reasonably track, such as water used for main flushing, maintenance of treatment plant, and fire suppression. The American Water Works Association (AWWA) developed a guideline of 10% unaccounted-for-water, but some of Indiana's utilities exceed this guideline. The Commission now requires utilities

to address this issue. If unaccounted-for-water is greater than 10%, the utility must advise the Commission what actions it is taking to address the problem.

Water efficiency not only reduces the amount of water consumed, it saves energy.

Energy and Water/Wastewater

Water efficiency not only protects the supply of an important natural resource, but also conserves energy. Energy efficiency campaigns usually include information on saving water and provide energy efficiency kits containing water saving devices such as low-flow shower heads. According to the EPA, energy costs for water and wastewater utilities can be 1/3 of a municipality's total energy bill. Furthermore, according to the EPA, if drinking water and wastewater systems reduce energy use by just 10% through cost-effective investments, collectively they could save approximately \$400 million and 5 billion kWh annually.

The federal government and universities are developing programs to educate water and wastewater utilities on ways to conserve and improve upon their existing energy consumption. In January 2008, the EPA published the *Energy Management Guidebook for Water and Wastewater Utilities*, a step-by-step method based on a “Plan-Do-Check-Act” management system approach. This guidebook aids utilities in acting to identify, implement, measure, and improve energy efficiency and renewable opportunities. Purdue University has even created an Energy Efficiency Services Division within its Technical Assistance Program to further help water and wastewater utilities reduce energy costs.

Some wastewater treatment plants can produce digester or methane gas for use as emergency backup power or renewable energy sources to reduce purchased energy from utilities.

Some wastewater treatment plants can produce digester or methane gas as emergency backup power or a renewable energy sources. For example, the City of West Lafayette upgraded its treatment plant and determined it could use the waste byproducts for a co-generation system using micro-turbine technology. These additions are projected to

create \$7.2 million in savings over the life of the treatment plant and represent a use of material that would have otherwise become part of the waste stream.

Regulatory Development

Commission Initiatives

Many smaller water and wastewater utility systems lack access to the resources available to larger utilities. In response, the Water/Wastewater Division (Division) of the Commission implemented several initiatives to assist Indiana's smaller regulated water and wastewater utilities. The Division developed a Small Utility Toolkit (Toolkit) that offers many resources regarding infrastructure funding and asset management. The Toolkit also provides information about free technical and operational assistance and provides examples and checklists so that the utilities can complete certain Commission processes at a lower cost. The OUCC has begun distributing these Toolkits during its water and wastewater utility audits.

The Water/Wastewater Division held three well-attended Small Utility Workshops that offered hands-on training to municipal and not-for-profit utilities.

The Division also developed a Small Utility Workshop that offers hands-on training to municipal and not-for-profit utilities. During the workshop, participants learn how to complete the Commission's annual report filings and a Small Utility Rate Application (an application that provides a utility the opportunity to request a rate increase without going through the Commission's formal filing process). The workshop also provides accounting and asset management training as well as an opportunity for the utilities to discuss other issues with staff. To date, three workshops have been held. All of the workshops were well attended with positive feedback that encouraged additional training opportunities.

The Division's new annual report forms request more detailed information regarding asset management, financial planning, and unaccounted-for-water. This information will assist the IURC with assessing and targeting the needs of smaller utilities.

Procedures/Rules to Reduce Regulatory Burden

The Commission has taken several steps to formalize processes and limit costs associated with regulation.

- General Administrative Order 2009-3 set the fee for rate cases at \$3,000 for municipal utilities with fewer than 5,000 customers. This addresses the Commission's obligation to promote utility cost minimalization and a less costly regulatory procedure for small utilities. (Approved: March 11, 2009.)
- The Commission updated its meter testing standards regarding accuracy and meter testing with robust input from the industry. Inspections must now be based on the most current version of the AWWA's Manual of Water Supply Practices. The Commission's rule regarding location of underground meter pits was also clarified. (Effective: February 26, 2009.)
- The Commission adopted a new rule regarding 30-day administrative filings. The 30-day filing process, previously available at the Commission through an informal process, is available for certain routine and non-controversial requests, and is intended to facilitate expedited consideration of these matters by the Commission. The new rulemaking codifies the procedures, includes notification procedures and an objection process. (Effective: December 25, 2008.)
- The Commission has completed a revision to the Minimum Standard Filing Requirements (MSFR) that lessened the regulatory burden of participation. (Pending).

Other Pending Rules

The Commission is in the process of developing administrative rules for the practice of sub-metering and sub-billing of water and wastewater service. Ind. Code § 8-1-2-1.2 provides, in part, that landlords are not utilities by virtue of the provision of certain utility service to tenants. Thus, billing or service issues provided by landlords are not under the Commission's jurisdiction, unless a landlord takes actions in contravention of the rules. To date, the Commission's General Counsel's Office has issued a draft rule for

discussion purposes at a pre-rulemaking workshop and has accepted comments submitted by interested parties.

The Commission hopes to expand the availability of the Small Utility Rate Application process to utilities with fewer than 10,000 customers to encourage more frequent, smaller rate increases before their financial circumstances deteriorate to the point where the utility becomes troubled.

In addition to these improvements, the Commission is considering possibly expanding the availability of the Small Utility Rate Application process to utilities with fewer than 10,000 customers rather than the current 5000-customer maximum. The Commission believes that small utilities with limited resources may be reluctant to file rate increase requests because of the professional fees involved. By increasing the availability of the Small Utility Rate Application process, the Commission is hopeful that more utilities will request rate increases before they deteriorate to the point where the utility becomes troubled. This change would require action by the General Assembly.

Pricing and Economics

Industry Costs

Costs are increasing for water and wastewater utilities and are driven by the following needs: replacement of aging infrastructure; compliance with EPA standards such as water quality and wastewater effluent; growing demand; relocation of facilities for city and state road projects; and the 2008 credit crisis that resulted in higher interest rates.

Costs in the water/wastewater industry continue to increase due to replacing infrastructure, EPA compliance, growing demand, relocation of facilities, and the 2008 credit crisis.

Rate Increases

As the costs for water and wastewater services continue to rise, rates are following suit. In 2008, 13 water utilities were approved for general rate increases averaging 27.72%, and 5 wastewater utilities were approved for rate increases averaging 39.37%.

The two largest water utilities filed rate increase requests in 2009. Rate cases in Indiana reflect the general trend across the nation that shows water and wastewater rates outpacing inflation.⁹²

Mechanisms Within a Rate Case to Recover Infrastructure Costs

The Commission has several mechanisms within a rate case that allow utilities to recover costs associated with providing service. Municipal and not-for-profit utilities are allowed to include costs for some types of projects, typically referred to as extensions and replacements, in customer rates. This allows utilities to include future infrastructure projects in rates without relying entirely on debt. In addition, Post-in-Service Allowance for Funds Used During Construction (AFUDC) and Deferred Depreciation, if approved, allow investor-owned utilities to defer the capital costs and depreciation expense of a project to the utility's next rate case. This practice helps to minimize the utility's earnings erosion.

All utilities can use the MSFR process that allows a utility to update its rate base for capital investments incurred up until the final hearing. This can be an incentive to invest in capital improvements, as the utility does not need to wait until a later rate case to earn a return on capital investments.

