FILED July 2, 2019 INDIANA UTILITY REGULATORY COMMISSION

STATE OF INDIANA

INDIANA UTILITY REGULATORY COMMISSION

PETITION OF NORTHERN INDIANA PUBLIC)	
SERVICE COMPANY FOR AUTHORITY TO)	
MODIFY ITS RATES AND CHARGES FOR)	
ELECTRIC UTILITY SERVICE AND FOR)	
APPROVAL OF: (1) CHANGES TO ITS)	
ELECTRIC SERVICE TARIFF INCLUDING A)	
NEW SCHEDULE OF RATES AND CHARGES)	CAUSE NO. 44688
AND CHANGES TO THE GENERAL RULES)	
AND REGULATIONS AND CERTAIN RIDERS;)	
(2) REVISED DEPRECIATION ACCRUAL)	
RATES; (3) INCLUSION IN ITS BASIC RATES)	
AND CHARGES OF THE COSTS)	
ASSOCIATED WITH CERTAIN PREVIOUSLY)	
APPROVED QUALIFIED POLLUTION)	
CONTROL PROPERTY, CLEAN COAL)	
TECHNOLOGY, CLEAN ENERGY PROJECTS)	
AND FEDERALLY MANDATED)	
COMPLIANCE PROJECTS; AND (4))	
ACCOUNTING RELIEF TO ALLOW NIPSCO)	
TO DEFER, AS A REGULATORY ASSET OR)	
LIABILITY, CERTAIN COSTS FOR RECOVERY)	
IN A FUTURE PROCEEDING.)	
	,	

REVISED COMPLIANCE FILING PERFORMANCE METRIC COLLABORATIVE UPDATE

Ordering Paragraph 10 of the Indiana Utility Regulatory Commission's July

18, 2016 Order issued in this Cause ("Rate Case Order") directed Northern Indiana

Public Service Company ("NIPSCO") to participate in a collaborative for the

purpose of implementing performance metrics. The Commission ordered that

NIPSCO shall keep the Commission apprised of the progress of the collaborative through compliance filings made under this Cause as described in its Order as follows:

[W]e find that NIPSCO shall facilitate a meeting with interested stakeholders within six weeks of the effective date of the Order in this Cause to collaborate on a path for moving forward with a performance metrics initiative.

* * *

In order that the Commission and interested stakeholders may stay abreast of the collaborative process, we direct NIPSCO to make a progress update filing with the Commission within 90 days of the initial meeting of the collaborative. We also order NIPSCO to file quarterly reports for the first year and an annual report by July 1, 2017, and for each year thereafter until otherwise indicated by the Presiding Officers.

Attached please find NIPSCO's Performance Metric Collaborative Report dated July 1, 2019, which incorporates revisions and language as provided by the interested stakeholders participating in NIPSCO's Performance Metrics Collaborative. This revised submission includes the Data Appendix that was inadvertently omitted from NIPSCO's original filing.

NIPSCO will file an annual Performance Metrics Collaborative Report for each year hereafter until otherwise indicated by the Presiding Officers. Respectfully submitted:

Christopher C. Earle (No. 10949-49) NiSource Corporate Services - Legal 150 West Market Street, Suite 600 Indianapolis, Indiana 46204 Phone: (317) 684-4904 Fax: (317) 684-4918 Email: <u>cearle@nisource.com</u>

Attorney for Petitioner Northern Indiana Public Service Company

CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing was served by email

transmission upon the following:

OUCC

A. David Stippler Office of Utility Consumer Counselor 115 W. Washington Street Suite 1500 South Indianapolis, Indiana 46204 <u>dstippler@oucc.in.gov</u> <u>infomgt@oucc.in.gov</u>

U.S. STEEL Nikki G. Shoultz L. Parvin Price Bose McKinney & Evans LLP 111 Monument Circle, Suite 2700 Indianapolis, Indiana 46204 <u>nshoultz@boselaw.com</u> <u>pprice@boselaw.com</u>

INDIANA MUNICIPAL UTILITY GROUP Robert M. Glennon Robert Glennon & Assoc., P.C. 3697 N. Co. Rd. 500 E Danville, Indiana 46122 <u>glennon@iquest.net</u>

NIPSCO INDUSTRIAL GROUP Bette J. Dodd Todd A. Richardson Jennifer W. Terry Tabitha L. Balzer

Lewis & Kappes, P.C. One American Square, Suite 2500 Indianapolis, Indiana 46282 <u>bdodd@lewis-kappes.com</u> <u>trichardson@lewis-kappes.com</u> <u>jterry@lewis-kappes.com</u> tbalzer@lewis-kappes.com

CITIZENS ACTION COALITION

Jennifer A. Washburn Citizens Action Coalition 603 East Washington Street, Suite 502 Indianapolis, Indiana 46204 <u>jwashburn@citact.org</u>

UNITED STEELWORKERS Antonia Domingo United Steelworkers 60 Boulevard of the Allies, 8th Floor Pittsburgh, Pennsylvania 15208 adomingo@usw.org

NLMK INDIANA

Anne E. Becker Lewis & Kappes, P.C. One American Square, Suite 2500 Indianapolis, Indiana 46282 <u>abecker@lewis-kappes.com</u>

James W. Brew Stone Mattheis Xenopoulos & Brew, PC 1025 Thomas Jefferson St., N.W. 8th Floor, West Tower Washington, DC 20007 jbrew@smxblaw.com

LAPORTE COUNTY Shaw R. Friedman Friedman & Associates, P.C. 705 Lincolnway LaPorte, Indiana 46350 Sfriedman.associates@frontier.com

Keith L. Beall Beall & Beall 13238 Snow Owl Dr., Ste. A Carmel, Indiana 46033 <u>kbeall@indy.rr.com</u>

WALMART

Eric E. Kinder Spilman Thomas & Battle, PLLC 300 Kanawha Boulevard, East P.O. Box 273 Charleston, West Virginia 25321 <u>ekinder@spilmanlaw.com</u>

Barry A. Naum Spilman Thomas & Battle, PLLC 1100 Bent Creek Boulevard, Suite 101 Mechanicsburg, Pennsylvania 17050 <u>bnaum@spilmanlaw.com</u>

Carrie M. Harris Spilman Thomas & Battle, PLLC 310 First Street, Suite 1100 P.O. Box 90 Roanoke, Virginia 24002-0090 <u>charris@spilmanlaw.com</u>

PRAXAIR Timothy L. Stewart Lewis & Kappes, P.C. One American Square, Suite 2500 Indianapolis, Indiana 46282-0003 tstewart@lewis-kappes.com **ELPC**

Jennifer A. Washburn **Citizens Action Coalition** 603 East Washington Street, Suite 502 Indianapolis, Indiana 46204 jwashburn@citact.org

Bradley Klein Environmental Law & Policy Center 35 E Wacker Drive, Suite 1600 Chicago, Illinois 60601 bklein@elpc.org

Robert Kelter Environmental Law & Policy Center 35 E Wacker Drive, Suite 1600 Chicago, Illinois 60601 rkelter@elpc.org

Dated this 2nd day of July, 2019.

<u>Mustor for</u> Christopher C. Earle

PERFORMANCE METRIC REPORT

2018

Northern Indiana Public Service Company LLC

July 1, 2019

Safety	3
Reliability	6
Service	16
Investment & Spending	
Affordability	25
Data Appendix	

Introduction

This document is the third performance metric report Northern Indiana Public Service Company LLC (NIPSCO) has submitted to the Indiana Utility Regulatory Commission (Commission or IURC) in compliance with the Commission's Order in Cause No. 44688. The purpose of this report is to communicate NIPSCO's performance in areas such as safety, reliability, customer service, and operations. This 2018 submission contains the same data sets used in the prior reports and expands on these to enable interested stakeholders, as well as NIPSCO, to understand and utilize key metrics.

NIPSCO once again experienced positive results in 2018. Continuing a trend observed in the 2017 report, the company saw improvement in the majority of its customer-focused metrics, while at the same time seeing a decrease in most operations and maintenance (O&M) expenses.

NIPSCO strives to deliver customer value in a balanced manner across four key dimensions; safety, customer experience, being a great place to work, and affordability. In 2018, NIPSCO launched the Customer Value Initiative, which focuses on long-term affordability to ensure that every dollar of revenue delivers the maximum value possible for customers. Continuous improvement teams, called Business Customer Value Teams, and processes were created for the operations, capital, and corporate functions with the purpose of assessing the respective organizations and work streams. A wave approach has been employed for project identifications and implementation, and the first waves began in March 2018. This culture of continuous improvement ensures ongoing resource maximization and sustainability.

