Electricity Restructuring in Michigan:

The Effects to Date of Public Act 141 and Potential Future Challenges

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Overview

With the passage of Public Acts (PAs) 141 and 142 of 2000, the Michigan Legislature ushered in a new era for customers purchasing retail electric supply. Previously, electricity providers in Michigan operated under a natural monopoly market structure whereby utilities—regardless of whether the utility was investor owned, a co-operative, or a municipal corporation—were provided a near-exclusive geographical area of service in return for regulated rates and an obligation to serve all customers in the area. Natural monopolies were believed to be the most effective means of providing reliable and economic service because electricity production is a capital-intensive industry whose elements (generation plants, transmission lines, and local distribution systems) are expensive and durable. Having overlapping development of these costly systems in a given area is inefficient, and the public policy response was therefore to officially "recognize" the monopoly status of local energy providers and highly regulate their rates as a substitute for competition and to constrain monopoly pricing power. The utilities also were required to accept an obligation to supply, transmit, and deliver the commodity to all retail customers, which was sold to the customer in the form of a bundled electric product.

Beginning in the 1990s, however, the monopoly status of power companies to produce electricity was challenged. States with high electricity costs, including Michigan, believed that ending the monopoly status for the supply or generation of electricity would lead to lower prices and more efficient operation of incumbent utility companies. This was an intended purpose of PA 141, which restructured Michigan's electric industry by

- allowing customers to purchase their generation needs from an alternative energy supplier (AES) at a market rate,
- requiring regulated utilities to divest their transmission facilities or join a multistate regional transmission system organization approved by the Federal Energy Regulatory Commission (FERC),
- creating limits on the market share for generation capacity in Michigan's energy market, and
- lowering residential rates by 5 percent while simultaneously freezing any future increases until January 1, 2006.[1]

PA 141 has been in effect for over six years. Since the cap on residential rates has now expired, it is an appropriate time to take a look back at the successes and failures of electric restructuring in Michigan and review the lessons learned. This report will examine the history of PA 141—and its implementation by the Michigan Public Service Commission—and analyze the emerging and significant challenges Michigan's electric choice market will face over the next decade.

[1] Suzanne Lowe, "Electric Industry Restructuring in Michigan," Senate Fiscal Agency, July/August 2000.

Electricity in Michigan Before Public Act 141

Prior to PA 141, the majority of electricity in Michigan was provided by two main companies: Consumers Energy (Consumers) and Detroit Edison (Edison). Together, these two companies supplied approximately 90 percent of the power in the state.[2] Their product offerings (tariffs) were regulated by the Michigan Public Service Commission (MPSC), which established rates for customers that included an allowed rate of return on investment for the power companies.

In return for their monopoly status, incumbent utilities accepted an obligation to serve all customers who requested service and were willing to pay the regulated rates. In practice, this meant that incumbent utilities were required to possess the necessary generating capacity or purchase electricity from other utilities to serve all retail customers within their assigned service territories. As will be discussed below, it is not clear how or if this obligation to serve has been changed by the implementation of PA 141. The uncertainty regarding the scope of a utility's obligation to serve under PA 141 is a primary failure of the law's implementation and is a significant stumbling block to the creation of an actual market for electricity in the state.

PA 141 altered this long-standing regulatory framework by allowing alternative electric suppliers (AESs) to sell energy to willing retail customers using incumbent utility distribution lines and the transmission lines of the newly formed, independent transmission companies. Unlike most other states that restructured at the time, in Michigan electric generation facilities owned by incumbent utilities remained regulated. In particular, regulated utilities retained an obligation to serve (at a regulated rate) any customer that

- chose to remain with the incumbent utility or returned to the incumbent from an AES, or
- left the incumbent utility and now purchases electricity directly from an AES.

The regulated rate structure in place before the implementation of PA 141 was both "bundled" and "skewed." A bundled rate combines all of the various charges associated with electric service (generation, transmission, and distribution) into a single rate or charge. Skewing refers to the fact that regulated rates for rate classes (residential, commercial, and industrial) are not set at actual cost; rather, some rates are intentionally set above cost (in Michigan, commercial and industrial rates) to allow others to be set below cost (residential rates). According to the MPSC, "Current full-service rates reflect the commission's long-standing policy of having commercial and industrial (C&I) customers provide residential customers with an interclass subsidy."[3] Specifically, regulated residential rates were set at approximately 10 to 20 percent below the actual cost of providing service, while commercial rates for regulated utilities were set at 10 to 20 percent above the cost of service. These skewed rates were *not changed* by PA 141, or by subsequent MPSC rulings, and therefore continue to distort the market since regulated prices offered to customers do not reflect the actual costs of electric service.

[2] Mark Hornbeck and Charlie Cain, "Energy Choices Falter in Michigan," *The Detroit News*, June 5, 2005.
[3] Michigan Public Service Commission, Case No. U-14399, p. 32.

Industrial rates more closely approximated the actual cost to serve in part because large industrial customers have historically been in a better position to influence their rates in the rate setting process. This is accomplished through a variety of means including, but not limited to, negotiation with the utilities (resulting in the past in special contracts or today in new low rate tariffs approved by the MPSC), "litigating" through the administrative ratemaking process, and using the considerable political capital possessed by large employers in the state.