Other Sources of Revenue to Finance Infrastructure

In 2000, Indiana was the second state in the nation to approve a capital recovery mechanism called the distribution system improvement charge (DSICs)⁹³. DSICs only apply to water utilities⁹⁴, and the Commission believes that making the DSIC mechanism available to wastewater utilities will encourage investments in necessary infrastructure replacements and upgrades. DSICs allow water utilities to increase rates to recover the

⁹² *Water and Wastewater Financing and Pricing* (2005), George Raftelis

⁹³ I.C. § 8-1-32

⁹⁴ Indiana's DSIC legislation was implemented in 2000 to assist investor-owned water utilities. DSICs are most useful for investor-owned utilities since small municipally-owned and not-for-profit water utilities can avail themselves of the extension and replacement (E&R) rules, which are components of their revenue requirements. If a small municipal or not-for-profit also utilized a DSIC qualified project in its E&R plan, it would likely constitute an attempt at double-recovery. Further, large IOUs do not have the ability to request E&R plans.

costs of improvements to distribution systems without a rate case. To date, the Commission has approved over \$102 million in utility distribution plant placed in service through DSICs.

Another way to finance infrastructure investments and minimize the effect on existing customers is through system development charges (SDCs), or utility fees paid by property owners who connect their properties to the utility's system for the first time. These fees are primarily meant to recover a utility's cost to provide new customers with source of supply, treatment, and storage facilities; SDCs can be more than \$1,400 for water connections and \$3,000 for wastewater connections. The use of SDCs supports the notion that "growth should pay for growth" and reduces the likelihood that existing customers will pay for construction of new facilities that do not benefit them.

The Commission is studying its main extension rules, since it may no longer be appropriate for the Commission to require utilities to share the cost of main extensions with developers.

While SDCs and DSICs clearly benefit utilities, the Commission's main extension rules may no longer be appropriate. Under the current rules, utilities share the cost of main extensions with developers by providing a three-year revenue allowance.⁹⁵ Because utility costs are passed on to ratepayers, this practice requires existing customers to pay for at least a portion of new growth, which conflicts with the notion of SDCs that "growth should pay for growth". The Commission will continue to examine this issue to determine the appropriate policy and cost methodologies regarding SDCs.

Outside-City Customer Rates

Many municipal utilities provide service to customers outside their corporate boundaries, which can create beneficial economies of scale and rate stability to the

⁹⁵ The three-year revenue allowance is included in the Commission's main extension rules. The revenue allowance is calculated as three times the estimated annual revenues of a new customer. The utility offsets the revenue allowance amount against the customer's cost to connect to the utility system. Since utility costs are passed on to ratepayers, this practice causes existing customers to pay at least a portion of the costs for new growth.

municipality.⁹⁶ However, many municipalities charge outside-city customers higher rates or a surcharge, with premiums ranging from 5% to 50% greater than rates paid by inside-city customers for the same service.

Different rates between customers located inside and outside a municipality may raise questions about whether the non-city rate is cost-justified and non-discriminatory.

A corporate boundary is usually not the same as a natural boundary such as a river or mountain, where crossing to the other side may increase the cost of providing service. With corporate boundaries, the imposition of higher rates or a surcharge may be a device to stimulate support for annexation, or may simply represent revenue enhancement. It may be difficult to support different dollar amounts for inside-city and outside-city water rates since rates approved by the Commission must be cost-justified and non-discriminatory.

When municipal utilities opt-out of the Commission's jurisdiction, customer-citizens of that municipality have a voice in how the utility is operated when voting for local leaders. However, customers located outside a municipality's corporate boundaries cannot participate in the local municipal elections and, therefore, have no input. In effect, they are subject to "taxation" without representation. One possible remedy might be to provide the Commission with limited jurisdiction over municipal water rates charged to outside-city customers where a surcharge is assessed, even when the municipality has opted out of the Commission's jurisdiction. Another alternative would be for the IURC to obtain oversight authority that has traditionally resided solely with municipalities.

Fire Protection Surcharge

Prior to the implementation of I.C. § 8-1-2-103(d), many public utilities levied the cost of fire protection directly on municipalities, which, in turn, recovered the costs through assessment of taxes on their citizens. With the passage of I.C. § 8-1-2-103(d), many municipalities have passed ordinances to transfer those fire protection costs to

⁹⁶ This can also constrain the proliferation of small developer-owned systems that sometimes become troubled.

customers through surcharges that appear on customer bills on a revenue-neutral basis. As municipalities face reduced tax revenues and increasing costs, this trend is likely to continue.

Commission Staff Rate Design Project

As this and other sections point out, rate design and how costs are recovered in the water industry need to be examined further due to the fact that the water industry has rates that do not encourage conservation and rates that may not be cost-justified and non-discriminatory. Additionally, conflicts exist between SDCs and the main extension rule.

The Water/Wastewater Division is working with utilities and consultants to develop a report on rate design alternatives.

The Division is working with utilities and consultants to develop a report on rate design alternatives. The report will include a history of rate design, advantages and disadvantages of alternative rate designs, identification of potential challenges and solutions to implement rate design changes, and final recommendations. A series of meetings have already been held and staff members have completed many sections of the report. The Commission anticipates that the project will be complete by the end of 2009.

XV. WATER/WASTEWATER GROWTH & INNOVATION

Legislation

At the state level, two bills were passed in the most recent session of the General Assembly that affect Indiana's water and wastewater utilities. Indiana Code § 14-25-16 establishes a water resources task force to study and make recommendations on issues of water availability as an economic and environmental necessity. The taskforce will focus on available quantities and sources of water, future needs, resource management, determination of ownership rights (particularly in ground water), drinking water delivery systems, and opportunities to partner with neighboring states. Another bill modifies I.C. § 8-1-2-92 to include language stating that a municipality that acquires and operates a utility under I.C. 8-1.5-2 by exercising the power of eminent domain may not impose a

special rate or surcharge on the customers of the utility in order to pay for the costs associated with acquiring the utility.

At the federal level, the House Energy and Commerce Committee is working to rewrite the overall federal security program for chemical facilities to include currently-exempt drinking water utilities. The Committee is drafting a chemical facility security bill that will give federal regulators the ultimate authority over what chemicals and treatment processes a drinking water utility may use.⁹⁷

The Commission recognizes various legislative efforts to address inequities within the water and wastewater industry; however, there is still opportunity for reform. As such, the Commission offers several legislative proposals to highlight specific issues within the industry. One area of concern is the ability of investor-owned water and wastewater utilities with less than 300 customers to withdraw⁹⁸ from Commission jurisdiction. Their ability to withdraw is problematic because these entities are most likely to become troubled, and as a class, may be most in need of assistance. Therefore, investor-owned water and wastewater utilities with fewer than 300 customers should remain under IURC jurisdiction. This way the Commission can proactively monitor the progress and development of these systems so they remain viable and avoid the costly procedures associated with receivership.

Another problematic area is outside-city utility rates for municipalities that have withdrawn from Commission jurisdiction⁹⁹. Without proper oversight, these customers can pay significantly higher rates without justification than those within city limits. The problem is further exacerbated since these customers do not have the ability to vote against such measures because they are located outside the municipality's corporate boundaries. IURC jurisdiction will provide customers with protection against unjustified rate increases.

⁹⁷ AWWA Legislative Alert e-mail to AWWA Leadership from AWWA Government Affairs Office, April 3, 2009

⁹⁸ I.C. § 8-1-2.7-1.3

⁹⁹ I.C. § 8-1.5-3-9.1

The Commission also offers a third proposal for consideration that involves small utility filings¹⁰⁰. Utilities serving a designated number and type of customer, as determined by the IURC, should be able to take advantage of the small utility filing process. Currently, the statute defines a small utility as one with 5,000 customers or less. Only utilities that primarily serve retail customers and do not extensively serve another utility can use the Small Utility Filing Process. By providing the Commission with the requisite flexibility to increase the customer limit and expand the type of customers a utility can serve, more small utilities can take advantage of the Small Utility Rate Application process, thus keeping costs to a minimum.