Safety. NIPSCO again achieved its best ever performance related to underground damages. During 2018, NIPSCO remained in the top quartile for vehicle safety nationwide. In addition, NIPSCO furthered its efforts to protect our employees, contractors, customers, and communities through an accelerated implementation of the Safety Management System (SMS). Although primarily a gas initiative, all employees will adopt the principles of this system, adding rigor to work processes and helping NIPSCO address risks before they become issues.

Reliability. NIPSCO has seen benefits from its focus on improving reliability. The company's focus on vegetation management and system maintenance has resulted in reductions in multiple reliability metrics when compared to a similar weather in 2014 and 2018. Also, the planned outage at Sugar Creek Generating Station (Sugar Creek) was designed and engineered in a manner to increase the unit's run time before further planned outages.

Customer Service. NIPSCO bested 2017's highest ever transactional customer satisfaction score with a new company highest score. In addition, J.D. Power scores for both residential and electric customer satisfaction again reflected new high scores for the company. While a total of 77 complaints were filed by customers in 2018, NIPSCO continued its trend of zero substantiated complaints for the year.

Investment and Spending. NIPSCO realized a reduction in several O&M cost metrics in 2018. Due to continuous improvement efforts at both NiSource and NIPSCO, such as the Customer Value Initiative discussed above, the company continues to drive down costs to customers where possible. **Affordability.** NIPSCO's residential, commercial, and industrial customers, on average, all saw a reduction in rates during 2018. A significant portion of this can be attributed to the Tax Cuts and Job Act of 2017 that went into effect during the year. In 2018, NIPSCO was affected by a new system implemented by the Indiana Housing and Community Development Authority, resulting in a situation where NIPSCO was not notified of all customers who qualified for the Low Income Home Energy Assistance Program (LIHEAP). Due to this, NIPSCO voluntarily suspended all disconnections during the LIHEAP period (January through March 15), which had an impact on disconnection rates during the year. Finally, NIPSCO implemented the ability for customers to avoid disconnection by paying their outstanding balance while a technician is onsite. These efforts resulted in fewer customer disconnections in 2018.

NIPSCO is committed to continuous improvement of its various processes. As demonstrated throughout this report, these efforts were evident in 2018. NIPSCO looks forward to continued improvement in 2019.

SAFETY

Safety is NIPSCO's top priority and a core value of the organization. The company's safety policies reflect a "just culture" mindset, which is a model used by high consequence industries to improve the way they approach system safety and staff accountability.

Organizations foster a just culture by looking first at systematic issues rather than individual performance. This approach recognizes that all employees err, and therefore a company should design its systems and procedures so that when an error occurs, injuries are limited due to multiple layers of protection. This is the "Fail Safely" approach incorporated by the company.

NIPSCO employees have increasingly embraced safety initiatives through the past few years. Four metrics used by the company to measure its safety efforts are discussed below.

Vehicle safety

All employees authorized to operate company vehicles must complete a Smith System defensive driver training program. Supervisors conduct observation rides with those employees to reinforce safe driving behaviors. All NIPSCO employees must pass multiple computer-based learning modules each year that focus on the unique, seasonal driving hazards.

In 2018, NIPSCO installed GreenRoad telematics in all of its fleet vehicles. This system gives real-time feedback to the driver when unsafe driving practices such as hard braking or excessive speed are detected and sends certain information regularly to the company for corrective follow-up.

Figure 1 illustrates NIPSCO's *preventable vehicle crash rate*, which represents the number of crashes per one million miles driven in which any employee, while driving on company business, failed to do everything reasonably possible to avoid a collision. This metric is combined for gas and electric.

The company benchmarks this metric against American Gas Association data for combination utilities. Although this metric increased slightly in 2018 due to unusually poor weather at the beginning of the year, NIPSCO remains in the top-performing quartile in this category.

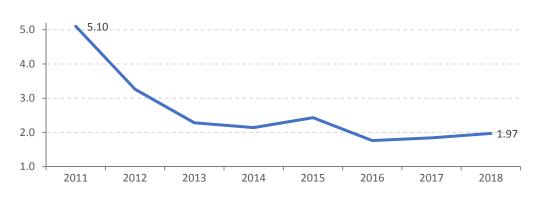


Figure 1. Preventable vehicle crash rate

Field safety

NIPSCO strives to make safety a foremost priority for its employees every day. In the office, managers are encouraged to begin each meeting with a safety moment so that safe working practices become engrained in the company's culture. A *MeetSAFE* document, which states emergency information such as the nearest exit, the building's address, and individuals qualified to perform CPR, is present in each of the company's meeting rooms.

Outside of the office, field employees conduct a job hazard analysis before work each day. This includes the identification of unique site hazards, required personal protective equipment, energy control, and critical work procedures. Local management then reviews these analyses to follow up on any potential operating issues.

Figure 2 illustrates the two metrics NIPSCO uses to measure employee safety in the field. Both metrics cover electric employees in the generation and power delivery divisions.

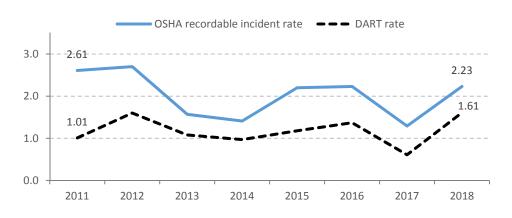
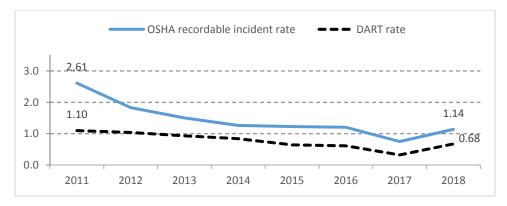


Figure 2. Employee injuries – Generation and Power Delivery Divisions

Figure 3 illustrates the two metrics mentioned above for all NIPSCO employees.

Figure 3. Employee injuries – NIPSCO with Business Service Allocation



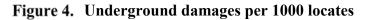
The OSHA recordable incident rate represents the number of recordable injury or illness cases for every 100 full-time employees. Most injuries or illnesses that require more than first aid treatment are recordable.

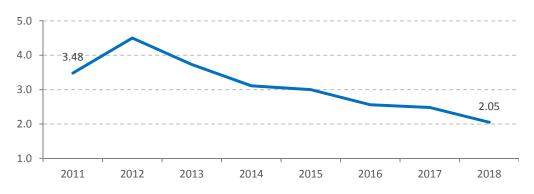
The *days away, restricted, or transferred (DART)* metric represents the number of injury and illness cases requiring days away, restricted duty, or job transfer for every 100 full-time employees. This number indicates the rate of injuries that result in an employee being unable to perform their typical job requirements.

NIPSCO also benchmarks these two rates against American Gas Association data for combination utilities. Although the comparable data is not yet available for 2018, NIPSCO's metrics in 2017 would have resided in the 2nd quartile.

Customer safety

The *underground damages* metric represents the number of reported gas and electric damages divided by the number of locate tickets established through the 811 process received multiplied by 1000. NIPSCO reports this information to the federal Pipeline and Hazardous Materials Safety Administration (PHMSA). Underground damage continues to be a major area of focus for NIPSCO, as indicated by the continuing downward trend in the metric.





RELIABILITY

Power delivery

A *major event day* (MED) is a day on which a weather or operational event causes a utility's daily SAIDI to exceed a calculated threshold (TMED).¹ A single event may cause multiple MEDs, and power outages may remain for days after the event is over.

In the 2016 Initial Report and the 2017 Report, NIPSCO inaccurately reported certain major event day data, including the number of major event days, the associated restoration days, and the related System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI), and Customer Average Interruption Duration Index (CAIDI) (see below for a description of these metrics and how each is calculated) numbers. This is due to a misinterpretation and subsequent misapplication of Institute of Electrical and Electronics Engineers (IEEE) MED Methodology. The data in this report is now correct for all years.

Figure 5 illustrates the number of MEDs in NIPSCO's service territory, the number of associated restoration days associated with those MEDs, and the TMED that was used to identify major event days each year.

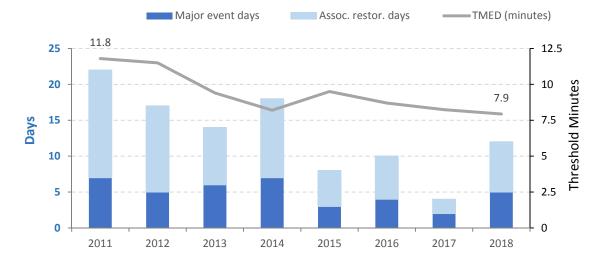


Figure 5. Major event day metrics

The decrease in MEDs and associated restoration days in recent years is chiefly due to NIPSCO's vegetation management program. As such, NIPSCO demonstrated consistent improvement from 2014 to 2017. Additionally, NIPSCO implemented a comprehensive emergency restoration plan in 2017 that provides for robust event preparation and resource staging. The plan has positively contributed to the downward trend in associated restoration days and improved customer

¹ The TMED calculation is based on IEEE Standard 1366-2012. It uses a utility's daily SAIDI values for the past five reporting years.

experience. However, NIPSCO experienced a significant uptick in severe weather in 2018 that exceeded the system design criteria and resulted in five major event days.