Challenges Presented by Electric Restructuring

Ending the monopoly supply of electricity presents difficulties for policymakers. One challenge is the issue of stranded costs—those costs incurred by regulated entities prior to competition to meet their obligation to serve which become "stranded" or unrecovered due to customers leaving the utility for an AES. As customers shift to AESs, regulated utilities find themselves potentially unable to recoup the cost of business decisions made prior to the switch. Recovery of the costs of these business decisions (such as power plant construction) was permitted by the regulators during the monopoly period after a standardized review. Michigan PA 142 attempted to address part of the stranded-cost issue by allowing Consumers and Edison to securitize, or refinance, certain stranded costs in bonds worth $2.2 billion. PA 141 required these bonds to be paid off through a *non-bypassable* surcharge paid by customers of both incumbent utilities and AESs. As will be discussed later, subsequent decisions by the MPSC allowed this charge to be effectively bypassed by choice customers thus creating an "artificial incentive"[4] for leaving a regulated utility.

In addition to stranded costs, the introduction of customer choice creates the incentive for the "cherry picking" of larger, higher-margin credit-worthy customers by new entrants. In Michigan, these customers are the midsized and larger commercial and industrial clients paying regulated rates that were higher than the actual cost to serve them—a function of Michigan's skewed rates for these rate classes—and not individual residential customers. This issue of new entrants targeting higher-margin customers paying skewed rates was exacerbated by a series of subsidies and credits created by the MPSC early in the implementation of PA 141 that artificially increased the attractiveness of entering the choice program.

Another challenge is defining the regulated utility's ongoing service obligations, including long-term supply reserve obligations, in a regulatory framework where customers are free to choose an alternative supplier and alternative suppliers are allowed to choose which customers they wish to do business with. The traditional regulatory framework is one where utilities accept an obligation to provide electricity to all potential customers, usually in a given geographic service area. This obligation to serve a defined set of customers is one factor used by utilities to determine the necessary supply and reserve production capacity to maintain reliable service—which in turn determines future investments in equipment by utilities.

Today, AESs, which have no obligation to serve, enter into fixed-term contracts with customers of their choosing and are allowed to decline to serve customers seeking energy if it is not in their business interests. This grants an AES a great deal of freedom to accept only high-margin, credit-worthy customers and to develop generating capacity or

[4] PSC is using the term "artificial incentives" because while the incentives were quite real to customers—as actual savings through payments and/or credits against balances due to utilities—they were not created through natural market forces, but rather through the nonmarket (artificial) actions of government policies.

purchase electric supply to match actual, not potential, demand. When a customer chooses to leave an AES, regulated utilities must accept them back under return to service rules established by the MPSC. In other words, regulated utilities are required to either maintain excess generating capacity for customers that may or may not return—and spread the costs of this excess generating capacity across their remaining customers—or to purchase electric power at market prices while giving the customer a rate based on the average costs of the entire utility. Either way, the regulated utility is required to operate in a higher-cost, less efficient manner, the higher cost of which is not passed on to the returning customer. This is a fundamental disconnect between price and purchasing decisions for the returning customer that disrupts the ability of the market to send signals through prices. In addition, this regulatory structure requires regulated utilities to be prepared to serve a customer base with an unknown number of actual customers on a year-to-year basis, which in turn makes decisions about future capital investments more difficult.

This current framework is not economically sustainable in the long run. Requiring only regulated utilities to maintain excess capacity or sell the excess capacity only to buy at a higher market rate upon the return of a customer creates an uneven playing field in favor of AESs. The PA 141 regulatory model provides participating customers the benefit of choosing between the lower of market prices or regulated full service rates. When competitive market prices are low customers can leave their incumbent utility and purchase power directly from an AES, but when competitive market prices are high incumbent utilities are **required** to take them back as part of their obligation to serve. It is a question of public policy for Michigan as to how to deal with this. Implementing tenets of economic theory gives the state with a number of choices along a policy spectrum. At one extreme, the state can move toward a truly competitive market—where no company has an obligation to serve and economic theory holds that reliability will likely decrease along with price. At the other end of the policy spectrum, Michigan can return to a fully regulated framework with no consumer choice, and, again according to economic theory, increased reliability. Between these two extremes are a range of hybrid choices to restructure the market—as PA 141 attempted to do—with a mix of competitive and regulated models.

It is beyond the scope of this project to state which of these paths is correct or how precisely the price of electricity or reliability of the electric supply may ultimately be affected. What is clear, however, is that the current partially deregulated status of PA 141 is not sustainable, does have an impact on reliability, and causes regulated utilities to operate in a less than efficient manner.

Initial Effects of PA 141

Due to the different treatment of classes of customers under PA 141 and continuing MSPC rulings, the law's effects have been dramatically different between business and residential customers. Evaluating PA 141's effect on customers is thus best accomplished by examining the law's effect on each of these different rate classes. In addition, PA 141 can be evaluated based on the size and depth of choice offerings available to customers.

RESIDENTIAL CUSTOMERS

As was previously discussed, regulated rates in Michigan have historically been skewed in favor of residential customers. This long-standing regulatory framework was not changed by PA 141 or by subsequent MPSC rate cases. In addition to this subsidy, PA 141 enacted an immediate 5 percent rate reduction for residential customers that remained in effect until December 31, 2005.