Finally, the Commission believes that wastewater utilities should be able to utilize the distribution system improvement charge¹⁰¹ (DSIC) in the same manner as water utilities. Currently, water utilities use a DSIC to recover distribution system investments incurred between rate cases through an expedited process. The DSIC is a tracking mechanism similar to the trackers used by electric and gas utilities to pass fuel costs to customers. Similar to the water distribution system, investments in the collection system of wastewater utilities are critical due to aging infrastructure and increasing stringent regulations. Aging collection system infrastructure is one of main causes of inflows and infiltration that may lead to environmental contamination and IDEM violations. An improved collection system may also address combined sewer overflow, which is where untreated wastewater is discharged into waterways during heavy rainfall. A DSIC will provide a financial incentive for wastewater utilities to invest in critical collection system infrastructure by reducing regulatory lag and providing more immediate cash flow without incurring the costs associated with a rate case.

Technology

Disinfection Methods

The widespread use of drinking water disinfection and filtration is recognized as one of the most important public health achievements in modern history. In recent years,

¹⁰⁰ I.C. § 8-1-2-61.5

¹⁰¹ I.C. § 8-1-31

however, there have been concerns about chlorine. Although chlorine disinfects drinking water, it also reacts with traces of other materials or particles (e.g., organic matter such as decaying trees and leaves as well as urban farm run-off) in water and forms trace amounts of substances known as disinfection byproducts. The most common of these are known as trihalomethanes (THMs), which have been linked to increasing cancer risks and birth defects. Chlorine is also dangerous to handle. The gaseous form is poisonous and any facility using chlorine gas must comply with many Occupational Safety and Health Administration (OSHA) requirements. Furthermore, since 9/11, the federal government has raised security concerns regarding chlorine.

Water/wastewater technology includes ultraviolet light for disinfection, variable speed pumps, reclaimed water, and advanced water meters.

One alternative to chlorination is the use of ultraviolet (UV) light, which is a light source enclosed in a transparent protective sleeve. The protective sleeve is mounted so that water can pass through a flow chamber, and UV rays are admitted and absorbed into the stream of water. When ultraviolet energy is absorbed by the reproductive mechanisms of bacteria and viruses, the genetic material (DNA/RNA) is rearranged so that they can no longer reproduce. At this stage they are considered dead, and the risk of disease is eliminated.

Efficient Water Pumps

If the topography is right, water/wastewater can move from its source to an eventual destination using only gravity, but because water/wastewater is heavy, a great deal of energy is required to move it from one area to another. For a pump to work efficiently, it must have sufficient capability in flow and pressure. However, this is rarely the case. In the case of a constant speed pump, if the pump is not a perfect selection for the operating conditions, either excess pressure must be throttled, or excess flow must be dumped, which wastes energy.

Recently, the development of variable speed pumps or variable frequency drive pumps has reduced the energy required to transport water and wastewater. A variable frequency drive motor enables the pump to run at exactly the required revolutions per minute (rpm) so that the desired flow and the desired pressure can be achieved simultaneously without the need to waste energy by mechanically regulating or dumping excess flow.

Alternative Supply Sources

As water becomes scarcer, some utilities are turning to wastewater as a source of water. Yet toilet-to-tap is not utilized because most utilities are still examining the scope of the consumer education effort that must precede this type of shift. However, in California, reclaimed water is being used to recharge local aquifers and prevent further incursion of seawater through injection into the water table. Research is ongoing to use reclaimed water for fire protection and irrigation using a dual water system.¹⁰² Although the initial capital costs are higher in a dual water system, they can be offset by smaller facilities for potable water and wastewater treatment. In most instances around the U.S., communities have found adequate water supplies and have not yet considered using wastewater. However, as supply dwindles and consumer water demand increases, toilet-to-tap programs will likely become more widely accepted and utilized.

Advanced Meters

Recent developments in meter technology are eliminating the need for meter readers and may eventually lead to more real-time pricing. Several cities in Indiana are using Automatic Meter Reading (AMR). Here, a small computer is attached to the water meter in the pit. With this addition, meters can be read by a person in a truck driving through a neighborhood, or if a high-speed connection can be created, meters can be read from the office. This reduces costs by eliminating meter readers and reduces the chance of errors during human meter reading. Furthermore, utilities can use AMR technology for leak detection by tracking consumption day-by-day or even hour-to-hour. Finally, with

¹⁰² "Benefits of Shifting Fire Protection to Reclaimed Water," Francis DiGiano, Christopher Weaver, and Daniel Okun, AWWA Journal February 2009

advanced meters and computers on certain home appliances, time-of-use metered rates are possible.

One significant consumer issue frequently associated with this issue is bill estimation. Bills have been estimated because in years past, many utilities only billed on a bi-monthly, quarterly or annual basis. As consumption increased, so did water bills. Utilities decided that in order to reduce rate shock, they would implement an estimation process to alleviate this problem. However, there are consistent problems with the estimation methodology, including the frequency of meter reading, related to unpredictable factors such as human behavior and the impact of weather events. Estimation can lead to excessive bills or inaccurately low bills. Advanced metering provides a solution to this problem.

XVI. WATER/WASTEWATER APPENDICES

Appendix A – Water Utility Revenues

Water Utility Revenues

Year Ending December 31, 2007

Rank	Utility Name	Operating Revenues	% of Total Revenues
1	Indiana-American Water Company, Inc.	\$146,217,439	30.51%
2	Indianapolis Water	124,373,438	25.95%
3	Fort Wayne Municipal Water Utility	30,122,226	6.28%
4	South Bend Municipal Water	15,292,473	3.19%
5	Evansville Municipal Water Works Dept.	13,710,505	2.86%
6	Bloomington Municipal Water	10,479,032	2.19%
7	Hammond Municipal Water Works	9,130,450	1.90%
8	Mishawaka Municipal Utilities - Water	8,892,645	1.86%
9	Lafayette Municipal Water Works	7,686,877	1.60%
10	Elkhart Municipal Water Works	7,417,089	1.55%
11	Anderson Municipal Water Works	7,040,157	1.47%
12	Michigan City Municipal Water Works	6,754,667	1.41%
13	Utility Center, Inc.	6,076,081	1.27%
14	Schererville Municipal Water Works	5,594,976	1.17%
15	Columbus Municipal Water Utility	5,018,524	1.05%
16	Marion Municipal Water Works	4,661,006	0.97%
17	Stucker Fork Conservancy District	3,307,253	0.69%
18	Chandler Municipal Water Works	2,861,901	0.60%
19	New Castle Municipal Water Works	2,774,136	0.58%
20	Ramsey Water Company, Inc.	2,685,770	0.56%
21	Brown County Water Utility, Inc.	2,581,254	0.54%
22	Jackson County Water Utility, Inc.	2,487,144	0.52%
23	Silver Creek Water Corporation	2,309,555	0.48%
24	Auburn Municipal Water Utility	2,279,791	0.48%
25	Eastern Heights Utilities, Inc.	2,100,229	0.44%
26	North Lawrence Water Authority	2,049,412	0.43%
27	Edwardsville Water Corporation	1,934,424	0.40%
28	Mishawaka-Clay Municipal Utilities - Water	1,691,828	0.35%
29	Morgan County Rural Water Corporation	1,610,734	0.34%
30	Eastern Bartholomew Water Corporation	1,606,855	0.34%
31	Princeton Municipal Water	1,605,841	0.34%
32	German Township Water District, Inc.	1,575,605	0.33%