Figure 6 illustrates the company's three reliability indices using MED data.

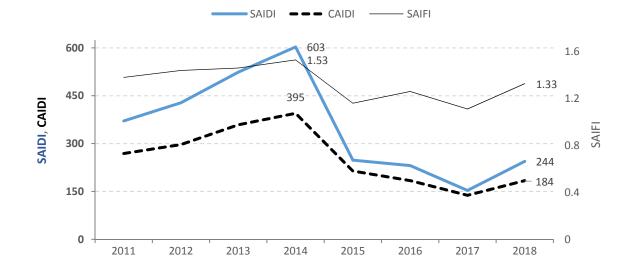


Figure 6. Reliability indices (including MED data)

By industry standard, reliability indices are reported without including MED, which are primarily storms or severe weather events more destructive than typical storm events. The data that is excluded (called MED data) is identified by using TMED. If a utility's daily SAIDI exceeds the TMED, the outage data on that date will be excluded from the utility's non-MED reliability indices.

The weather patterns experienced throughout the NIPSCO system in 2018 are similar to those experienced in 2014. Considering the metrics from an all-inclusive perspective (*i.e.*, including MEDs in the analysis), NIPSCO has demonstrated significant improvement when comparing 2014 and 2018 performance. By industry standard, reliability indices are reported without including MED, which are primarily storms or severe weather events that are more destructive than typical storm events. However, including MEDs in the reliability metrics provides a comprehensive view of the overall customer experience during outage events. As depicted in the table below, NIPSCO achieved a 13%, 59% and a 53% reduction in SAIFI, SAIDI, and CAIDI, respectively, when MEDs are included.

Reliability Indices (Including MED Data)									
	2018	2014	%Δ						
SAIFI	1.33	1.52	-13%						
SAIDI	244	603	-59%						
CAIDI	184	395	-53%						
Total Customers	618,428	694,999	-11%						
Total Outages	16,025	19,615	-18%						

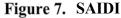
Utilities use three principal indices to measure service reliability.

System Average Interruption Duration Index (SAIDI): represents the average outage duration of each electric customer served. In 2018, the average NIPSCO electric customer did not have electric service for 151 minutes due to reliability issues. NIPSCO's SAIDI has been below or slightly above the IEEE industry median for medium-sized utilities since 2014.

$$SAIDI = \frac{\sum customer \ outage \ minutes}{customers}$$

Figures 7 (SAIDI), 8 (SAIFI) and 9 (CAIDI) below compare NIPSCO's metrics to the Industry Median. Please note that the IEEE median values are missing from the charts for year 2018 as these are not calculated and published until the end of the third quarter.





System Average Interruption Frequency Index (SAIFI): represents how many times per year the average customer experiences an interruption in electric supply. A customer must lose service for more than five minutes for the incident to be defined as an interruption. In 2018, the average customer experienced a power interruption 1.09 times. NIPSCO's SAIFI has been lower (better) than the IEEE industry median for medium-sized utilities.

 $SAIFI = rac{customer\ interruptions}{electric\ customers}$

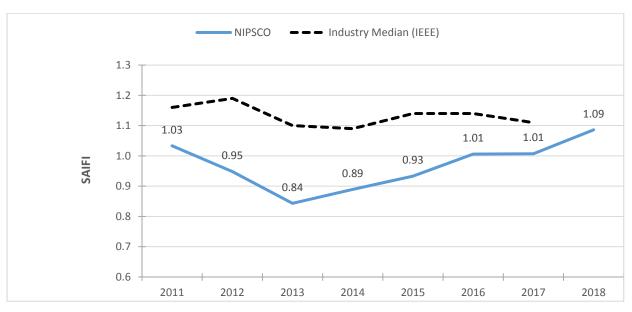


Figure 8. SAIFI

Customer Average Interruption Duration Index (CAIDI): represents the average length of outages for customers who experience an outage. CAIDI is therefore equal to SAIDI divided by SAIFI. In 2018, the average customer that experienced a power interruption had to wait 139 minutes before power restoration.

$$CAIDI = \frac{\sum customer \ outage \ minutes}{customer \ interruptions}$$

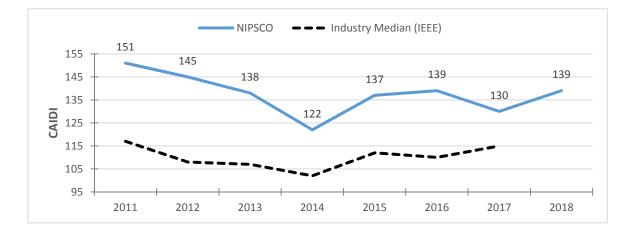


Figure 9. CAIDI

NIPSCO has a formal Outage Investigation Program that reviews any outages that affect more than 1,000 customers, result in a pole fire, or similar safety-related event. In addition, NIPSCO continues to perform its Worst Circuits and Worst Taps Programs to improve electric system reliability. The Worst Circuits Program includes calculating the reliability indices and Customer Duration Hours annually for each circuit to determine an overall performance value for each Circuit. The circuits with the worst performance values are assessed and recommendations for improvement are developed. The Worst Taps Program includes identifying all taps that have experienced multiple outages in the previous year and developing recommendations for improvement. Recommendations for improvement for both the Worst Circuits and Worst Taps Programs include targeted tree trimming, replacement of equipment prone to failure, replacement of equipment that is in poor condition, an analysis of fuse coordination and loading, and installing additional sectionalizing devices where appropriate to minimize the impacts of outages and the number of customers affected per outage.

Power generation

This report presents NIPSCO's generation productivity metrics by large generator type: coal and combined cycle natural gas. The coal units include those at the R.M. Schahfer Generating Station (Schahfer), Michigan City Generating Station (Michigan City), and Bailly Generating Station (Bailly), and the coal metrics shown are weighted by unit capacity. Sugar Creek is the company's combined cycle gas turbine plant.

Bailly 7 and 8 were retired on May 31, 2018. The three combustion turbines are peaking units that are rarely used.

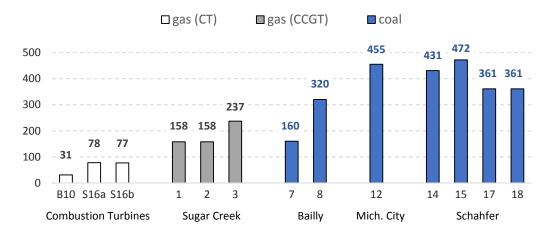
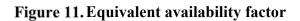
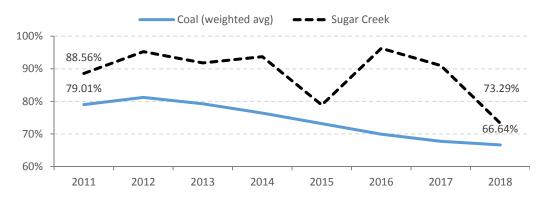


Figure 10. Generation portfolio (MW)

Figure 11 illustrates the *equivalent availability factors* (EAF) of NIPSCO's units.² This metric represents the percentage of time a unit was available to generate power. The "equivalent" part of the definition accounts for times in which the unit was derated, meaning it could generate power but not up to 100% of its potential.

² EAF = [(Available Hours – Equiv. Planned Derate Hours – Equiv. Unplanned Derate Hours) / Period Hours] × 100%





The 2018 numbers above include Bailly for the entire year. When Bailly is removed, the EAF for the coal units is 71.62%.

A unit's *equivalent forced outage rate* (EFOR) represents the percentage of time (in hours) the unit was unable to generate power for reasons other than planned maintenance.

$$EFOR = \frac{FO + EFD}{FO + S + EFDRS} \times 100\%$$

These reasons include forced outages (FO) or equivalent forced derates (EFD), which occur if a unit is unable to produce 100% of its typical capacity. The denominator in the equation is the sum of forced outage hours, service hours, and equivalent forced derates when the unit is in reserve shutdown. Figure 12 illustrates NIPSCO's EFOR during the period.

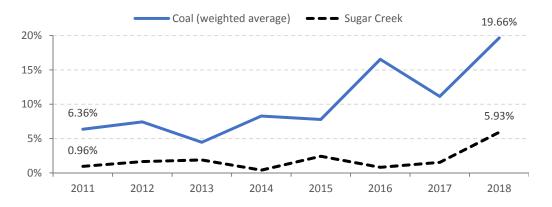


Figure 12. EFOR

The 2018 numbers above include Bailly for the entire year. When Bailly is removed the EFOR for the coal units is 16.87%.

