

**THE PUBLIC UTILITIES COMMISSION OF OHIO**

In the Matter of the Filing by Ohio Edison )  
Company, The Cleveland Electric Illuminating )  
Company, and The Toledo Edison Company of ) Case No. 16-481-EL-UNC  
a Grid Modernization Business Plan. )

In the Matter of the Filing by Ohio Edison )  
Company, The Cleveland Electric Illuminating )  
Company, and The Toledo Edison Company ) Case No. 17-2436-EL-UNC  
Application for Approval of a Distribution )  
Platform Modernization Plan. )

In the Matter of the Application of Ohio Edison )  
Company, The Cleveland Electric Illuminating )  
Company, and The Toledo Edison Company to ) Case No. 18-1604-EL-UNC  
Implement Matters Relating to the Tax Cuts and )  
Jobs Act of 2017. )

In the Matter of the Application of Ohio Edison )  
Company, The Cleveland Electric Illuminating )  
Company, and The Toledo Edison Company for ) Case No. 18-1656-EL-ATA  
Approval of a Tariff Change. )

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**DIRECT TESTIMONY OF BRANDON CHILDERS**

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On behalf of Interstate Gas Supply, Inc.

1    **I.    INTRODUCTION AND PURPOSE OF TESTIMONY**

2    **Q.    Please introduce yourself.**

3    A.    My name is Brandon Childers. I am employed by Interstate Gas Supply, Inc.  
4        (“IGS” or “IGS Energy”) as Chief Marketing & Technology Officer. My business  
5        address is 6100 Emerald Parkway, Dublin, Ohio 43016.

6    **Q.    Please describe your educational background and work history.**

7    A.    I have spent most of my 15-year career at IGS Energy where I have held a wide  
8        variety of roles across the organization. I began at IGS as a software engineer  
9        where I led the development of large transaction processing and billing systems  
10       supporting both residential and commercial customers. Eventually, after six years  
11       of hands on software development, I assumed leadership roles over both IT and  
12       Operations, where I oversaw all infrastructure and systems supporting company  
13       operations from sales to operations and accounting. During my most recent two  
14       years, as Chief Marketing & Technology Officer, I have led the organization’s IT,  
15       Marketing, Innovation, and Enterprise Program Management teams, with a  
16       majority of my focus in utilizing technology to deliver innovative new products and  
17       improve customer experiences.

18       I hold a Bachelor of Science in Computer Science & Engineering from The Ohio  
19       State University, where I graduated Magna Cum Laude. I also sit as a board  
20       advisor to a Columbus-based tech startup, Safe Chain.

22     **Q.     What is the nature of IGS' business?**

23     A.     IGS Energy has over 28 years' experience serving customers in Ohio's competitive  
24           markets. IGS Energy serves over 1 million customers nationwide and sells natural  
25           gas and electricity to customers in 11 states across more than 40 utility service  
26           territories. In Ohio, IGS currently serves electric customers in the AEP Ohio, Duke  
27           Energy Ohio, FirstEnergy and the Dayton Power & Light service territories. The  
28           IGS family of companies (which include IGS Generation, IGS Home Services and  
29           IGS CNG Services) also provides customer focused energy solutions that  
30           compliment IGS Energy's core commodity business including distributed  
31           generation, demand response, CNG refueling, back-up generation and utility line  
32           protection.

33     **Q.     What is the purpose of your testimony?**

34     A.     My testimony addresses the provisions included in the Stipulation and  
35           Recommendation filed in this proceeding that would advance the competitive retail  
36           electric market and the Commission's PowerForward initiative. The Stipulation  
37           contains provisions that will reduce the current disconnect between the wholesale  
38           market and the retail market and enable the delivery of innovative products and  
39           services. The Stipulation achieves this result through the utilization of granular  
40           customer energy usage information, access to that information, and the reliance  
41           on market-based principles to deliver these products. Specifically, the Stipulation  
42           recommends the following:

- Wholesale Market Settlements: IGS supports including the capability to calculate wholesale market settlements (energy, capacity, and network service peak load obligations) based upon actual hourly customer energy usage information, otherwise commonly referred to as total hourly energy obligations (“THEO”), peak load contribution (“PLC”), and network service peak load (“NSPL”).
- Data Access Enhancements: IGS supports providing CRES providers with access to customer data through electronic data interchange (“EDI”) transactions, through an Application Program Interface (“API”), and through a Home Area Network (“HAN”) connected to the AMI deployment via qualified devices
- Time-of-Use Rates: IGS supports the option to forego a default service time-of-use rate offering when products utilizing AMI data are readily available in the competitive market.

## **II. WHOLESALE MARKET SETTLEMENTS**

### **Q. What is a PJM Interconnection, LLC (“PJM”) settlement statement?**

A. This is a billing statement provided by PJM to each load serving entity (“LSE”) which settles all charges and credits for market and transmission-related activities between market participants and PJM. PJM relies upon each electric distribution utility to provide customer metered data to calculate these statements.

### **Q. How are PJM settlements currently calculated?**

64 A. Generic load profiles. In other words, the utility estimates each customer's THEO  
65 for each hour. The actual energy usage of the customer is not utilized.

66 **Q. Are there problems with using generic load profiles?**

67 A. Currently, customers are not rewarded for optimizing their energy usage—there is  
68 simply no way to monetize efficient behavior. Furthermore, generic load profiles  
69 have difficulty profiling customers on non-normal days, such as holidays. This often  
70 flows through other adjustments mechanisms, such as Unaccounted For Energy  
71 Loss Factors (UFE). UFE is an unhedgable component for CRES providers and  
72 unpredictable UFE factors may cause CRES providers to bear additional risk.

73 **Q. Does the Stipulation address settlement statements?**

74 A. Yes. The Stipulation provides for the necessary upgrades for wholesale market  
75 settlements, moving away from utilization of generic load profiles to actual  
76 customer energy usage information for each hour.<sup>1</sup> This means FirstEnergy will be  
77 able to use an individual customer's actual hourly energy usage to establish: (1)  
78 total hourly energy obligations ("THEO") (2) each customer's peak load  
79 contribution ("PLC"), and (3) each customer's network service peak load ("NSPL").

80 **Q. Why is it beneficial for customers and CRES providers to have the ability to**  
81 **calculate settlements for individual customers, instead of relying on generic**  
82 **load profiles?**

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<sup>1</sup> Stipulation at 15.

83 A. Once FirstEnergy utilizes THEO to calculate customers' energy and capacity  
84 obligations and incorporates such information into settlement statements, CRES  
85 providers can offer products that will incentivize customers to manage their usage  
86 in accordance with market-based price signals. As a result, there will be less stress  
87 on the electric grid during peak periods and customers may see a reduction in their  
88 electric bills. The more granular the data, the easier it will be for CRES providers  
89 to offer innovative products to customers.

90 **Q. What types of innovative products could be delivered to customers to help**  
91 **them manage their usage in accordance with market-based price signals?**

92 A. Customers can be placed on rate structures that better align their behavior to the  
93 underlying costs. This would include both time of use rates that align charges with  
94 the time of day the energy is being consumed, as well as customized fixed rate  
95 products based on customer-specific energy usage.

96 Furthermore, by providing market-based price signals to customers, CRES  
97 providers and other solutions providers could employ a variety of demand side  
98 management solutions to better shape a customer's load. Examples include  
99 energy monitoring dashboards to aid in behavior changes, behind-the-meter  
100 energy storage, and internet connected devices that control load, such as smart  
101 thermostats, water heaters, and smart appliances.

### 102 **III. DATA ACCESS ENHANCEMENTS**

103 **Q. What is an Application Program Interface ("API")?**

104 A. An API is a set of routines, protocols, and tools for building distributed software  
105 applications. APIs specify the way in which software components interact to  
106 perform operations and exchange data.