33	East Lawrence Water Authority	1,431,087	0.30%
34	Columbia City Municipal Water Utility	1,417,865	0.30%
35	Boonville Municipal Water Works	1,417,736	0.30%
36	Peru Municipal Water Dept.	1,393,070	0.29%
37	South Harrison Water Corporation	1,391,323	0.29%
38	Watson Rural Water Co., Inc.	1,326,186	0.28%
39	Pike-Gibson Water, Inc.	1,272,681	0.27%
40	Martinsville Municipal Water Utility	1,270,150	0.27%
41	Southwestern Bartholomew Water Corporation	1,224,313	0.26%
42	Ellettsville Municipal Water Utility	1,180,172	0.25%
43	Tri-Township Water Corporation	1,129,295	0.24%
44	South Lawrence Utilities, Inc.	1,126,972	0.24%
45	Corydon Municipal Water Works	1,101,823	0.23%
46	Gibson Water, Inc.	1,082,140	0.23%
47	Aurora Municipal Water Utility	934,816	0.20%
48	Southern Monroe Water Corporation	910,847	0.19%
49	Charlestown Municipal Water Dept.	877,571	0.18%
50	Floyds Knobs Water Company, Inc.	821,237	0.17%
51	Twin Lakes Utilities, Inc.	798,915	0.17%
52	Prince's Lake Municipal Water Dept.	782,472	0.16%
53	North Dearborn Water Corporation	768,742	0.16%
54	Marysville Otisco Nabb Water Corporation	744,050	0.16%
55	Reelsville Water Authority	693,232	0.14%
56	Van Buren Water, Inc.	660,309	0.14%
57	Petersburg Municipal Water Works	631,560	0.13%
58	LMS Townships Conservancy District	612,019	0.13%
59	Valley Rural Utility Company	603,698	0.13%
60	Washington Township Water Corp. of Monroe County	551,854	0.12%
61	Sullivan-Vigo Rural Water Corp.	528,058	0.11%
62	B & B Water Project, Inc.	516,277	0.11%
63	Fortville Municipal Water Works	510,859	0.11%
64	Cataract Lake Water Corporation	465,376	0.10%
65	Clinton Township Water Company	437,417	0.09%
66	Indiana Water Service, Inc.	436,238	0.09%
67	St. Anthony Water Utilities, Inc.	354,103	0.07%
68	Riverside Water Company, Inc.	349,131	0.07%
69	Eaton Municipal Water Utility	288,865	0.06%
70	Knightstown Municipal Water Utility	241,290	0.05%
71	Painted Hills Utilities Corporation	237,656	0.05%
72	Ogden Dunes Municipal Water	236,175	0.05%
73	Everton Water Corporation	219,215	0.05%

74	Utilities, Inc.	212,200	0.04%
75	Consumers Indiana Water Company	207,048	0.04%
76	Kingsford Heights Municipal Water Utility	206,212	0.04%
77	Mapleturn Utilities, Inc.	194,981	0.04%
78	Pioneer Water, LLC	184,145	0.04%
79	Kingsbury Utility Corporation	183,206	0.04%
80	South 43 Water Association, Inc.	174,291	0.04%
81	Battle Ground Conservancy District	169,596	0.04%
82	Oak Park Conservancy District	121,941	0.03%
83	Darlington Waterworks Company	114,177	0.02%
84	Water Service Company of Indiana, Inc.	104,006	0.02%
85	Rhorer Harrel & Schacht Roads Water Corp	97,214	0.02%
86	Hillsdale Water Corporation	79,867	0.02%
87	Wedgewood Park Water Co., Inc.	66,759	0.01%
88	Apple Valley Utilities, Inc.	61,904	0.01%
89	Pleasantview Utilities, Inc.	54,833	0.01%
90	American Suburban Utilities, Inc.	32,711	0.01%
91	J.B. Waterworks, Inc.	32,256	0.01%
92	Sugar Creek Utility Company, Inc.	22,714	0.00%
93	River's Edge Utility, Inc.	16,652	0.00%
94	Wells Homeowners Association, Inc.	13,647	0.00%
95	Shady Side Drive Water Corporation	10,951	0.00%
96	Bluffs Basin Utility Company, LLC	8,127	0.00%
97	Hessen Utilities, Inc.	7,867	0.00%
98	Pence Water Works	6,328	0.00%
99	Country Acres Property Owners Association	2,592	0.00%
	Total	\$479,292,337	100.00%

Source: Data taken from 2007 Annual Reports filed with the Commission

Appendix B – Wastewater Utility Revenues

Wastewater Utility Revenues

Year Ending December 31, 2007

Rank	Utility Name	Operating Revenues	% of Total Revenues
1	Hamilton Southeastern Utilities, Inc.	\$8,270,616	31.40%
2	Utility Center, Inc.	4,782,638	18.15%
3	Aqua Indiana South Haven	3,299,427	12.52%
4	American Suburban Utilities, Inc.	2,263,447	8.59%
5	Twin Lakes Utilities, Inc.	1,530,387	5.81%
6	Eastern Richland Sewer Corporation	1,036,200	3.93%
7	Valley Rural Utility Company	892,797	3.39%
8	L.M.H. Utilities Corporation	650,830	2.47%
9	Driftwood Utilities, Inc.	485,313	1.84%
10	Wymberley Sanitary Works, Inc.	432,250	1.64%
11	Indiana-American Water Company, Inc.	321,414	1.22%
12	Mapleturn Utilities, Inc.	277,709	1.05%
13	Consumers Indiana Water Company	227,043	0.86%
14	Apple Valley Utilities, Inc.	207,523	0.79%
15	Doe Creek Sewer Utility, Inc.	184,951	0.70%
16	Northern Richland Sewer Corporation	163,653	0.62%
17	Water Service Company of Indiana, Inc.	158,781	0.60%
18	Kingsbury Utility Corporation	143,510	0.54%
19	Eastern Hendricks County Utility, Inc.	130,677	0.50%
20	Howard County Utilities, Inc.	121,218	0.46%
21	Sani Tech, Inc.	94,652	0.36%
22	Old State Utility Corporation	82,793	0.31%
23	Sugar Creek Utility Company, Inc.	68,143	0.26%
24	Centurian Corporation	63,563	0.24%
25	Galena Wastewater Treatment Plant	62,877	0.24%
26	Southeastern Utilities, Inc.	62,245	0.24%
27	Wildwood Shores Utility Corp., Inc.	53,096	0.20%
28	Pleasantview Utilities, Inc.	47,034	0.18%
29	South County Utilities, Inc.	30,174	0.11%
30	Devon Woods Utilities, Inc.	29,241	0.11%
31	East Shore Corp.	27,300	0.10%
32	Hillview Estates Subdivision, Inc.	26,436	0.10%
33	Chimneywood Sewage Works, Inc.	25,308	0.10%
34	JLB Development, Inc.	21,625	0.08%

35	Country Acres Property Owners Association	15,528	0.06%
36	River's Edge Utility, Inc.	13,872	0.05%
37	Bluffs Basin Utility Company, LLC	13,203	0.05%
38	Brushy Hollow Utilities, Inc.	10,609	0.04%
39	Harbortown Sanitary Sewage Corporation	5,400	0.02%
40	Hessen Utilities, Inc.	5,254	0.02%
41	Anderson Lakes Estates Homeowners Assoc., Inc.	3,587	0.01%
42	Webster Development, LLC	1,312	0.00%
43	Aldrich Environmental, LLC	0	0.00%
44	Sanitrol, Inc.	0	0.00%
	Total	\$26,343,636	100.00%

Source: Data taken from 2007 Annual Reports filed with the Commission

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ACRONYMS

A

ADSL – Asynchronous Digital Subscriber Line
AEP – American Electric Power
AFUDC – Allowance for Funds Used During Construction
AGA – American Gas Association
AOS – Alternative Operator Service
ARP – Alternative Regulatory Plan
AWWA – American Water Works Association