This price reduction and multi-year rate cap has been extremely beneficial to residential customers in Michigan, as nationwide inflation in energy costs over this period has exceeded 20 percent and the consumer price index during the same period has increased 9.7 percent.[5] On the other hand, this six-year freeze and cap on regulated rates is a primary reason for the lack of the development of a choice market for residential customers, a situation made worse with rate skewing. Quite simply, the regulated rates being charged these customers were too low to attract AESs. This together with credit worthiness and load type has resulted in almost no residential customers participating in the choice program and no AESs actively marketing to the residential customer base. This was to be expected. Richard Mattoon of the Chicago Federal Reserve said, "If the price is set artificially low, new entrants to this competitive market will not appear, since the margin will not be sufficient for them to capture customers. This will undermine the development of a competitive market."[6]

December 31, 2005, marked the end of the rate cap on regulated residential electricity rates. For the first time since the passage of PA 141, residential customers in Michigan experienced increased electricity rates:

- In 2004, the MPSC granted Edison an increase of $335.8 million.[7] Edison had requested base rate increases of $582.8 million, most of which was related to the effects of PA 141 and the costs of required investments related to environmental issues. The MPSC order granted the rate increase, spread evenly across all rate classes, but delayed the increase in residential rates until after the rate cap expired on January 1, 2006—when residential rates increased 12.5 percent.
- In 2005, the MPSC granted Consumers a rate increase of $86 million[8]—71 percent less than the $320 million initially requested by the company.[9] In this order the

[5] Public Sector Consultants calculations used Bureau of Labor Statistics CPI data.
[6] Richard Mattoon, "The electricity system at the crossroads—policy choices and pitfalls," *Economic Perspectives*, Chicago Federal Reserve, 1Q, 2002.
[7] Case U-13808.
[8] Case U-14347.

MPSC also declined to begin the process of de-skewing rates as requested by Consumers. In a separate case,[10] the MPSC approved the recovery of $333.4 million of deferred investment costs over a five year period for Consumers; deferral of these costs was required by PA 141. The rate increases from both of these Consumers cases for residential customers were delayed until January 1, 2006, when the effect for customers was a combined 9.8 percent increase in residential rates.

BUSINESS CUSTOMERS

Unlike residential customers, business customers have taken advantage of choice in much larger numbers. During 2005, about 15,000 of the 3.7 million customers of Edison and Consumers participated in the choice program, representing about 12 percent of energy sales in the Edison and Consumers territories.[11] Essentially all the participants in these programs are in either the commercial or industrial class. In the Consumers' service area, the mix of choice participants is roughly 35 percent commercial and 65 percent industrial. This mix is nearly the opposite in Edison's service area, with approximately 25 percent of choice sales to industrial clients and 75 percent to commercial clients.[12]

As previously discussed, commercial customers in Michigan have traditionally paid regulated rates that are measurably above the actual cost to serve them.[13] As a result of both the size of contracts and skewed rates, customers in these classes became an immediate target of AESs with the passage of PA 141. Allowing commercial clients to escape the forced subsidization of residential customers has been one significant benefit of PA 141 to commercial customers. The problem, however, is that a series of MPSC decisions have allowed commercial and industrial customers in the choice program to enjoy even greater "savings" than simply those created by skewed rates. Specifically, choice customers were allowed (for a period of time) to enjoy freedom from the supposedly non-bypassable surcharge created by securitization and refinancing under PA 142, and choice customers also received a credit equivalent to the regulated customer's rate cap savings.

DEVELOPMENT OF CHOICE MARKET

One goal of PA 141 was the development of a vibrant market for electricity generation in the state. As has been stated above, very few residential customers in Michigan currently receive service from AESs, even though a number of AESs have been licensed by the MPSC to offer service. Instead, most AESs serve only business customers in the state. Exhibit 1 details the number and size of AESs operating in Consumers' territory. Exhibit 2 offers the same information for Edison's territory.

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[9] *Megawatt Daily,* "Michigan PSC Slices Consumers' Rate Request," December 23, 2005.
[10] Case U-14148.
[11] Michigan Public Service Commission, "Status of Electric Competition in Michigan," February 1, 2006, p. 2.
[12] *Ibid.,* pp. 3–4.
[13] Small commercial customer rates were capped until December 31, 2004, and all other customers received a rate freeze until December 31, 2003.

EXHIBIT 1
Number and Size of AESs Operating in Consumers' Territory

AES Name[1]	Number of Customers 2001	2002	2003	2004	2005	Megawatts Served 2001	2002	2003	2004	2005
CMS M&T	0	0	2	2	2	0	0	2	2	2
Constellation	0	0	183	477	671	0	0	61	229	151
MidAmerican					4					1
Mirant[2]	0	0	4	0	0	0	0	22	0	0
Nordic[3]	0	4	18	16	12	0	25	35	33	8
Quest	327	467	494	314	96	217	380	411	395	105
Sempra	0	0	9	55	43	0	0	13	47	49
Strategic	0	0	89	591	323	0	0	9	99	46
Wolverine Power	2	5	15	18	21	9	43	105	121	157
WPS	0	0	0	0	21	0	0	0	0	32
Total	**329**	**563**	**814**	**1,473**	**1,193**	**226**	**473**	**658**	**926**	**552**

SOURCE: Michigan Public Service Commission, "Status of Electric Competition in Michigan," February 1, 2006, attachment 1.

[1]Companies not actively serving customers since 2002 are not included in this table. Totals for 2002 include 87 customers and 25 MW served by companies that have since exited the Consumers Energy market. By 2003, those customers either switched to another AES or returned to full service from Consumers Energy.

[2]On July 14, 2003, Mirant America Retail Energy Marketing, LP, filed for Chapter 11 bankruptcy.

[3]The companies formerly known as Nordic Energy and Nordic Electric were restructured in 2004. Nordic operated in Michigan as both Nordic Marketing, LLC, and Nordic Marketing of Michigan, LLC, after that time. For purposes of this report, all Nordic Companies are combined in this one row.