The company's coal EFOR has been significantly affected by the changing power markets. When baseload units are selected less often to generate power because they move farther up the supply curve, they must be started and stopped more often. This infrequent operation can adversely affect a unit's operations.

Figure 13 illustrates the relationship between the total service hours of NIPSCO's coal generation and the EFOR of those units.

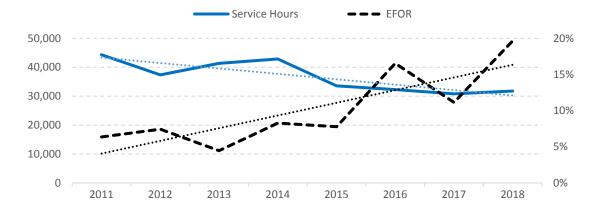


Figure 13. Coal generation

During 2018, Sugar Creek had an 86 day planned outage scheduled from September 15 through December 9. During this outage, NIPSCO conducted a steam turbine overhaul, a heat recovery steam generator casing replacement, overhauls on combustion turbines 1 and 2, boiler inspection, and other miscellaneous repairs. The work performed during this outage has allowed NIPSCO to negotiate a new outage interval structure. The new agreement now extends minor unit outages from 24,000 to 32,000 operating hours. In addition, it has also allowed the company to extend the major unit outages from 48,000 hours to 64,000 hours. This, in turn, has a positive effect on the station's EAF.

Figure 14 illustrates the *net capacity factors* (NCF) of NIPSCO's units. This metric represents the percentage of a unit's full capacity that it is allowed to produce on average during the period.

NCF is a function of a unit's availability and its variable operating costs. A unit that has frequent forced or planned outages, or high operating costs compared to other generating units, will have a lower capacity factor. A unit that is always available to generate and has competitive operating costs will have a higher capacity factor.

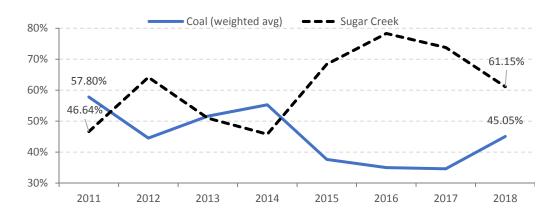


Figure 14. Net capacity factor

A unit's NCF is affected by the amount of time it is available to run but has not been selected due to economics. Generating units continue to consume a small amount of power even when they are not generating energy. This auxiliary power is subtracted from a unit's generation total and decreases the unit's NCF.

SERVICE

Customer service

The *average speed of answer* metric represents the average number of seconds a caller waits before his or her call is answered by a Customer Service Representative. This does not include the time a caller is navigating through the interactive voice response phone system.

The *abandonment rate* represents the percentage of telephone calls made to NIPSCO that are abandoned by the customer before speaking with an agent. The call center telephone system informs customers of their estimated wait time and gives them the option to receive a "virtual callback," in which the Virtual Hold technology auto dials the customer, in the order that the customer called, when a Customer Service Representative is available for the next caller. The metrics shown in Figure 15 are both indirectly related to the metric discussed below.

Avg speed of answer (sec) Abandonment rate 28% 55 3% 2.2% seconds 40 2% 27 1% 25 10 0% 2011 2012 2013 2014 2015 2016 2017 2018

Figure 15. Call center operations

The *first call resolution* metric represents how often NIPSCO is able to meet a customer's needs during the first phone call. The metric is measured by an outside vendor. Customers highly value the ability of NIPSCO to resolve their issues quickly.

The *meter reading metric* represents the percentage of NIPSCO's residential and commercial electric meters the company accurately reads each month. The rollout of the company's Automated Meter Reader Program in 2015 and 2016 accounts for the significant improvements in that period.

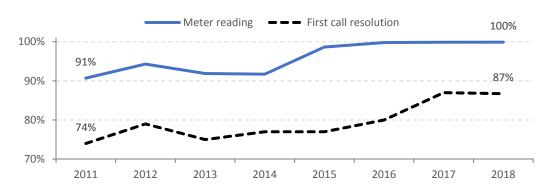


Figure 16. Employee efficiency

Customer satisfaction

NIPSCO engages a third party to measure how well the company interacts with its customers. The *customer satisfaction (CSAT) score* reflects the average customer's experience when the customer interacts with (1) a Customer Service Representative on the telephone, (2) the interactive voice response telephone system, (3) an employee on the customer's property, or (4) NIPSCO's self-service website.

Prior to 2015, the CSAT primarily reflected customers' interactions with NIPSCO's call center, and customers were only asked a single question. The company modified its satisfaction survey that year in order to better measure its performance in discreet channels, and it weighted each channel's score according to the number of surveys completed for that channel. NIPSCO has found that measuring customer satisfaction in different channels allows it to better identify successful practices and opportunities for improvement.

In 2017, the company hired a new vendor and made three significant changes to the CSAT. First, it allowed customers to complete online surveys. All surveys had previously been conducted over the telephone. Second, NIPSCO began weighting each communication channel equally in the CSAT calculation. Third, the company switched from quantitative responses (1-10) to qualitative responses (such as "I am somewhat satisfied"). For these reasons, NIPSCO uses the 2017 score as the new benchmark for this metric.

NIPSCO incorporated the residential gas and electric J.D. Power scores into its corporate incentive plan calculation in 2016 as part of its commitment to customer service. The company incorporated the CSAT score into that calculation the following year.

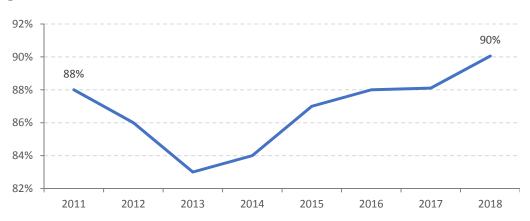


Figure 17. Customer satisfaction score

The J.D. Power Electric Utility Customer Satisfaction studies examine residential and business customer satisfaction across six factors – power quality and reliability, price, billing and payment, communications, corporate citizenship, and customer service. In 2018, NIPSCO achieved its highest ratings in both studies.

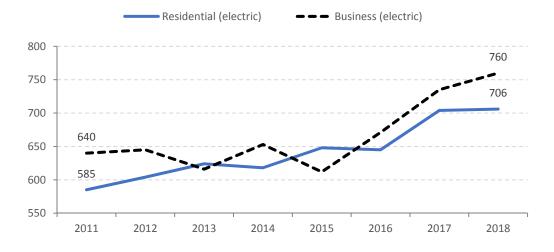
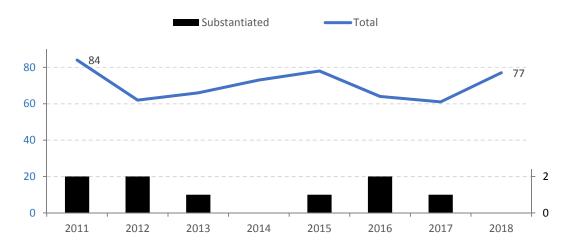


Figure 18. J.D. Power scores

Utility customers in Indiana may file a complaint with the Commission if they feel aggrieved. The Commission's Consumer Affairs Division investigates each complaint and determines whether the complaint is substantiated or unsubstantiated. Figure 19 illustrates the number of electric complaints filed with the Commission against NIPSCO and the number of complaints that uncovered a violation.





INVESTMENT & SPENDING

This section analyzes NIPSCO's operations and maintenance expense (O&M). The data comes from NIPSCO's Federal Energy Regulatory Commission (FERC) Form 1.

The Electric O&M Expense section of the FERC Form 1 is divided into eight parts. The first part covers power production, which is divided into steam, nuclear, hydro, and other (gas). Parts 2-4 cover power delivery functions: transmission, regional market, and distribution. Parts 5-7 cover customer service and part 8 covers corporate administration.

In this report, MWh represents total sales, including sales for resale, except for Figure 22, which also expresses non-fuel production O&M expense as a function of MWh generated by the utility.

The "non-fuel" numerators exclude Accounts 501 (steam fuel), 547 (other generation fuel), and 555 (purchased power). These accounts can be found on pages 320 and 321 of the FERC Form 1.

Total O&M

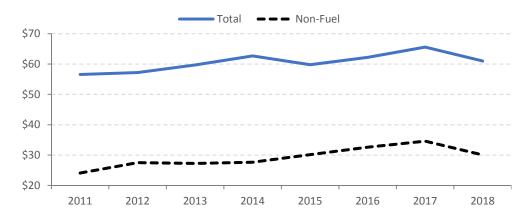
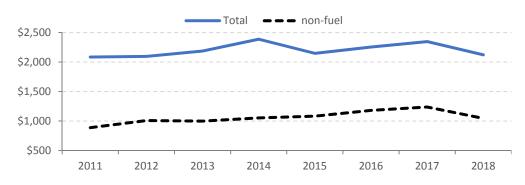


Figure 20. O&M per MWh ³

³ Page 323, line 198, / Page 301, line 10(d),





O&M components

Figure 22 illustrates the company's non-fuel production O&M expense.