B

Bcf – Billion cubic feet
BPL – Broadband over Power Lines
BTS – Basic Telecommunications Service
Btu – British thermal unit

C

CAIR – Clean Air Interstate Rule
CalWaRN – California Water/Wastewater Agency Response Network
CAMR – Clean Air Mercury Rule
CCT – Clean Coal Technology
CETCs - Competitive Eligible Telecommunications Carriers
CGA – Common Ground Alliance
CLEC – Competitive Local Exchange Carrier
CPCN – Certificate of Public Convenience and Necessity
CT – Combustion Turbine
CTA – Certificate of Territorial Authority
CWA – Communications Workers of America

D

DIMP – Distribution Integrity Management Program
DNR – Indiana Department of Natural Resources
DSA – Designated Service Area
DSIC – Distribution System Improvement Charge
DSL – Digital Subscriber Line
DVR – Digital Video Recorder

E

EEFC – Energy Efficiency Funding Component
EIA – Energy Information Administration
EPA – U.S. Environmental Protection Agency
EPAct – Energy Policy Act of 2005

ERO – Electric Reliability Organization
ETC – Eligible Telecommunications Carrier

F

FAC – Fuel Adjustment Clause
FCC – Federal Communications Commission
FERC- Federal Energy Regulatory Commission
FT – Firm Transportation
FTR – Financial Transmission Rights
FTTH – Fiber-to-the-Home

H

HEA – House Enrolled Act

I

ICTA – Indiana Cable Telecommunications Association
IDEM – Indiana Department of Environmental Management
IEDC – Indiana Economic Development Corporation
IGCC – Integrated Gasification Combined Cycle
ILAP – Indiana Lifeline Assistance Program
ILEC – Incumbent Local Exchange Carrier
I&M – Indiana Michigan Power Company, subsidiary of AEP
IMP – Integrity Management Program
IMPA – Indiana Municipal Power Agency
INWARN – Indiana Water/Wastewater Agency Response Network
IOU – Investor-owned utility, financed by the sale of securities
IPTV – Internet Protocol Television
IPL – Indianapolis Power and Light
ISDH – Indiana State Department of Health
ISO – Independent System Operator
ISP – Internet Service Provider
IT – Interruptible Transportation
ITU – International Telecommunication Union
IUPPS – Indiana Underground Plant Protection Service
IURC – Indiana Utility Regulatory Commission
IUSF – Indiana Universal Service Fund

L

LDC – Local Distribution Company
LFA – Local Franchise Authority
LMG – Landfill Methane Gas
LMOP – Landfill Methane Outreach Program
LNG – Liquefied Natural Gas

M

Mcf – Million cubic feet
MGT – Midwestern Gas Transmission
Midwest ISO – Midwest Independent Transmission System Operator
MMBtu – One million British Thermal Units. Generally accepted as a rough equivalent of an Mcf.
MMcf – One million cubic feet
MMTCE – Million metric tons of carbon equivalent
MS4 – Municipal Separate Storm Sewer System
MSW – Municipal Solid Waste
MTEP – Midwest ISO Transmission Expansion Plan
MVPD – Multichannel Video Programming Distributor
MW – Megawatts
MWH – Megawatt Hour

N

NANPA – North American Numbering Plan Administrator
NAPSR – National Association of Pipeline Safety Representatives
NARUC – National Association of Regulatory Utility Commissioners
NCTA – National Cable and Telecommunications Association
NERC – North American Electric Reliability Council
NIPSCO – Northern Indiana Public Service Company
NO_x – Nitrogen Oxides
NOAA – National Oceanic and Atmospheric Administration
NOPR – Notice of Proposed Rulemaking
NPDES – National Pollutant Discharge Elimination System
NPMS – National Pipeline Mapping System
NRRI – National Regulatory Research Institute
NTA – Normal Temperature Adjustment

O

OECD – Organization for Economic Cooperation and Development
OMS – Organization of Midwest ISO States
OPS – Office of Pipeline Safety
OQ – Operator Qualification
OUCC – Office of Utility Consumer Counselor

P

PHMSA - Pipeline Hazardous Materials Safety Administration
PIPES – Pipeline Integrity, Protection, Enforcement, and Safety
PJM – The PJM Interconnection
POLR – Provider of Last Resort
PPA – Purchase Power Agreement
PPTT – Purchased Power and Transmission Tracker

PSA – Pipeline Safety Adjustment
PSAPs – Public Safety Answering Points
PSI – PSI Energy
PSTN – Public Switched Telephone Network
PUHCA – Public Utility Holding Company Act of 1935
PUHCA 2005 – Public Utility Holding Company Act of 2005
PURPA – Public Utility Regulatory Policies Act of 1978

R

RFP – Request for proposals
RLECs – Rural Incumbent Local Exchange Carriers
RSD – Regional Sewer District
RSG – Revenue Sufficiency Guarantee
RTO – Regional Transmission Organization

S

SDC – System Development Charge
SIGECO – Southern Indiana Gas & Electric Company
SNG – Synthetic Natural Gas
SO₂ - Sulfur Dioxide
SOHO – Small Office Home Office
SRC – Sales Reconciliation Component
SUFG – State Utility Forecasting Group

T

TA-96 – Telecommunications Act of 1996

U

UGS – Underground storage
UNEs – Unbundled Network Elements
USAC – Universal Service Administrative Company
USF – Universal Service Fund

V

VoIP – Voice over Internet Protocol

W

Wi-Fi – Wireless Fidelity
Wi-Max – Worldwide Interoperability for Microwave Access

GLOSSARY

A

Access Charges: Charges designed to compensate local exchange carriers for the maintenance and operation of the local exchange network after the break up AT&T in 1984 in the Modified Final Judgment and take two forms: 1) an end user access charge, also known as Subscriber Line Charge appears on the customer's bill as a separate line item; 2) carrier access charges are paid by interexchange carriers to local exchange carriers when they connect to their local networks. Such charges are determined by tariffs subject to state or federal approval depending upon the intrastate or interstate nature of the call.

Affiliate: A company, partnership or other entity with a corporate structure that includes a utility engaging in or arranging for an unregulated retail sale of gas or electric energy or related services.

Alternative Fuels: Any non-traditional energy source.

Alternate Ratemaking for Pipelines: In a series of orders in February 1996, FERC opened the door to non-cost-based rates for pipeline services, including transmission and storage, provided a pipeline (1) could show it did not have market power or that the power was mitigated and (2) cost-based recourse rates were available for customers who might be disadvantaged under the new system. Pipelines would have to show the quality of service was maintained and that market-based, incentive or negotiated rates did not shift costs to captive customers.

Alternative Operator Service (AOS): Carriers that provide operator services typically consist of a call center, but do not necessarily have their own facilities. AOS providers often provide operator services for payphones and inmate facilities.

American Gas Association (AGA): Trade group representing natural gas distributors and pipelines. Also operates a laboratory for appliance certification. Web address: www.aga.org

Aquifer: Water bearing permeable rock formation that is capable of storing natural gas.

Area Code Overlay: A method used to relieve area code exhaust. A new three-digit area code is associated with the same geographic boundaries of an existing area code. Because the same seven-digit telephone numbers could then be assigned out of each area code, local calls are required to be dialed with 10-digits.

Area Code Split: A method used to relieve area code exhaust. The geographic area that uses the area code is split in two and a different area code is assigned to part of the geographic area while the other area keeps the existing area code.

Asynchronous Digital Subscriber Line (ADSL): A DSL designed to deliver more bandwidth downstream (from the central office to the customer's site) than upstream. Downstream rates range from 1.5 to 9 million bits per second. See also Digital Subscriber Line.