EXHIBIT 2
Number and Size of AESs Operating in Detroit Edison's Territory

AES Name[1]	Number of Customers 2001	2002	2003	2004	2005	Megawatts Served 2001	2002	2003	2004	2005
CMS MST Michigan, LLC	11	11	11	11	11	261	261	261	261	261
Commerce[2]	0	953	3,420	4,663	3,070	0	35	181	215	104
Constellation	0	0	1,325	1,881		0	0	303	356	532
Cook Inlet	0	9	9	9		0	86	86	86	0
Dillon	0	0	149	136		0	0	33	28	<1
Dynergy	0	0	10	0		0	0	5	0	0
Energy International	0	73	773	1,231	613	0	5	36	55	28
Exelon	0	0	0	0	42	0	0	0	0	8
FirstEnergy Solutions	0	5	952	1,234	956	0	3	171	180	118
Metro Energy	0	2	2	2	2	0	13	13	13	13
MidAmerican	0	0	0	66	806	0	0	0	4	31
Mirant[2]	0	0	6	0	0	0	0	8	0	0
Nicor/EMC	246	1,012	66	10	0	18	169	4	1	0
Nordic[3]	1,159	1,312	1,718	1,838	10	77	107	162	140	<1

AES Name[1]	Number of Customers 2001	2002	2003	2004	2005	Megawatts Served 2001	2002	2003	2004	2005
Premier	0	0	327	632	207	0	0	53	77	19
Quest	620	1,287	1,477	1,262	774	141	325	422	347	104
Sempra	0	33	98	162	16	0	26	59	80	5
Strategic	0	0	2,000	4,095	3,068	0	0	245	475	237
Wolverine	0	2	2	2	2	0	13	13	13	13
WPS	0	0	4	7	503	0	0	15	45	49
Total	**2,036**	**5,198[1]**	**12,349**	**17,241**	**13,664**	**497**	**1,138[1]**	**2,070**	**2,378[4]**	**1,524**

SOURCE: Michigan Public Service Commission, "Status of Electric Competition in Michigan," February 1, 2006, attachment 4.

[1]Companies not actively serving customers since 2002 are not included in this table. Totals for 2002 include 87 customers and 25 MW served by companies that have since exited the Consumers Energy market. By 2003, those customers either switched to another AES or returned to full service from Consumers Energy.

[2]In 2005, Electric-American changed the company name to Commerce Energy Inc. On July 14, 2003, Mirant America Retail Energy Marketing, LP, filed for Chapter 11 bankruptcy.

[3]The companies formerly known as Nordic Energy and Nordic Electric were restructured in 2004. Nordic operated in Michigan as both Nordic Marketing, LLC, and Nordic Marketing of Michigan, LLC, after that time. For purposes of this report, all Nordic Companies are combined in this one row.

[4]Total does not add correctly due to rounding.

Many of the initial incentives attracting commercial customers to AESs were a result of MPSC-created credits and interclass subsidies. Figures from 2005 indicate that the size of the choice program has decreased throughout the year. From January to December 2005, there was a 40 percent decrease in the electricity provided by AESs in Consumers' territory and 20 percent decline in Edison's territory.[14] Portions of this decline were most likely caused by the cessation of some of these artificial incentives favoring AESs, fuel cost increases to the AESs passed along to choice customers as multi-year electricity contracts expired and were renewed, and federal regulatory decisions that have led to increased transmission costs that more greatly affect those AESs that rely on imported electricity to serve their customers.

[14] Michigan Public Service Commission, "Status of Electricity Competition in Michigan," February 1, 2006, pp. 3–4.

What Has PA 141 Taught Michigan About Price Signals?

Put plainly, PA 141 has taught Michigan that accurate, cost-based price signals do matter—particularly if legislation is intended to create an open and competitive market. In competitive markets, prices contain a vast amount of information, including some information about the quality and/or reliability of products. Customers use the information to make more informed purchasing decisions. If prices are artificially restrained, inflated, or subsidized, it is difficult for the market to operate efficiently.

ARTIFICIAL INCENTIVES CREATED BY THE IMPLEMENTATION OF PA 141

Economic theory underpinning the deregulation of natural monopolies suggests that savings to customers should be provided by the market, not by artificial government decisions. During the initial implementation of PA 141, however, many of the "savings" enjoyed by choice customers were created by the MPSC's handling of savings created through securitization. Pursuant to PA 142, Edison and Consumers securitized and refinanced certain costs and assets in order to minimize stranded costs. Both companies refinanced nuclear plant assets using debt financing with AAA-rated bonds.

Savings generated by these financing activities were used to provide the 5 percent residential rate reductions required by PA 141. However, the refinancing of Edison's assets provided sufficient savings to also reduce commercial and industrial rates by 5 percent and to fund a statewide Low Income and Energy Efficiency Fund up to $50 million per year (with approximately $20–30 million per year of residual savings).

The additional savings could have been used by the MPSC to either lower the rates for full-service customers of regulated utilities or to create savings for choice customers. In cases that implemented PA 141, the MPSC chose the latter and created artificial incentives for customers to enter the choice program. Specifically, it created two credits for these choice customers:

- A credit equivalent to the 5 percent rate reduction received by the customers of regulated utilities[15]
- A credit equal to the statutorily required non-bypassable securitization charge, which effectively allowed choice customers to waive a supposedly mandatory charge

In total, choice customers received greater benefits from refinancing than full-service customers, while bypassing the non-bypassable charge. In addition, distribution rates initially established by the MPSC under PA 141 for choice customers were not equal to the distribution rates charged to full-service customers. Through a combination of skewed regulated rates, nonequal distribution rates, rate reduction, and securitization credits, the

[15] This credit, since it was based on a 5 percent rate reduction for a higher priced service, resulted in even greater benefit to choice customers.