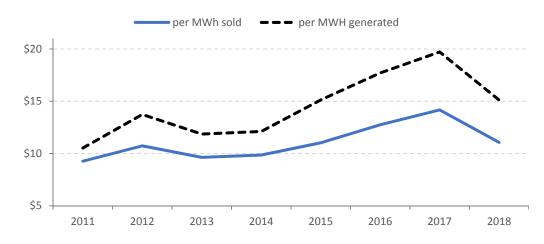


Figure 22. Non-fuel production O&M expense ⁵

Figure 23 illustrates transmission and distribution expenses as a function of energy sales. It also shows transmission expense as a function of line miles. In 2013, NIPSCO reclassified its 69kV circuit miles from transmission to distribution in accordance with FERC's seven-factor test.

⁴ Page 323, line 198, / Page 301, line 10 (f),

⁵ Page 321, line 80,– lines 5, 25, 63, and 76 / Page 301, line 12(d), per MWh generated uses Page 401a. line 9,

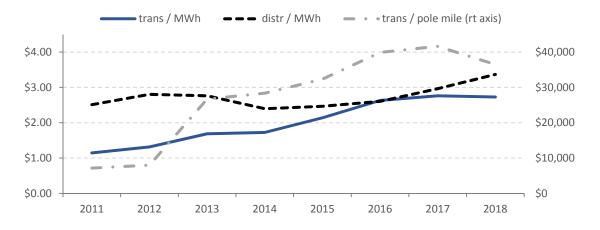


Figure 23. Transmission and distribution O&M expense ⁶

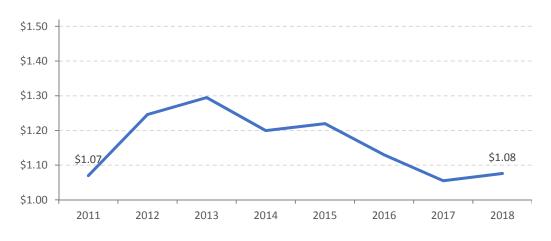
The principal driver of transmission expense during the period has been *Account 561.8, Reliability, Planning, and Standards Development Services.* This account reflects the costs of three regional transmission expansion project types that the Midcontinent Independent System Operator, Inc., or MISO, has billed to NIPSCO through Schedule 26. The Commission authorized NIPSCO to begin recovering these costs through the utility's Regional Transmission Operator tracker in 2012.

The largest component of distribution expense each year is *Account 593, Maintenance of Overhead Lines*, which has averaged 50% of the total expenses in this category since 2011. Over this period, the annual growth in this account has averaged 4.5%. The reliability section in this report discusses how NIPSCO's investment in vegetation management the past few years has positively affected the company's reliability indices.

Customer expense accounts in the FERC Form 1 are organized into three parts: customer accounts, customer service and information, and sales. Figure 24 illustrates the sum of these accounts divided by total sales.

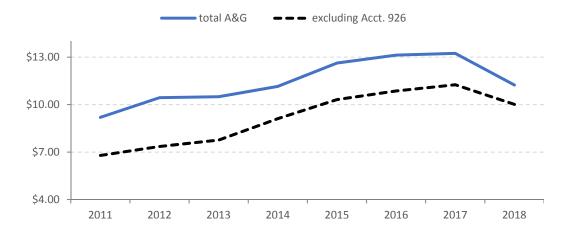
⁶ Transmission (Page 321 line 112); distribution (Page 322, line 156) / MWh (Page 301, line 12(d); pole mile (Page 422, line 36).





Administrative and general (A&G) expenses is the final O&M component shown in the FERC Form 1. This part includes accounts such as A&G salaries, office expenses, outside services employed, and employee benefits. These expenses are primarily fixed, meaning they do not rise and fall in the short-run with sales.

Figures 25 and 26 show A&G expenses as a function of total sales and retail customers. The figures also represent the metrics without Account 926, Employee Pensions and Benefits. This account is largely driven by interest rates and investment returns, two functions significantly outside of a utility's control.





⁷ Page 323, line 164 + line 171 + line 178, / Page 301, line 12(d).

⁸ Page 323, line 197 / Page 301, line 12(d); Acct 926 is Employee Pensions and Benefits expense (Page 323, line 187)

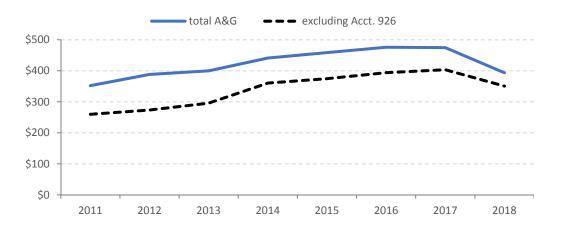
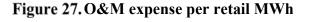
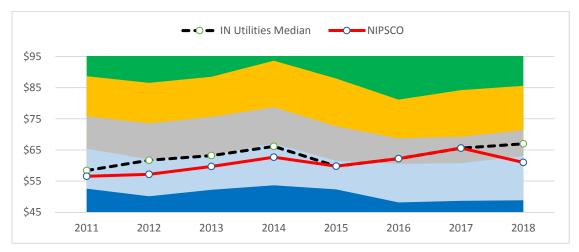


Figure 26. A&G O&M expense per retail customer ⁹

Benchmarking Analysis

This section illustrates the respective metrics of NIPSCO and the median Indiana electric investor owned utilities against nationally comparable data. The data of the 20% of U.S. utilities with the lowest metrics (the first quintile) is represented within the dark blue section at the bottom of each graph. Each colored area above the first quintile represents a successive quintile.





⁹ Page 323, line 197 / Page 301, line 12(f); Acct 926 is Employee Pensions and Benefits expense (Page 323, line 187)

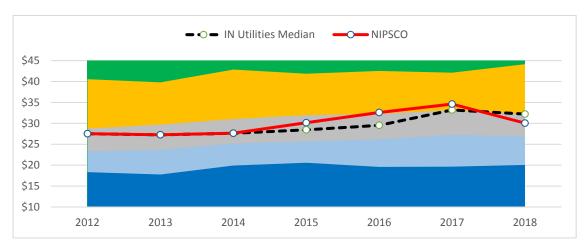
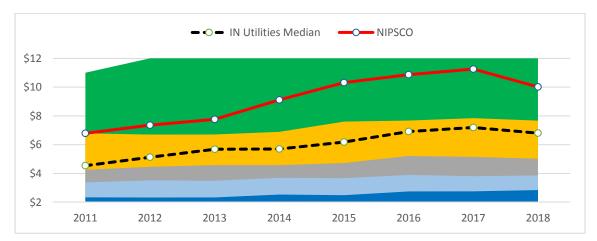


Figure 28. Non-fuel O&M expense per retail MWh

Figure 29. A&G O&M expense (net of Acct 926) per retail MWh



AFFORDABILITY

Customer bills

NIPSCO's current electric base rates went into effect on October 1, 2016. NIPSCO's customers experienced a decrease in 2018 primarily driven by the Tax Cuts and Jobs Act of 2017. The average monthly usage of NIPSCO's residential customers during the test year of the company's last rate case was 698kWh.

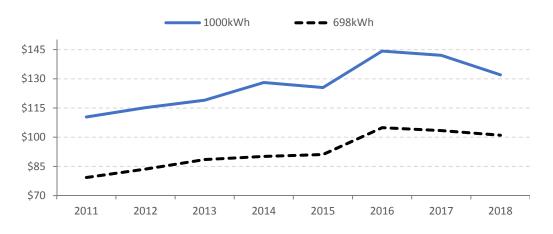
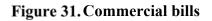
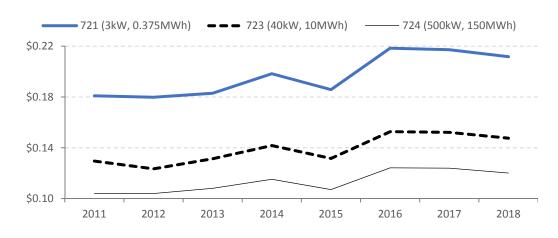


Figure 30. Residential bills ¹⁰

The figures below depict seven of the 15 demand and usage combinations that the Edison Electric Institute includes in its *Typical Bills and Average Rates Report*, which it publishes each winter. The average rates for all fifteen combinations are included in the appendix to this report.





¹⁰ The IURC calculates each utility's electric bill on July 1 each year and reports this information at <u>https://www.in.gov/iurc/2761.htm</u>.