B

Base Gas: Gas required in storage pool to maintain sufficient pressure to keep the working gas recoverable. Also called "cushion" gas.

Basic Telecommunications Service: A term used in HEA 1279 to distinguish between telecommunication services regulated until June 30, 2009 and services that were unregulated on or before March 27, 2006. Basic Telecommunications Service is defined as standalone telephone exchange service that is provided to a residential customer through the customer's primary line; is the sole service purchased by the customer; is not a part of a package, promotion, or contract; and, not otherwise offered at a discounted price.

British Thermal Unit (Btu): The quantity of heat required to raise one pound of water (about one pint) one degree Fahrenheit at or near its point of maximum density. A common unit of measurement for gas prices. 1,034 Btu's = 1 cubic foot.

Broadband: Advanced communications systems capable of providing high-speed transmission of services such as data, voice, and video over the Internet and other networks. Transmission is provided by a wide range of technologies, including digital subscriber line and fiber optic cable, coaxial cable, wireless technology, and satellite. Broadband platforms make possible the convergence of voice, video and data services onto a single network.

Bundled Resale of Local Exchange: Competitive local exchange carriers sometimes compete by reselling the services of the incumbent local exchange carrier (ILEC) in this form. They purchase the services of the ILEC at wholesale rates hoping to resell them to retail customers at a profit. Each of Indiana's three large ILECs offer wholesale discounts to competitive carriers.

Bundled Service: Gas utility operates as both the supplier and distributor of natural gas.

C

Capacity: The size of a plant (not its output). Electric utilities measure size in kilowatts or megawatts and gas utilities measure size in cubic feet of delivery capability.

Carbon Capture: The process of capturing carbon dioxide produced in the combustion of fuel to facilitate its disposal.

Carbon Sequestration: The storage of carbon dioxide in geological formations to prevent its release into the atmosphere.

Certificate of Public Convenience and Necessity: A special permit commonly issued by a state commission, which authorizes a utility to engage in business, construct facilities or perform some other service. Also a permit issued by Federal Energy Regulatory Commission to engage in the transportation or sale for resale of natural gas in interstate commerce or to construct or acquire and operate any facilities necessary.

City Gate: The physical location where gas is delivered by a pipeline to a local distribution company.

Coal Gasification: The controlled process of placing coal, steam, and oxygen under pressure to produce a low Btu gas.

Coal Bed Methane: Any gas produced from a coal seam.

Commodity Charge: The variable costs associated with the movement of each Mcf of gas and in Straight Fixed Variable rate design; covers the pipeline's variable costs. Also referred to as usage charge.

Communications Service Provider: A term used in HEA 1279 that means a person or entity that offers communications services to customers in Indiana, without regard to the technology or medium used by the person or entity to provide the communications service.

Condemnation Action: A legal proceeding whereby a municipality exercises its power of eminent domain and condemns utility property that results in the transfer of utility property to the municipality.

Conditional Congestion Area: As designated by the U.S. Department of Energy, as areas where electric utilities have planned generation, and while some transmission congestion is present, significant congestion would result if transmission is not built in conjunction with the new generation resources.

Cooperative: A business entity similar to a corporation, except that ownership is vested in members rather than stockholders and benefits are in the form of products or services rather than profits.

Cost of Service Rates: Rates based on prudently incurred costs of doing business, plus a reasonable rate of return on investment in plant and equipment, and throughput projections. This is the rate development methodology commonly used by state or federal regulators.

Cramming: A practice in which customers are billed for unexpected and unauthorized telephone charges or services. Refers to the fact that the charges are crammed into the telephone bill in an inconspicuous place so the charges go unnoticed by the customer.

Customer Charge: A fixed amount to be paid periodically by a customer without regard to demand or energy actually used. The customer charge recovers the cost of meters and other administrative costs of billing.

D

Decoupling: Alternative rate design theory that separates the recovery of a utility's fixed costs from the volume of natural gas sold.

Dekatherm (Dth): A unit of heating value equal to 10 Therms or one million Btu's (1MMBtu). Very roughly, 1 Mcf = 1MMBtu = 1 Dth

Demand Response: Reducing the use of electricity to meet local or regional power system needs rather than increasing the output of electricity.

Digital Subscriber Line (DSL): A generic term for digital lines provided by incumbent or competitive local exchange carriers which allows the customer to use the same subscriber line for voice and data simultaneously without subscribing to a second line for Internet access.

Distribution: The component of a gas, electric or water system that delivers gas, electricity, or water from the transmission component of the system to the end-user. Usually the commodity has been altered from a high pressure or voltage level at the transmission level to a level that is usable by the consumer. Distribution is also used to describe the facilities used in this process.

Distribution System Improvement Charge: A mechanism available to water utilities to pass the costs of infrastructure replacement on to their customers between rate cases on a more expedited basis.

E

Effluent: The water that is discharged after being treated at a sewage plant.

Eligible Telecommunications Carrier (ETC): A common carrier eligible to receive universal service support. An ETC is required to offer services that are supported by the Federal universal support mechanisms either using their own facilities or a combination of its own facilities and resale of another carrier's services. State commissions are responsible for the designation of ETCs.

End Use: The final use to which gas or electricity is put by the ultimate consumer.

Energy Information Administration: Statistical information collection and analysis branch of the Department of Energy. Web address: <http://www.eia.doe.gov/eia.doe.gov>.

Energy Independence & Security Act of 2007: A comprehensive energy law that focuses on improved efficiency standards and research and development of energy technologies and infrastructure.

Energy Policy Act of 1992: This act authorized the Federal Energy Regulatory Commission to order wholesale wheeling of electricity while explicitly restraining its power to order retail wheeling. The Act also created a new legal category of electricity generating and sales companies called the Exempt Wholesale Generators, free from Public Utility Holding Company Act of 1935 restrictions.

Energy Policy Act of 2005: Major provisions regarding the electricity industry included the creation of the Public Utility Holding Company Act of 2005, clean coal, nuclear, wind, and alternative energy initiatives, establishment of an Electric Reliability Organization, incentive rates for transmission investment, transmission siting, smart metering, net metering, utility interconnection with distributed generation, increased efficiency of fossil-fuel power plants, and the increased diversity of fuel sources to generate electricity.

Environmental Protection Agency: A federal agency created in 1970 to combine into one agency a number of federal research, monitoring, standard setting and enforcement actions related to protecting the environment. Web address: www.epa.gov.

F

Facilities-based Interexchange: A carrier that offers facilities-based interexchange deploys their own tandems and/or trunks as opposed to purchasing blocks of time from other interexchange carriers and reselling the services to retail customers.

Facilities-based Local Exchange: A carrier that offers facilities-based local exchange may construct and deploy their own networks or they may rely on unbundled network elements (UNEs) from incumbent local exchange carriers or a combination of the two.

Federal Energy Regulatory Commission (FERC): The U.S. federal agency with jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric licensing, natural gas pricing, and oil pipeline rates. FERC also authorizes liquefied natural gas terminals, interstate natural gas pipelines and non-federal hydropower projects.

FiOS: Verizon's broadband initiative featuring fiber to the premise currently is being deployed in several areas throughout the U.S.

Firm Service: The highest quality sales or transmission service that is offered to customers under a filed rate schedule that anticipates no planned interruption.

Fixed Costs: All costs included in the cost of service which do not fluctuate with the volume of the commodity passing through the system (i.e., labor, maintenance, and taxes).

G

Gigabit: A unit of measurement for the amount of data that is transferred in a second between two telecommunication points. One gigabit per second (Gbps) equals one billion bps.