107 **Q. What is the difference between API and Electronic Data Interchange (“EDI”)?**

108 A. APIs are utilized for near real-time data operations whereas EDI is typically utilized  
109 for batch operations that transfer data. APIs typically are used to perform  
110 operations and exchange data in a sub-second timeframe, similar to the time it  
111 takes to request a web page in a browser, where EDI is typically used to transmit  
112 data on a delay over minutes, hours, or days.

113 **Q. How can EDI data access enhance the customer electricity experience?**

114 A. EDI is a commonly used method to exchange large amounts of data in batch,  
115 enabling CRES operations for billing and forecasting. Assuming the CRES has  
116 access via EDI to granular usage data, the CRES would be enabled to provide  
117 time of use products to customers.

118 **Q. How can API data access enhance the customer electricity experience?**

119 A. An API would be utilized for interactions requiring immediate response. For  
120 example, a CRES provider would be able to access prospective customer data,  
121 with proper customer consent, in real or near-real time. By providing the CRES  
122 provider with immediate access to a prospective customer’s data, the CRES will  
123 be able to tailor its offerings for the customer based on their actual usage patterns.

124 This includes offering a customized fixed price offer, which would reward  
125 customers with attractive load profiles with better pricing.

126 **Q. What is a Home Area Network (“HAN”)?**

127 A. A HAN is a network within a customer’s home that connects multiple devices for  
128 the purposes of communication, data exchange, and control. In the context of the  
129 Stipulation, it is a dedicated network that enables the connectivity between the  
130 Smart Meter and household devices such as load controllers, smart appliances,  
131 smart thermostats, and in-home displays of energy usage.

132 **Q. How can connectivity to the Smart Meter via a HAN enhance the customer**  
133 **electricity experience?**

134 A. By enabling access to the customer’s Smart Meter via generally accepted  
135 standards (e.g. Smart Energy by Zigbee Alliance), providers with qualified devices  
136 passing technical eligibility requirements can deliver solutions that engage  
137 customers with their energy consumption in real time. Most notably, customers  
138 would be able to choose between options for in-home or mobile app displays of  
139 the home’s usage in almost real-time, ultimately enabling the customer to alter  
140 behavior and lower energy costs.

141 **Q. Are there any other data access provisions in the Stipulation that will provide**  
142 **customer benefits?**



143 A. Yes. FirstEnergy has committed to hosting collaborative meetings including one  
144 specific to data access once per quarter during the term of Grid Mod Phase I.<sup>2</sup> This  
145 will provide an opportunity for stakeholders to discuss any issues that may arise.

146 **IV. TIME-OF-USE RATES**

147 **Q. What are time-of-use rates?**

148 A. Time-of-use rates are rate structures that better align the retail price of energy  
149 charged to a customer with the actual cost of energy at the time it is produced.  
150 Typically, this entails higher prices during peak hours and lower prices during off  
151 peak hours.

152 **Q. Why would customers benefit from time-of-use rates?**

153 A. Customers could benefit from time-of-use rates if they shifted their energy usage  
154 to times when prices are lower, lowering their overall bill, and ultimately reducing  
155 strain on the electric grid. Time-of-use rates will empower customers to have a  
156 choice of the rate structure that best aligns to their needs and behavior.

157 **V. CONCLUSION**

158 **Q. Does this conclude your testimony?**

159 A. Yes, but I reserve the opportunity to further supplement my testimony at a later  
160 date.

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<sup>2</sup> Stipulation at 14.

## **CERTIFICATE OF SERVICE**

The undersigned hereby certifies that a copy of the foregoing Direct Testimony of Brandon Childers was served this the 7th day of December 2018 via electronic mail upon the following:

/s/Bethany Allen  
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Summary: Testimony Direct Testimony of Brandon Childers in Support of the Stipulation and Recommendation electronically filed by Bethany Allen on behalf of Interstate Gas Supply, Inc.