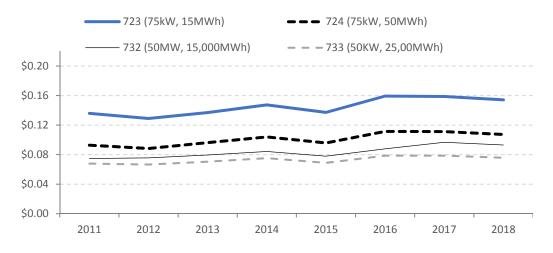


Figure 32. Industrial bills

Service disconnections

NIPSCO mails a notice of disconnection to a customer twelve days after the customer's bill is due. NIPSCO continues to work with customers with arrears by initiating telephone calls in order to facilitate payment arrangements. As a result, fewer orders for disconnection are sent to the field. In addition, in June 2018, NIPSCO launched a new program that allows for customers to make payments over the telephone while the technician is on-site to complete the disconnection.

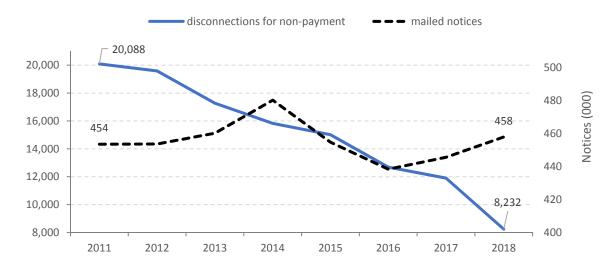
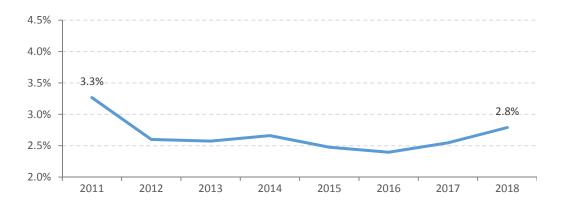


Figure 33. Residential service disconnections





In 2018, the Indiana Housing and Community Development Authority moved to a new system for Energy Assistance Program transmittals for the 2017-2018 LIHEAP season resulting in a situation where NIPSCO was not notified of all customers who qualified for LIHEAP. As a result, shut off orders were cancelled for all residential customers in January, February, and the first half of March. This was a proactive approach to ensure customers who had been advised they would receive assistance were not disconnected.

Staffing

NIPSCO's employee turnover ratio is calculated using the average employees during the year. The uptick in 2018 was primarily driven due to retirements.



Figure 35. Employee turnover

NIPSCO is committed to attracting and keeping a diverse and qualified workforce. Inclusion and diversity, not only of race or gender but of thought, life experience culture, ability, generation, sexual orientation, and other issues, is an ongoing strategic initiative that is part of the company's operating plan. NIPSCO sponsors and participates in job fairs which include the American Association of Blacks in Energy National Conference, the United States Hispanic Leadership Institute, Indiana Black Expo, and the Times of Northwest Indiana. NIPSCO posts to well over

480 job sites including military networks, University/College sites, Disability sites, Federal Government, State Government, Metro Areas, Diversity and others such as those that cater to engineers. NIPSCO engages in community outreach to over 45 organizations and also uses 39 specific sites in CareerBuilder to engage with diverse groups. Retention of employees is also a key component of NIPSCO's operating plan. New Employee Orientation begins with a formal process on the first day of employment and then job specific training is conducted. NIPSCO has developed numerous Affinity Groups (Employee Resource Groups) to promote networking and support.

	Fig.	2011	2012	2013	2014	2015	2016	2017	2018
Safety									
Preventable vehicle crash rate	1	5.10	3.26	2.28	2.14	2.43	1.76	1.84	1.97
OSHA recordable incident rate DART	2	2.61 1.01	2.70 1.60	1.57 1.08	1.41 0.97	2.20 1.18	2.23 1.37	1.29 0.61	2.23 1.61
OSHA rate NIPSCO w/BSA	3	2.61	1.83	1.5	1.26	1.10	1.2	0.75	1.14
DART - NIPSCO with BSA		1.1	1.04	0.93	0.84	0.65	0.61	0.33	0.68
Underground damages	4	3.48	4.50	3.73	3.11	3.00	2.56	2.48	2.05
Reliability									
Major event days	5	7	5	6	7	3	4	2	5
Assoc. restor. days		15	12	8	11	5	6	2	_7
TMED (minutes)	7	11.8 371	11.5 428	9.4 524	8.2 603	9.5 248	8.7 231	8.2 153	7.9 244
SAIDI (MED) (non-MED)	1	156	420	116	109	128	141	133	244 151
SAIFI (MED)	8	1.38	1.44	1.46	1.53	1.16	1.26	1.11	1.33
(non-MED)		1.03	0.95	0.84	0.89	0.93	1.01	1.01	1.09
	9	269	297	359	395	214	184	138	184
(non-MED) Generating unit capacity EAF	10 11	151 (shown in f	145 figure)	138	122	137	139	130	139
12 Michigan City		89.88%	81.20%	64.72%	86.10%	55.36%	53.63%	45.38%	63.45%
7 Bailly		70.81%	82.09%	92.36%	78.74%	70.13%	75.29%	63.93%	42.23%
8 Bailly		74.38%	75.95%	84.12%	69.15%	67.23%	57.44%	66.03%	0.00%
14 Schahfer 15 Schahfer		69.14% 75.66%	76.55% 81.72%	74.21% 73.63%	77.99% 66.22%	69.18% 87.36%	74.89% 80.75%	87.62% 55.15%	61.41% 80.28%
17 Schahfer		91.84%	74.69%	86.52%	81.48%	74.99%	89.12%	67.84%	87.24%
<u>18</u> <u>Schahfer</u>		75.99%	<u>96.97%</u>	94.11%	<u>75.52%</u>	87.18%	60.40%	92.60%	67.51%
Coal (weighted avg)		79.01%	81.22%	79.25%	76.40%	73.15%	69.91%	67.74%	66.64%
Sugar Creek		88.56%	95.27%	91.81%	93.71%	78.90%	96.28%	91.00%	73.29%
EFOR	12								
12 Michigan City		5.14%	1.17%	6.59%	1.09%	0.47%	16.25%	6.68%	24.36%
7 Bailly		7.47%	1.88%	3.95%	3.45%	20.69%	8.32%	15.77%	56.01%
8 Bailly		7.48%	7.81%	4.92%	8.78%	13.20%	22.01%	17.00%	100.00%
14 Schahfer		3.20%	19.26%	10.52%	19.02%	32.89%	51.25%	17.94%	20.80%
15 Schahfer		9.61%	13.12%	1.76%	11.03%	5.62%	15.46%	17.29%	19.08%
17 Schahfer		7.50%	7.01%	5.20%	10.29%	0.66%	6.16%	12.75%	6.15%
<u>18 Schahfer</u>		<u>4.11%</u>	<u>1.55%</u>	<u>0.19%</u>	<u>4.89%</u>	<u>2.69%</u>	<u>6.57%</u>	<u>2.60%</u>	<u>11.19%</u>
Coal (weighted average) Sugar Creek		6.36% 0.96%	7.43% 1.66%	<i>4.4</i> 6% 1.89%	8.28% 0.41%	7.78% 2.43%	16.54% 0.82%	11.14% 1.54%	19.66% 5.93%
		0.0070	1.0070	1.0070	0.1170	2.1070	0.0270	1.0170	0.0070
Net capacity factor	14								
12 Michigan City 7 Bailly		72.10% 56.95%	56.82% 44.48%	49.25%	66.67%	40.17% 48.89%	41.30% 53.58%	31.41% 47.61%	51.19% 36.58%
8 Bailly		60.38%	44.48%	52.61% 54.68%	53.50% 50.35%	46.89% 26.98%	36.44%	31.33%	0.00%
14 Schahfer		52.58%	27.12%	40.83%	40.20%	13.21%	12.21%	17.00%	38.98%
15 Schahfer		59.41%	55.92%	54.02%	47.28%	45.04%	24.13%	20.25%	51.59%
17 Schahfer		47.18%	30.42%	41.62%	65.64%	38.81%	49.30%	39.76%	55.00%
<u>18</u> <u>Schahfer</u> Coal (weighted avg)		<u>52.06%</u> 57.80%	<u>51.13%</u> 44.54%	<u>71.35%</u> 51.63%	<u>63.88%</u> 55.30%	<u>56.69%</u> 37.64%	<u>44.11%</u> 35.02%	<u>70.27%</u> 34.62%	<u>44.64%</u> 45.05%
Sugar Creek		46.64%	64.18%	50.98%	45.81%	68.41%	78.33%	73.79%	61.15%
Customer Satisfaction									
Avg speed of answer (sec)	15	51	20	21	29	18	21	28	27
Abandonment rate First call resolution	16	2.8% 74%	1.3% 79%	1.5% 75%	1.6% 77%	1.4% 77%	1.6% 80%	2.3% 87%	2.2% 87%
Meter reading	10	91%	94%	92%	92%	99%	100%	100%	100%
Customer survey	17	88%	86%	83%	84%	87%	88%	88%	90%
J.D. Power scores	4.0				0.10	0.40	0.45		
Residential (electric) Business (electric)	18	585 640	604 645	624 616	618 653	648 612	645 671	704 735	706 760
Complaints to regulator		040	040	010	000	012	071	155	700