Gasification: 1. The conversion of carbonaceous material into gas or the extraction of gas from another fuel. 2. The process during which liquefied natural gas (LNG) is returned to its vapor or gaseous state through an increase in temperature and a decrease in pressure.

Gathering System: Pipelines and other equipment installed to collect, process, and deliver natural gas from the field, where it is produced, to the trunk or main transmission lines of pipeline systems.

Generation: The process of producing electricity. Also refers to the assets used to produce electricity for transmission and distribution.

H

Heartland: Heartland Gas Pipeline, LLC

Hedging: A method by which a purchaser or producer of natural gas or electricity uses a derivative position to protect against adverse price movements in the cash market by “locking in” a price for future delivery.

Holding Company: A corporate structure where one company holds the stock (ownership) of one or more other companies but does not directly engage in the operation of any of its business.

Hub: A geographic location where multiple participants trade services.

I

Indiana Lifeline Assistance Program (ILAP): A State program required in HEA 1279 for the purpose of offering reduced charges for basic telecommunications services to eligible customers (customers with income that falls within 150 percent of the Federal Poverty Guidelines or participates in certain assistance programs, such as Medicaid, food stamps, etc). HEA 1279 requires the Commission to adopt rules for the program no later than July 1, 2008 and the program must take effect no later than July 1, 2009.

Independence Hub: A large natural gas production platform in the Gulf of Mexico.

Independent System Operator (ISO): An independent organization or institution that controls the electric transmission system in a particular region.

Indiana Utility Regulatory Commission: An independent fact-finding body that hears evidence in cases filed before it and makes decisions based on the evidence presented in

those cases. An advocate of neither the public nor the utilities, the Commission is required by state statute to make decisions that balance the interests of all parties to ensure the utilities provide adequate and reliable service at reasonable prices.

Integrated Gasification Combined Cycle (IGCC): A power plant using synthetic gas as a source of clean fuel. Syngas is produced from coal (or other fuels) in a gasification unit. Steam generated by waste heat boilers of the gasification process is utilized to help power steam turbines.

Integrity Management: Specifies how pipeline operators must identify, prioritize, assess, evaluate, repair and validate - through comprehensive analyses - the integrity of gas pipelines that, in the event of a leak or failure could affect High Consequence Areas (HCAs).

Internet Protocol Television (IPTV): A system where a digital television service is delivered by using Internet Protocol over a network infrastructure, which may include delivery by a broadband connection.

Interruptible Service: Gas service subject to interruption at the option of the pipeline. Also referred to as “best efforts.” Tariffs for interruptible service are cheaper than firm service. Electric providers may offer a similar service.

Interruptible Transportation Service: Conditional gas service interrupted at the option of the pipeline. Also, referred to as “best efforts.” Tariffs for interruptible service are cheaper than firm service. Electric providers may offer a similar service.

Interstate Gas: Gas transported through interstate pipelines to be sold and consumed in states other than the one in which it was produced. Also, refers to gas produced in the federal domain of the Outer Continental Shelf.

Intrastate Gas: Gas sold and consumed in the state in which it was produced and not transported in interstate pipelines

Investor-owned Utility: A utility financed by the sale of securities.

J

Joint Board: Also known as the Federal-State Joint Board, instituted by the Federal Communications Commission to recommend changes of any of its regulations in order to implement section 214(e) of the Telecommunications Act of 1996, including the definition of services that are supported by the Federal universal service support mechanisms.

K

Kilobit: A unit of measurement for the amount of data that is transferred in a second between two telecommunication points. One kilobit per second (Kbps) equals 1000 bit per second (bps).

Kilowatt (kW): A basic unit of measurement; 1kW = 1,000 watts.

Kilowatt-Hour (kWh): One kilowatt of power supplied to or taken from an electric circuit steadily for one hour.

L

Landfill Gas: Gas produced by aerobic and anaerobic decomposition of a landfill generally composed of approximately 55% methane and 45% carbon dioxide, sometimes refined with membrane methods to eliminate the carbon dioxide.

Liquefied Natural Gas (LNG): Natural gas converted to a liquid state by pressure and severe cooling, and then returned to a gaseous state to be used as a fuel. It is stored by many distributors for peak season use.

M

Mandatory Number Pooling: Requires carriers to share a pool of numbers with the same exchange. Without number pooling each competitive local exchange carrier is assigned an entire exchange or 10,000 block of phone numbers, which may not all be needed. With number pooling exchanges can be broken down into blocks of 1,000, as known as Thousand Block Number Pooling.

Megabit: A unit of measurement for the amount of data that is transferred in a second between two telecommunication points. One megabit per second (Mbps) equals one million bps.

Megawatt (MW): One thousand kilowatts or one million watts.

Megawatt-Hour (MWh): One megawatt of power supplied to or taken from an electric circuit steadily for one hour.

Merchant Plant: A power plant that is funded by investors and sells electricity in the competitive wholesale market.

Methane: The main component of natural gas.

Mine Mouth Power Plant: An electric power plant located at a coal mine to provide a reliable supply of fuel with little or no associated transportation costs.

Midwest ISO: The Midwest ISO was formed by transmission owners in 1996, and is based in Carmel, Indiana. The Midwest ISO's main responsibility is to ensure the safe and reliable transfer of electricity in the Midwest and ensure fair access to the transmission system.

Multi-Association Group Order (MAG Order): A Federal Communications Commission Report and Order adopted October, 2001 which prescribed access charge reform measures that affected small, rural incumbent local exchange carriers.

Municipalization: When a municipally-owned utility acquires an investor-owned utility serving a city or town.

Municipal Utility: A utility that is owned and operated by a municipal government. These utilities are organized as nonprofit local government agencies and pay no taxes or dividends; they raise capital through the issuance of tax-free bonds.

N

National Interest Electric Transmission Corridor: As established in the Energy Policy Act of 2005, any geographic area experiencing electric energy transmission capacity constraints or congestion that adversely affects consumers.

Normal Temperature Adjustment (NTA): A decoupling mechanism that reduces the risk of the gas utility not recovering margin due to warmer-than-normal (vice versa) during the heating season.

Not-for-profit Utility: A utility that does not distribute its surplus funds to owners or shareholders but uses them to pursue its goals.

NPDES Permits: Permits that allow utilities to discharge wastewater effluent into waterways.

O

Order 436: A Federal Energy Regulatory Commission rule promulgated in October 1985, establishing a voluntary, open-access system of natural gas transportation.

Order 500: An interim natural gas rule on open-access transportation, replacing Order 436. Order 500 embodied all the elements of Order 436 with three additions: forcing producers to credit transportation volumes against accruing take-or-pay (cross-crediting); allowing pipelines to direct bill customers for part of past take-or-pay charges; and allowing pipelines to fashion gas inventory charges (or supply reservation fees) to take care of future take-or-pay.

Order 636: Commonly known as the Restructuring Rule, Order 636 provides for pipeline companies to change from being merchants of natural gas to being transporters

of natural gas and allows open-access transportation services regardless of who owns the gas.

Order 712: Revised regulations governing interstate natural gas pipelines to reflect changes in the market for short-term transportation services on pipelines and to improve the efficiency of the capacity release program.

Organization of Midwest ISO States (OMS): A group of state utility commissions in the Midwest ISO footprint that acts as an adviser on some Midwest ISO functions.

P

Peak Shaving: Supply of fuel gas for distribution systems from an auxiliary source (of limited supply, higher cost) during periods of maximum demand when the primary source is not adequate, e.g., propane, liquefied natural gas. Electricity providers may also use peak shaving to reduce demand at peak periods. Service interruptions and customer-owned generation are methods electricity providers use for peak shaving.