MPSC initially created a large artificial incentive for customers to take "advantage" of choice.

In a February 2004 decision, the MPSC removed some of the incentives for Edison customers to purchase electricity from an AES by ending the application of the two credits funded by the residual securitization savings and authorizing Edison to collect $44 million in stranded-cost charges allowed by PA 141. These changes, along with the increased market price of electricity, have eliminated some of the savings gained by switching to an AES, causing some choice customers to return to their former regulated utility. Even with skewed rates, the elimination of the credits and the increased price of electric generation meant that regulated rates were lower than the newer rates the AESs were charging.[16] It can be safely assumed that eliminating the skewed rates, and thus lowering the regulated rates paid by commercial customers, would entice more commercial customers to return to regulated utilities.

FROZEN AND SKEWED PRICES LIMITING COMPETITION

The subsidized and frozen prices have made it difficult for a truly competitive market to emerge for residential customers. Skewed regulated rates still remain in Michigan and continue to create an uneven playing field favoring AESs. The higher-than-cost regulated rates charged to commercial customers provide "artificial" headroom (the difference between the skewed rate and the incumbent's actual cost of production) for AESs to entice customers to participate in that choice program. For this reason, regulated utilities have requested that the MPSC de-skew the rate structure and phase out the long-standing cross-subsidization between business and residential customers.

In a December 22, 2005, rate case, the MPSC denied the regulated utilities initial attempt to phase out the residential subsidies present in the current regulated rates. In their decision, the MPSC said that "the Commission is not convinced that all customers should eventually pay rates that are based solely on the cost to serve them."[17] If policymakers are determined to establish a competitive market for electricity in the state, it is *critical* that prices are based on the cost to serve each class of customer. When regulated rates are not based on cost of service, regulators are creating artificial incentives for customers to enter the choice program. In the December 22, 2005, decision the MPSC openly stated that "C&I choice customers do not currently participate in paying the residential subsidy; nor do they pay their full distribution cost." When this is the case, it is impossible for regulated utilities to compete on a level playing field with AESs.

[16] Hornbeck and Cain, "Energy Choices Falter in Michigan."
[17] Michigan Public Service Commission, Case No. U-14399, p. 33.

Future Challenges to PA 141

DE-SKEWING

A critical development that will affect the success or failure of PA 141 to create a competitive electric market is de-skewing regulated rates. Until the market-based rates of AESs are competing with an incumbent utility's true costs to serve each rate class, AESs are competing against the upwardly skewed rates of an incumbent utility for commercial and industrial rate classes—which favors AESs—and against the downwardly skewed rates of incumbent utilities for the residential rate class—which favors the incumbents.

The process of de-skewing will dramatically change the landscape of electric choice in Michigan and will affect the competitiveness of the state's electric market. The most obvious results of de-skewing will be an increase in the rates charged to residential customers and a decrease in nonresidential rates, likely over a period of several years. This increase in the residential rate will do more than simply raise the electric bills of Michigan residents, it could also create the conditions necessary for AESs to market their services to residential customers for the first time. As regulated residential rates increase toward the actual cost to serve residential customers, there will be an increased incentive that attracts AESs to serve these customers.

De-skewing also will lower the rates charged to business customers, who will no longer be subsidizing residential customers. These lower rates will strip AESs of some of the noncost-related price advantage they currently possess, which will allow more fair competition to emerge. Ultimately, however, de-skewing alone will not lead to a truly free market as long as regulated utilities maintain an obligation to serve. This obligation will continue to act as an implicit tax on regulated utilities, increasing the cost of electricity generation for these companies.