	Fig.	2011	2012	2013	2014	2015	2016	2017	2018
Substantiated	19	2	2	1	0	1	2	1	0
Total Unsubstatiated		84 82	62 60	66 65	73 73	78 77	64 62	61 60	77 77
Onsubstatiated		02	00	00	75		02	00	
O&M Expenses									
O&M per MWh (total)	20	\$56.57	\$57.19	\$59.70	\$62.67	\$59.79	\$62.21	\$65.59	\$61.00
(non-fuel)		\$24.09	\$27.52	\$27.26	\$27.63	\$30.14	\$32.59	\$34.59	\$30.04
O&M per customer (total)	21	\$2,084	\$2,095	\$2,186	\$2,386	\$2,146	\$2,254	\$2,346	\$2,120
(non-fuel) Non-fuel production O&M		\$888	\$1,008	\$998	\$1,052	\$1,082	\$1,181	\$1,237	\$1,044
per MWh sold	22	\$9.27	\$10.73	\$9.63	\$9.85	\$11.02	\$12.74	\$14.17	\$11.06
per MWH generated		\$10.53	\$13.74	\$11.86	\$12.11	\$15.13	\$17.71	\$19.72	\$15.11
Transmission per MWh	23	\$1.15	\$1.31	\$1.69	\$1.73	\$2.14	\$2.63	\$2.76	\$2.73
Transmission per pole mile Distribution expense per MWh		\$7,161 \$2.51	\$7,985 \$2.80	\$26,699 \$2.76	\$28,367 \$2.40	\$32,333 \$2.47	\$39,913 \$2.60	\$41,638 \$2.97	\$36,477 \$3.37
Customer operations per MWh	24	\$2.51 \$1.07	\$2.80 \$1.25	\$2.76 \$1.29	\$2.40 \$1.20	\$2.47 \$1.22	\$2.00 \$1.13	\$2.97 \$1.05	\$3.37 \$1.08
A&G per MWh	25	\$9.20	\$10.44	\$10.50	\$11.15	\$12.63	\$13.13	\$13.24	\$11.24
excluding Acct. 926	_0	\$6.79	\$7.36	\$7.76	\$9.12	\$10.32	\$10.86	\$11.26	\$10.01
A&G per customer	26	\$352	\$388	\$400	\$441	\$459	\$476	\$474	\$393
excluding Acct. 926		\$260	\$274	\$296	\$361	\$375	\$394	\$403	\$351
Benchmarking	27								
O&M expense per retail MWh 1st quintile	21	\$53	\$50	\$52	\$54	\$52	\$48	\$49	\$49
2nd quintile		\$65	\$62	\$63	\$67	\$62	\$61	\$61	\$63
3rd quintile		\$76	\$74	\$76	\$79	\$73	\$69	\$69	\$71
4th quintile		\$89	\$87	\$88	\$94	\$88	\$81	\$84	\$86
5th quintile		\$100	\$100	\$100	\$100	\$100	\$100	\$100	\$100
Ind. IOU median		\$58	\$62	\$63	\$66	\$60	\$62	\$66	\$67
NIPSCO		\$57	\$57	\$60	\$63	\$60	\$62	\$66	\$61
O&M (net fuel) per retail MWh	28								
1st quintile		\$17	\$18	\$18	\$20	\$21	\$20	\$20	\$20
2nd quintile		\$23	\$23	\$24	\$25	\$26	\$26	\$27	\$27
3rd quintile		\$28	\$29	\$30	\$31	\$32	\$32	\$33	\$32
4th quintile		\$39	\$41	\$40	\$43	\$42	\$43	\$42	\$44
5th quintile <i>Ind. IOU median</i>		\$45 \$2 <i>4</i>	\$45 \$28	\$45 \$27	\$45 \$28	\$45 \$28	\$45 \$30	\$45 \$33	\$45 \$32
NIPSCO		\$24 \$24	\$28	\$27 \$27	\$28	\$20 \$30	\$33	\$35 \$35	\$30
		<i>~</i>	ψΞΟ	<i>~</i> =·	φ±0	çcc	çcc	çcc	çcc
A&G (less Acct 926) per MWh	29	*• • • •	* • • -	A O 77	*• • • •	*• • • •	AO 1O	AA AA	AO O I
1st quintile 2nd quintile		\$2.84 \$3.89	\$2.85 \$4.17	\$2.77 \$4.26	\$2.93 \$4.29	\$3.03 \$4.31	\$3.16 \$4.47	\$3.16 \$4.43	\$3.21 \$4.39
3rd quintile		\$5.21	\$4.17 \$5.54	\$4.20 \$5.34	\$4.29 \$5.48	\$4.31 \$5.71	\$4.47 \$5.98	\$4.43 \$6.03	\$4.39 \$6.34
4th quintile		\$7.34	\$7.52	\$7.84	\$8.32	\$8.40	\$8.74	\$8.78	\$8.74
5th quintile		\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00	\$12.00
Ind. IOU median		\$4.34	\$4.70	\$4.85	\$4.96	\$5.18	\$5.43	\$5.19	\$5.18
NIPSCO		\$7.05	\$7.47	\$8.07	\$9.47	\$10.44	\$10.88	\$11.28	\$10.08
Affordability									
Residential rates									
Bill (698kWh)	30	\$79	\$84	\$89	\$90	\$91	\$105	\$103	\$101
Bill (1000kWh)		\$110	\$115	\$119	\$128	\$125	\$144	\$142	\$132
Components (\$/kWh, May 1 o	f followii	ng year)						\$0.000	#0.0005
base fuel O&M expense								\$0.0325 \$0.0294	\$0.0325 \$0.0294
D&A expense								\$0.0294 \$0.0133	
taxes								\$0.0100	
NOI and settlement adjust't								\$0.0130	\$0.0130
capital trackers								\$0.0016	\$0.0038
expense trackers								<u>\$0.0138</u>	<u>\$0.0126</u>
total								\$0.1136	\$0.1119
Variable charges (cents)									
711 energy							11.0433	11.0433	10.6764
770 FAC							0.2625	0.0836	0.1999