PJM Interconnection: The PJM Interconnection is the regional transmission organization (RTO) responsible for the operation and control of the bulk power system throughout all or portions of Delaware, Indiana, Illinois, Kentucky, Maryland, Michigan, New Jersey, Ohio, Pennsylvania, Tennessee, Virginia, West Virginia, and the District of Columbia. PJM became the first fully functioning RTO in 1997.

Point-to-Point Transmission: The reservation and/or transmission of electricity on either a firm basis and/or a non-firm basis from point(s) of receipt to points(s) of delivery, under a tariff, including any ancillary services that are provided by the transmission provider.

Private Activity Bonds : Municipal bonds that are issued to finance facilities for investor-owned or not-for-profit water utilities.

Privatization: When an investor-owned utility acquires a municipally-owned utility.

Project Lightspeed: AT&T's broadband initiative to deploy fiber to the node and deliver voice, video and data services to 18 million households across 13 states by the end of 2007

Public Utility Holding Company Act of 1935 (PUHCA): A federal law to facilitate regulation of electric utilities, by either limiting their operations to a single state, and thus subjecting them to effective state regulation, or forcing divestitures so that each became a single integrated system servicing a limited geographic area. Another purpose of PUHCA was to keep utility holding companies engaged in regulated businesses from engaging in unregulated businesses. PUHCA required Securities and Exchange Commission approval prior to a holding company engaging in a non-utility business and that such businesses be kept separate from the regulated business. PUHCA was repealed by the Energy Policy

Act of 2005, and replaced by what is known as the Public Utility Holding Company Act of 2005.

Public Utility Regulatory Policies Act (PURPA): A federal law passed in 1978 as part of the National Energy Act. It was meant to promote greater use of renewable energy. Implementation of the act was left to the states. PURPA was amended in 2005 by the Energy Policy Act of 2005 sections 1251 through 1254.

Pulverized Coal: Coal that is ground into dust using a powdered coal mill and used as the fuel in a power plant to generate electricity.

Purchasing Cooperative: A type of cooperative arrangement, often among businesses, to agree to aggregate demand to get lower prices from selected suppliers.

Q

Quadruple Play: A service bundle that includes high speed data, telephony, television and wireless communications services.

R

Rate Base: The investment value established by a regulatory authority upon which a utility is permitted to earn a specified rate of return.

Rate Design: The method of classifying fixed and variable costs between demand and commodity components.

Rate of Return: The percentage that a company earns on its investment.

Raw Natural Gas: Natural gas brought from underground up to the wellhead. Natural gas found at the wellhead is not as pure as processed or pipeline quality natural gas used by consumers. Raw natural gas comes from three types of wells: oil wells, gas wells, and condensate wells.

Reclaimed Water: Wastewater that has been treated to remove solids and certain impurities, and used for irrigation or recharging aquifers.

Reliability: A term used in both the electric and gas industry to describe the utility's ability to provide uninterrupted service of gas or electricity. Reliability of service can be compromised at any level of service: generation or production, transmission or distribution.

Renewable Natural Gas: See "methane."

Renewable Portfolio Standard: A requirement that a specified portion of a utility's electricity be supplied by energy sources defined as renewable.

S

Service Territory: Under the current regulatory environment, an electric utility is granted a franchise to provide energy to a specified geographical territory, designated as a service territory.

Slamming: The practice of switching a telephone customer's long distance or local service provider without obtaining permission from the customer.

Smart Grid: An electricity delivery system that encompasses devices and technologies designed to improve the efficiency of energy use and the transfer of energy across it.

Small Utility Filing: A process where a utility that serves under 5,000 customers, primarily serves residential customers, and does not serve extensively another utility can increase rates without a formal public hearing.

Spot Market: A market characterized by short-term, typically interruptible, or best efforts contracts for specified volumes. The bulk of natural gas spot market trades on a monthly basis, while power marketers sell spot supplies on an hourly basis.

Storage: Facilities used to store natural gas that transferred from its original location. Usually consists of natural geological reservoirs like depleted oil or gas fields, waterbearing sands sealed on top by impermeable cap rock, underground salt domes, bedded salt formations or, in rare cases, abandoned mines.

Straight-Fixed Variable (SFV) Rate Design: (Also called Fixed Variable.) Rate design methodology that allocates all fixed costs to the demand component and allocates all variable costs to the commodity, or volumetric, component.

Supply Side Management: The systematic development of a gas supply plan or an electric resource plan.

Synthetic Natural Gas: Energy-rich vapors manufactured from coal.

System Development Charge: A one-time charge assessed by water and wastewater utilities to new customers to finance development of utility systems necessary to serve those new customers. The purpose is to impose a portion of the cost of capital improvements upon those developments that create the need for, or increase demand for capital improvements.

Sub-metering/Sub-billing: The practice where a consumer of utility service, usually an apartment complex or a mobile home park, passes along the cost of water or electric service to the tenants of the complex or park through a separate utility bill.

T

Take-and-Pay: Clause that requires a minimum quantity of natural gas to be physically taken and paid for, usually in association with oil, or wells, that will be damaged by failure to produce.

Tariff: Compilation of all effective rate schedules for a company, along with general terms and conditions of service.

Therm: Unit of heating value equivalent to 100,000 Btus.

Transmission: The process of transferring energy (either gas or electricity) or water from the production or generation source to the point of distribution. Also refers to the facilities used for this process.

Triple Play: A service bundle that includes telephony, high-speed Internet access and television.

U

Unaccounted for Gas: The difference between the total gas available from all sources and the total gas accounted for as sales, net interchange, and company use. This difference includes leakage or other actual losses, discrepancies due to meter inaccuracies, variations of temperature and/or pressure, and other variants, particularly billing lag.

Unbundled Network Elements (UNEs): The Telecommunications Act of 1996 required that independent local exchange carriers unbundled their network elements to make them available to competitive local exchange carriers on the basis of incremental costs.

Universal Service: A policy to keep local rates low and encourage every household to have a telephone.

Unserved Energy: Electricity demand that the utility is unable to supply. In the electric utility planning process, unserved energy helps identify when and what type of new resources may be needed in the future.

V

Volatility: The market's price and movement within that range. The direction of the price move, whether up or down, is not relevant. Historic volatility indicates how much prices have changed in the past and is derived by using daily settlement prices for futures. Implied volatility measures how much the market thinks prices will change in the future, obtained from daily settlement prices for options.

Voltage: The rate at which energy is drawn from a source that produces a flow of electricity in a circuit; expressed in volts.

Voice over Internet Protocol (VoIP): Technology used to transmit voice conversations over a data network using the Internet Protocol. Such data network may be the Internet or a corporate Intranet.

W

Weatherization: Any change made to a home or building that is designed to conserve energy.

Well: A well which produces at surface conditions the contents of a gas reservoir.

Wellhead: The assembly of fittings, valves, and controls located at the surface and connected to the flow lines, tubing, and casing of the well as to control the flow from the reservoir.

Wireless Fidelity (Wi-Fi): Wi-Fi was originally a brand licensed by the Wi-Fi Alliance to describe the embedded technology of wireless local area networks (WLAN) based on the IEEE 802.11 standard. As of 2007, common use of the term Wi-Fi has broadened to describe the generic wireless interface of mobile computing devices, such as laptops in local area networks.

Withdrawal: Those uses of water that involve the physical removal of water from the ground or surface source.

Worldwide Interoperability for Microwave Access (Wi-Max): Wi-Max is a telecommunications technology aimed at providing wireless data over long distances in a variety of ways, from point-to-point links to full mobile cellular type access. Wi-MAX allows a user, for example, to browse the Internet on a laptop computer without physically connecting the laptop to a wall jack.