UNBUNDLING

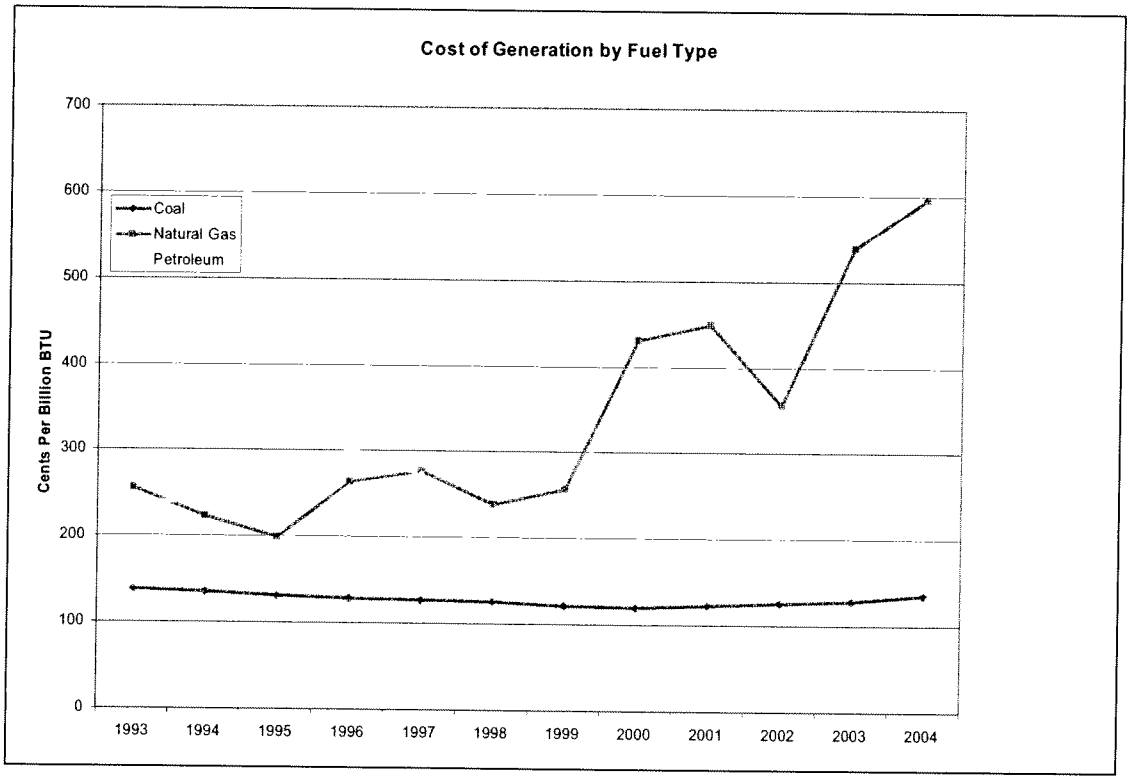
Prior to PA 141, electricity was provided as a bundled service. Incumbent utilities charged a rate that covered the generation, transmission, and distribution of power. PA 141, however, required incumbent utilities either to divest their transmission facilities or join a multistate regional transmission organization approved by the FERC. PA 141 also required regulated utilities to unbundle these services and provide electric bills that break out the costs of generation, transmission, and distribution. The functional separation of previously integrated services will allow small AESs to compete with larger incumbent utilities by permitting customers to use alternative generation suppliers. In addition, the disaggregated electric bills provide customers with more complete information to make informed decisions in choosing an energy supplier.

NATURAL GAS PRICES

Most AESs active in Michigan utilize natural gas power plants or purchase energy from the wholesale market from producers (including Consumers and Edison). For the AES-owned generation facilities, the cost of producing electricity is often determined by the current market price for natural gas. Thus, while these power plants are cheaper to build than coal-fueled plants, they are inherently more susceptible to changes in the market for

natural gas. Michigan's regulated utilities, however, rely more heavily on coal-powered plants, which are costly to build and difficult to site, but significantly less expensive to operate. Exhibit 3 highlights the difference in the cost of fuel for electric production. As the exhibit clearly shows, natural gas—which has been more expensive than coal since 1992—has dramatically increased in cost since 1999.

EXHIBIT 3
Cost of Generation, by Fuel Type



SOURCE: Energy Information Administration, Form EIA-423, "Monthly Cost and Quality of Fuels for Electric Plants Report," Federal Energy Regulatory Commission, FERC Form 423, "Monthly Report of Cost and Quality of Fuels for Electric Plants, November 2005.

If AES rates continue to rise in concert with price changes in the wholesale electric market (not to mention natural gas prices) while regulated utilities' rates fall as the residential subsidy potentially ends, the development of a large number of viable electricity suppliers may be significantly hampered.[18] Economic theory suggests, however, that one of two things will happen. If coal-powered incumbent utilities are able to generate an economic profit, a coal-powered AES attracted to that profit could emerge. As will be discussed later, the construction of a coal-powered plant will be difficult and costly in either a totally deregulated environment or Michigan's current regulatory environment because of increased uncertainty about revenue streams; no capital (or at

[18] While the December 22, 2005, rate case did not begin a process of de-skewing, it is hard to imagine the continuation of subsidized rates in a quasi-competitive environment. Either some changes must be made to the subsidization process or to the choice program.

least no affordable capital) will be available without long-term contracts for power or a guaranteed customer base. This uncertainty will, most likely, decrease the bond rating for such construction and increase the costs. But the potential profit available to the operator of such a plant (coming from the spread between the costs of producing electricity with natural gas versus coal) may attract such new entrants to the market. The other possibility is that no new entrant will emerge because regulated utilities are not generating an economic (as opposed to accounting) profit. In either case, economic theory suggests the threat of competition will act as a market force to lower prices even without the physical presence of an alternative.

OBLIGATION TO SERVE

A significant benefit of the regulated natural monopoly framework is the reliability of the service provided. Regulated utilities accepted an obligation to serve all customers willing to pay the regulated rates. In addition, customers received a reliable power supply at predictable rates. As competition emerges, will incumbent utilities be forced to continue this obligation to serve without any similar obligation among AESs? Allowing this uneven playing field to continue will be a significant hindrance to a competitive market for electricity. The obligation to serve requires regulated utilities to maintain excess generating capacity for customers who may never return from the choice program. In this way the obligation operates as an implicit tax on regulated utilities with the burden of the tax being determined solely by the fact that these utilities were formerly regulated monopolies.

Under a true deregulated framework, obligation to serve by the incumbent utility switches from an obligation to *provide* and deliver power to an obligation to *connect* and deliver power from alternative sources to customers. This switch would allow incumbent utilities to maintain the same competitive advantage currently enjoyed by AESs—that is, an ability to provide power for their current and *likely* customers without having to provide power for all *possible* customers. In Michigan, however, generation was not deregulated and the regulated utilities are still required by the MPSC to provide service for all customers. With adequate notice, choice participants have the right to return to the full service at regulated rates. The terms by which a choice customer may return to the incumbent utility are critical to the ability of incumbent utilities in Michigan to effectively compete against AESs. If they are required to maintain excess capacity for all customers in their service area or buy at market prices upon the return of choice customers, it will lead to inefficiencies, thereby increasing costs and making it more difficult for them to be price competitive with AESs.