	Fig.	2011	2012	2013	2014	2015	2016	2017	2018
771 RTO 772 ECR	-						0.1664 0.9330	0.1220 0.4221	0.1015 0.2745
774 RA							0.3030	0.4221	0.3651
783 DSM 787 FMC							0.3157 -0.0011	0.3770 -0.0019	0.5053 0.1325
788 TDSIC							0.0000	<u>0.3204</u>	0.1325 0.2095
Total variable charge							13.0228	12.8053	12.4647
Customer charge (\$)						\$11.00	\$14.00	\$14.00	\$14.00
Commercial rates	31								
Rate kW MWh LF% 721 3 0.375 17%		\$0.181	\$0.180	\$0.183	\$0.198	\$0.186	\$0.218	\$0.217	\$0.212
12 1.5 17%		\$0.141	\$0.140	\$0.143	\$0.158	\$0.146	\$0.170	\$0.169	\$0.164
723 40 10 34% 40 14 48%		\$0.130 \$0.115	\$0.123 \$0.108	\$0.131 \$0.116	\$0.142 \$0.127	\$0.132 \$0.117	\$0.153 \$0.137	\$0.152 \$0.136	\$0.148 \$0.131
724 500 150 41%		\$0.104	\$0.104	\$0.108	\$0.115	\$0.107	\$0.124	\$0.124	\$0.120
500 180 49%		\$0.097	\$0.097	\$0.101	\$0.108	\$0.100	\$0.117	\$0.116	\$0.113
Industrial rates Rate kW MWh LF%	32								
723 75 15 27%		\$0.136	\$0.129	\$0.137	\$0.147	\$0.137	\$0.159	\$0.159	\$0.154
75 30 55% 724 75 50 91%		\$0.107 \$0.093	\$0.100 \$0.088	\$0.108 \$0.096	\$0.118 \$0.104	\$0.108 \$0.096	\$0.128 \$0.111	\$0.127 \$0.111	\$0.123 \$0.107
1,000 200 27%		\$0.120	\$0.120	\$0.125	\$0.132	\$0.124	\$0.142	\$0.142	\$0.138
1,000 400 55% 1,000 650 89%		\$0.091 \$0.080	\$0.091 \$0.080	\$0.095 \$0.084	\$0.102 \$0.091	\$0.094 \$0.083	\$0.111 \$0.099	\$0.110 \$0.098	\$0.107 \$0.095
732 50,000 15,000 41%		\$0.075	\$0.076	\$0.080	\$0.084	\$0.078	\$0.088	\$0.097	\$0.093
733 50,000 25,000 68% 50,000 32,500 89%		\$0.068 \$0.057	\$0.067 \$0.065	\$0.071 \$0.066	\$0.075 \$0.071	\$0.069 \$0.065	\$0.079 \$0.072	\$0.079 \$0.071	\$0.076 \$0.068
Residential disconnections	33								
for non-payment	33	20,088	19,585	17,271	15,824	15,011	12,689	11,900	8,232
notices sent (000)		454	454	460	480	455	438	446	458
disconnections by month		4 400	4 075	4 400	054	000	0.05	4 204	22
Jan Feb		1,408 866	1,875 1,560	1,466 1,284	354 219	863 323	835 912	1,304 1,456	22 415
Mar		2,018	1,806	1,418	1,084	1,411	1,068	1,132	928
Apr May		1,751 1,748	1,655 1,571	1,892 1,580	1,653 1,665	1,635 1,318	953 740	817 1,150	861 1,253
Jun		1,711	1,339	1,145	1,635	1,393	872	962	997
Jul Aug		1,482 1,914	1,029 1,644	1,323 1,196	1,353 1,437	907 1,262	885 1,185	854 1,323	801 808
Sep		1,607	1,471	1,061	1,425	908	951	745	406
Oct Nov		1,436 1,211	1,553 1,107	1,365 796	1,341 452	1,158 999	939 930	1,026 804	619 533
Dec		925	963	732	1,192	819	403	327	589
Accounts in arrears Jan	34	1 00/	3.0%	0 70/	2.8%	2.8%	2.9%	2.6%	2 50/
Feb		4.0% 4.2%	3.0% 2.8%	2.7% 2.7%	2.8%	2.8%	2.9%	2.6%	3.5% 3.5%
Mar		4.1%	2.6%	2.4%	2.5%	2.5%	2.0%	2.2%	3.2%
Apr May		3.6% 3.7%	2.5% 2.7%	2.1% 2.2%	2.5% 2.7%	2.3% 2.6%	2.3% 2.3%	2.5% 2.4%	2.7% 2.3%
Jun		3.0%	2.8%	2.7%	2.8%	2.4%	2.2%	2.4%	2.5%
Jul Aug		3.1% 2.7%	2.3% 2.1%	2.4% 2.3%	2.6% 2.4%	2.4% 2.1%	2.4% 2.0%	2.6% 2.0%	2.4% 2.3%
Sep		2.0%	2.2%	2.3%	2.2%	2.1%	1.9%	2.5%	2.5%
Oct Nov		2.5% 3.0%	2.6% 2.7%	2.5% 3.0%	2.3% 3.1%	2.3% 2.5%	2.4% 2.7%	2.6% 2.8%	2.6% 2.8%
Dec		3.3%	3.1%	3.6%	3.3%	2.9% 2.5%	3.2%	3.6%	3.2%
average		3.3%	2.6%	2.6%	2.7%	2.3%	2.4%	2.5%	2.8%
Employee turnover	35	6.9%	5.1%	6.6%	5.5%	6.0%	5.8%	6.4%	7.9%

	Fig.	2011	2012	2013	2014	2015	2016	2017	2018
Ratio data									
Energy (MWh, millions)									
Generated		15.39	13.28	14.18	14.79	12.20	12.11	12.02	12.04
Retail sales		16.84	16.76	16.80	17.51	16.56	16.81	16.69	16.63
Wholesale sales		0.65	0.25	0.67	0.68	0.19	0.02	0.03	0.114
O&M (\$, millions)									
Total		\$952	\$958	\$1,003	\$1,097	\$990	\$1,046	\$1,095	\$996
Production		\$709	\$680	\$713	\$793	\$676	\$713	\$754	\$688
Fuel		\$547	\$497	\$545	\$614	\$491	\$498	\$517	\$506
Transmission		\$20	\$22	\$29	\$31	\$36	\$44	\$46	\$45
Distribution		\$44	\$48	\$48	\$44	\$41	\$44	\$50	\$55
Customer		\$19	\$21	\$23	\$22	\$20	\$19	\$18	\$18
A&G		\$161	\$178	\$183	\$203	\$212	\$221	\$221	\$185

DATE	SAIDI	SAIFI	DATE	SAIDI	SAIFI	DATE	SAIDI	SAIFI	DATE	SAIDI	SAIFI
5/29/2011	17.72	0.0434	6/12/2013	40.36	0.0965	2/1/2015	15.65	0.0543	1/10/2017	13.44	0.0584
5/30/2011	2.83	0.0115	6/13/2013	5.55	0.0126	2/2/2015	0.24	0.0012	1/11/2017	0.81	0.0042
5/31/2011	0.27	0.0035	6/14/2013	0.18	0.0011	7/18/2015	18.40	0.0446	3/8/2017	8.78	0.0452
6/4/2011	98.80	0.0976	6/24/2013	176.66	0.2160	7/19/2015	0.74	0.0027	3/9/2017	0.05	0.0003
6/5/2011	19.47	0.0137	6/25/2013	38.61	0.0457	12/28/2015	85.89	0.1257	7/4/2018	16.10	0.0420
6/6/2011	4.46	0.0097	6/26/2013	12.42	0.0119	12/29/2015	3.88	0.0061	7/5/2018	8.37	0.0278
6/7/2011	1.15	0.0050	6/27/2013	51.30	0.0736	12/30/2015	0.97	0.0049	7/6/2018	0.39	0.0019
6/8/2011	0.62	0.0052	6/28/2013	7.75	0.0257	12/31/2015	0.05	0.0002	7/7/2018	0.08	0.0007
6/9/2011	2.40	0.0167	6/29/2013	0.99	0.0061	2/19/2016	9.83	0.0499	7/8/2018	0.45	0.0024
7/1/2011	13.55	0.0446	11/17/2013	88.40	0.1684	2/20/2016	0.28	0.0017	9/25/2018	14.20	0.0447
7/2/2011	2.83	0.0134	11/18/2013	5.06	0.0086	2/21/2016	0.02	0.0002	9/26/2018	1.19	0.0065
7/3/2011	0.16	0.0011	11/19/2013	0.87	0.0054	2/24/2016	56.44	0.1050	10/20/2018	12.76	0.0377
7/11/2011	17.71	0.0537	11/20/2013	0.16	0.0012	2/25/2016	3.65	0.0104	10/21/2018	0.13	0.0009
7/12/2011	0.42	0.0034	11/21/2013	0.29	0.0024	2/26/2016	0.15	0.0011	11/26/2018	41.65	0.0892
7/13/2011	0.42	0.0070	3/12/2014	30.90	0.1174	7/21/2016	9.25	0.0449	11/27/2018	0.13	0.0004
7/22/2011	24.47	0.0545	3/13/2014	0.09	0.0007	7/22/2016	0.68	0.0031	11/28/2018	0.06	0.0006
7/23/2011	4.56	0.0129	5/11/2014	31.01	0.0628	12/4/2016	15.37	0.0479			
7/24/2011	1.78	0.0091	5/12/2014	6.78	0.0114	12/5/2016	1.11	0.0093			
7/25/2011	0.27	0.0033	5/13/2014	0.73	0.0039						
11/29/2011	24.10	0.0438	5/14/2014	0.10	0.0010						
11/30/2011	7.41	0.0104	6/30/2014	202.78	0.2132						
12/1/2011	0.12	0.0006	7/1/2014	168.11	0.1271						
6/29/2012	53.75	0.0780	7/2/2014	9.63	0.0098				i i		
6/30/2012	7.13	0.0191	7/3/2014	3.69	0.0121						
7/1/2012	7.34	0.0279	7/4/2014	0.87	0.0050						
7/2/2012	0.30	0.0034	7/5/2014	0.15	0.0006						
7/5/2012	22.23	0.0548	9/20/2014	11.17	0.0318						
7/6/2012	1.90	0.0057	9/21/2014	1.84	0.0089						
7/7/2012	0.29	0.0048	9/22/2014	0.21	0.0010						
7/18/2012	20.08	0.0535	10/31/2014	40.66	0.0742						
7/19/2012	6.39	0.0281	11/1/2014	0.72	0.0017						
7/20/2012	0.10	0.0007	11/2/2014	0.14	0.0009						
7/24/2012	100.66	0.1670									
7/25/2012	3.13	0.0074									
7/26/2012	1.49	0.0064									
8/4/2012	93.59	0.1400									
8/5/2012	6.67	0.0135									
8/6/2012	0.25	0.0018									
8/7/2012	0.13	0.0007									