The ultimate resolution of the obligation to serve issue must reflect the determination of a broader public policy decision. Prior to PA 141, Michigan's obligation to serve was a mutual agreement: customers were obligated to purchase electricity from the regulated utility, and the utility was required to serve all customers with rates approved by the MPSC. After PA 141, Michigan has attempted to have the benefits of competition (lower short-term prices) combined with one of the benefits of a regulated monopoly (affordable, long-term, reliable access to power), but the obligation to serve has shifted. Customers—especially commercial and industrial customers—can choose from a number of electricity suppliers, but the regulated utilities are still required to serve all *potential*

customers in their area with rates approved by the MPSC. This attempt at the "best of both worlds" is unsustainable, and thus policymakers must decide on their ultimate priorities regarding the future of the electricity generation and distribution market in Michigan.

RELIABILITY

Another benefit of a regulated natural monopoly is the significant increase in reliability over an unregulated market system. Natural monopoly utilities, with a guaranteed customer base and maximum allowed profit margin (and thus no competitors pushing them to cut costs) easily achieved fully reliable service through significant and regular expenditures on things such as customer service and maintenance. Under a competitive market, however, these are the first areas that utilities feel they can easily cut. Thus, a competitive market *can* lead to decreased reliability for consumers. An interim report from the Department of Energy states, "In anticipation of competitive markets, some utilities have adopted a strategy of cost cutting that involves reduced spending on reliability ... the overall effect has been that the infrastructure for reliability assurance has been considerably eroded."[19]

In Michigan, the mixed nature of the market—incumbent utilities that retain an obligation to serve and AES competitors that do not—creates incentives that exacerbate this problem. Forced to maintain capacity for customers that may never return from the choice program while simultaneously attempting to price-compete with AESs requires incumbent utilities to cut costs through decreased employment levels and expenditures on maintenance services. In many ways the reliability of the natural monopoly system comes from an implicit forced insurance program paid for by customers. Higher costs incurred under a natural monopoly system are required to fund the redundant generating capacity necessary for fully reliable service. Decreased reliability is not, per se, a negative outcome if customers face lower prices that outweigh the costs from increased reliability risks. Policymakers must decide if the increased costs are justified by the benefit of the increased reliability of a natural monopoly system.

Another reliability issue is the maintenance of adequate reserve capacity to maintain dependable electric supply. Currently, the Midwest Independent Transmission System Operator system only requires AESs to maintain a reserve ratio of 4 percent, which is much lower than the 10 to 20 percent reserve ratio generally maintained by Michigan's regulated utilities.[20] In addition, the MPSC does not have the authority to require AESs to maintain adequate reserve capacity. By granting such authority to the MPSC, lawmakers could create increased reliability for all utilities. As long as the reserve requirements are different for AESs and regulated utilities, those requirements become another barrier to a truly competitive market. Regardless of what the proper reserve level is, applying the same reserve ratios to all electric producers does not infringe on competition.

[19] United States Department of Energy, "Interim Report of U.S. Department of Energy's Power Outage Study Team," DOE, January 2000.
[20] Michigan Public Service Commission, "Status of Electric Competition in Michigan," January 31, 2005.

INCREASING ELECTRICITY DEMANDS

The recently completed Capacity Needs Forum (CNF) estimates that electric power demand in Michigan will increase at a rate of 2.1 percent a year over the next 20 years. In order to meet this growing demand, the CNF recommends (among other things) the construction of one, and possibly two, baseload coal power plants in the state.[21] No major power plant has been constructed in Michigan in the last 16 years.[22] In November 2005, Edison speculated about its potential interest in constructing a new baseload plant, but cautioned that the regulatory framework established under PA 141 may hinder its ability to participate in such a project.[23] When the project received MPSC approval, previous construction of such plants by regulated utilities was financed through bonds that were paid off by a guaranteed revenue stream generated by increased rates for electricity. The expense of building these baseload plants is one of the primary justifications for a regulated natural monopoly framework. With a specified return on investment, utilities were willing to undertake the risk involved with building capital-intensive generating plants costing billions of dollars. The construction of these plants was viewed as a public good.

Under a deregulated framework, however, it is not clear what utility (if any) would be willing to undertake the risk involved in the construction of these facilities. Without the assurance of a defined service area and the predictable and sustained return on investment, it would be significantly more difficult to obtain the financing necessary to construct a capital-intensive baseload generating capacity. According to the CNF, "a new baseload generating plant is unlikely to be financed or built without ratemaking changes to support construction."[24]

While uncertainty does decrease the likelihood of capital-intensive plant construction, if these plants (with their low operating costs) allow producers to receive prices comparable with natural gas–powered merchant plants, it is possible that someone will undertake the risk involved with the construction. It is clear that if this were to occur, such construction would be more costly than under a regulated framework due to higher financing costs brought about by uncertainty.

ADDITIONAL FUTURE SCENARIOS

There are several potential scenarios that could dramatically alter the electricity generation and distribution market moving forward and thus change any analysis of the effect of PA 141. These additional scenarios are beyond the scope of this analysis, but are presented here for purposes of discussion.

The first scenario is that one or both of the incumbent utilities is taken over by a utility from outside of the state. The changes in revenue streams brought about by PA 141—and

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[21] A baseload power plant is a plant that continuously operates and provides the minimum level of power needed by the system. These plants are highly capital intensive but have low operating costs. In Michigan, baseload power plants are either coal or nuclear. They are continuously operated regardless of spikes in demand.

[22] Hornbeck and Cain, "Energy Choices Falter in Michigan."

[23] *Electric Power Daily,* "Edison Mulls New Baseload Plant in Michigan," November 9, 2005.

[24] George Stojic, "Final Report of the Capacity Needs Forum: Memorandum," January 3, 2006, p. 2.

the geographic scope of Michigan's two largest regulated utilities—together with the repeal of the Public Utility Holding Company Act (PUHCA) have caused some analysts to believe that Michigan's public utilities are now potential targets for takeover. This could lead to increased pressure to cut costs in the maintenance and operations portion of the utility as well as to strip Michigan of some of its political leverage against a larger electric company with headquarters in a different state.

A second potential scenario is a change in the current spread between the cost of natural gas and coal prices. As long as natural gas remains significantly more expensive than coal, the ability of AESs to achieve long-term market share is hampered. On a cost-competitive basis, these providers—who are almost entirely dependent on natural gas production—are less attractive than incumbent utilities and their coal-fired plants. Similarly, if the difference in price between long-term generation contracts and higher short-term/spot market prices remains, AESs that purchase electricity from the wholesale market will also be less attractive on a cost-competitive basis. If this spread changes, the dynamics of this competition will be significantly altered. Either way, it is clear that a significant external factor to the Michigan electric market will be these fuel prices.

Has PA 141 Worked?

Judging the efficacy of PA 141 truly depends on the metric. For example, if the question is: Has PA 141 lowered residential electric rates? The answer in terms of real prices and the short term is unequivocally "yes." Rates for residential customers were immediately lowered in 2000 by PA 141 and then frozen or capped through the end of 2005. Thus, in real terms, residential customers have been economically better off over this period. But this rate freeze is clearly not a long-term means of creating lower electric rates. Upon the expiration of the residential rate cap, these customers were subjected to their first rate increases in six years. In addition, if the rate de-skewing process eventually begins, these residential customers may see greater increases in their rates than would have existed absent PA 141 (assuming no de-skewing occurred).

Judging PA 141 by its short-term effect on residential prices is, at best, an incomplete analysis of the success of the program. A more accurate question is: Has PA 141 lowered residential rates through competition? The answer here is unequivocally "no." In Michigan, regulated rates in the residential market were shielded from any competitive influences by skewing and the rate cut and cap. Thus it is not clear what will happen when or if AESs are inevitably enticed into the residential market. As the rate cap is removed and de-skewing occurs, more market incentives will be created, and for the first time there should be a real opportunity for residential customers to participate in the choice program.

While some regulated utilities argue that residential customers will never be attractive to an AES because of their low electricity usage compared to larger business customers, residential customers could make themselves more attractive to AESs by aggregating into blocs of customers who will switch suppliers. These blocs could naturally spring from already existing organizations such as neighborhood associations, subdivisions, or even small local-government entities.

Despite the fact that choice has not substantially affected residential customers, nearly 15 percent of business sales in 2005 were from alternative energy providers. This is a significant change from the pre-PA 141 world, and this shift has gotten the attention of the incumbent utilities. Currently, the jury is still out on whether the same number of firms will remain in the choice program in the absence of credits and rate skewing and whether this competition will ultimately lead to lower prices and increased efficiency in Michigan's electric market. Recent rate decisions by the MPSC eliminating the credits and allowing incumbent utilities to impose fees on all customers, regardless of whether they are bundled or choice customers, will make it more difficult for AESs to compete for business customers. In addition to the MPSC rate decisions, rising fuel costs have currently made AESs a less attractive alternative for customers and recent evidence points to a decline in market share for AESs.

Conclusion

Overall, it is clear that PA 141 is a flawed attempt at restructuring Michigan's electricity market. While the flaws stem from many sources, a primary source is the incomplete nature of the reform. In an attempt to garner the benefits of a free-market system while shielding Michigan residents from any potential costs, PA 141 only serves to create an economically unsustainable system. The challenges presented by the legislation have been exacerbated by the MPSC's early implementation decisions, in which explicit attempts to develop artificial incentives for consumers to move to the choice program were combined with a long-standing price distortion in the form of skewed regulated rates.

The recent attrition of customers enrolled in the choice program following the end of some of these MPSC-developed incentives suggests that at least a portion of the success of the choice program (as measured by the number of customers participating) was due to artificial incentives and not actual competition.

At this time, we are unable to state definitively whether the choice program has been a success. In the residential sector, customers recently experienced their first regulated rate increase since the passage of PA 141. The price increases occurring over the next several years, combined with the potential de-skewing of rates, may allow the choice program to become a viable alternative for residential customers. It is unclear, however, whether this market will develop, because wholesale market-based and natural gas–based AESs may be unable to effectively price-compete with regulated utilities without the presence of MPSC-developed incentives.

It is clear, however, that policymakers in Michigan have some critical decisions to make regarding the future of Michigan's electric market. Going forward, it is unsustainable to have a portion of the firms in the market face an obligation to serve all potential customers while others do not. If policymakers truly wish to have a competitive electric market in the state, they must be willing to allow the introduction of risk through the removal of the obligation to serve at least for customers that leave regulated providers. This will, most likely, result in a less reliable but also more competitive and fairer electric market. If, however, policymakers are not willing to accept these risks then they should take steps that move the state toward a more traditional regulatory framework.