

Pilot PROGRAMS

Tools of Change

..... ISSUES of public policy & PROGRAM DESIGN
IN THE GAS & ELECTRIC INDUSTRIES

..... MARCH 1996.....



*A White Paper
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Executive

SUMMARY

Pilot programs provide a proof-of-concept for competition and consumer choice in the retail energy services market. Competition and retail choice in the electric and gas industries will create unprecedented value for consumers nationwide. Benefits will include lower prices, improved quality of service, and innovative products. Careful consideration of general and detailed design issues will make pilot programs more instructive and valuable for public policy makers, consumers and energy service companies alike.

The U.S. energy industry is one of the last remaining regulated monopolies in our economy. The airlines, trucking, railroad and telecommunications industries, to name a few, have all been successfully deregulated. The result, in all cases, is that real prices for the cost of making a telephone call, travel or shipping goods have dropped over the years, at the same time product options have increased and the quality of service has improved. The same promise holds true for the energy industry and is driving the change into a competitive, consumer oriented business.

The regulatory framework for a competitive energy market has been put in place over the last several years and is comprised of FERC Order 636, the National Energy Policy Act of 1992 and FERC's Open Access Notice of Proposed Rulemaking. However, not everyone is completely confident of the benefits of competition nor of the path to follow in order to get there.

Pilot programs, properly designed and executed, provide the insights necessary to resolve many of the questions surrounding the move towards competition. They enable policy makers to test the practicality and suitability of various

industry structures. Pilots also reveal key technical issues that need to be addressed as the industry is deregulated. Finally, pilot programs put to bed the unfounded concerns about reliability and system integrity.

Most importantly, pilots offer consumers a meaningful role in this change. Through pilot programs, consumers will be made increasingly aware of energy choices and become discriminating about the kinds of products and services they will consume. As consumers learn about the industry and begin to realize the full benefits of a competitive market, they can take an active role in shaping public policy in this arena.

Finally, pilots provide energy service companies with the opportunity to learn how to compete in a brand new market. Energy companies that participate in pilots will learn, firsthand, how to become customer-focused and innovative. In this respect, pilot programs should be viewed by energy companies as investments in their futures. As retail markets open to competition, these lessons will be invaluable.

Pilot programs must be designed to offer rich learning opportunities to policy-makers, consumers and utility managers. Designing effective pilot programs requires careful consideration of a host of first and second-tier issues such as scope, duration, participation, rules, monitoring and others. A true test of a pilot is that it injects real competition into the target area. In order to implement a pilot, participating utilities must be prepared to act like retail marketing companies. Tools of the trade include market research, product innovation, customer service and other marketing efforts.

Transformation.....

.....of THE U.S ENERGY SERVICE INDUSTRY.....

It is often argued that change is inevitable in the utility industry. However, this language is woefully inadequate to describe the situation before us. Rather, try thinking of it this way: the energy services industry is in transformation, trying to stop it would be like trying to stop the waves from breaking on the shore by standing in the surf and yelling "whoa." Such action would not only be futile, it demonstrates a fundamental generation gap between the two parties. The wave embodies the constant forces reshaping the needs and desires today's consumers and independent energy suppliers, while the voice in the surf potentially embodies utilities asking for competition and choice to be delayed while "many questions" are formulated and answered.

The desire for caution and concern are absolutely understandable and flow from the many as-yet undefined details of a competitive market: what do customers really want, will reliability suffer, how will billing be accomplished, do customers even care, how will government monitor the energy system, are national interests at stake? The litany goes on and on: what about stranded costs, equity, efficiency, who will clean up the environment?

However, it is important to remember that many of these questions were the same ones asked prior to and in an attempt to delay deregulation of the airline, trucking, telecommunication and railroad industries. In each case, deregulation produced a variety of positive effects: Prices fell. Redesigned and wholly new products were offered to consumers. The variety

and quality of services increased. For example, ten years ago AT&T was THE long distance carrier and their long distance rates were 65% higher than today. Who could have foreseen that a reduction in rates coupled with technological advancement would create household demand for not only multiple phone lines, but lines with different levels of quality, for fax machines, modems, security systems and other gadgets. In all of these

industries the number of service offerings has exploded since deregulation arrived just over a decade ago while, at the same time, real prices have decreased for most classes of service. We are better off. The same promise holds true for the energy services industry. In fact, this promise is one of the main forces driving change.

For the past century, the utility industry has been one of the most highly regulated sectors of the U.S. economy.

Electric power and natural gas utility companies have enjoyed monopoly status within government-sanctioned "service territories," their rates set by elected or state-government-appointed commissioners on a cost-pass-through basis. During this time, utilities have learned how to be competitors in the regulated market – and for the most part they do that very well. The United States boasts one of the most reliable and redundant energy delivery systems in the world.

On the downside, however, this means that many utilities lack the incentive to provide responsive and innovative service. Economic inefficiency has been rewarded as government-approved rates passed costs on to captive consumers. As

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a consequence, energy rates in many parts of the country are much higher than they should be. The importance of this conclusion should not be lightly overlooked. In a recent article in the Harvard Business Review, economist Peter Navarro compared our electric industry to that of Japan. He suggests that the ripple effect of reducing the cost of our electricity by deregulating the industry to the level it is in Japan could enable manufacturers throughout the United States to significantly increase exports to that country alone, thereby reducing the annual trade deficit with Japan by \$4 billion.¹

With the potential benefits to society so great, it is no wonder that the energy service industry is being deregulated. The issue is how quickly can our economy realize the full benefits of this change and what role do regulators, consumers and utilities need to play in bringing about change?

This paper suggests that change can happen quickly and intelligently by using pilot programs as a means to educate and inform public policymakers, consumers and fellow energy suppliers.

¹ Navarro, Peter, "Electric Utilities: The Argument" Harvard Business Review, January-February 1996, page 115.

The Debate

... OVER THE PACE, BREADTH & DEPTH OF THE TRANSFORMATION ...

The first round of utility deregulation is well beyond its prime. The players included the largest energy consumers, federal regulators and, of course, utilities. During the 1980's large energy consumers, demanding lower energy bills, pushed for broad national energy policy to open wholesale markets to new energy suppliers. For the most part, these consumers have been successful: several important national policies allow wholesale competition in both the natural gas and electric industries. More importantly, these policies now lay the foundation for the next round of deregulation.

The Federal Energy Regulatory Commission (FERC) Order Number 636, issued in 1992, required interstate gas pipelines to provide unbundled firm transportation and storage services and to exit the merchant gas business. The Energy Policy Act of 1992, among other things, gave FERC the authority to order open access in wholesale electricity transmission. And, more recently, FERC's Open Access Notice of Proposed Rulemaking (NOPR) required electric utilities to file a nondiscriminatory wholesale open-access tariff; required them to unbundle generation, transmission, and distribution functions; required comparability; and clarified FERC's earlier support for recovery of "legitimate, verifiable costs," or stranded assets. These landmark policies presage a federal legal framework under which full retail competition can be accomplished.

This next round of deregulation now has the potential to occur much more quickly

and to reach far more deeply into national and state policy, effecting all classes of consumers including retail markets. The players should include state and federal regulators, all energy consumers and all businesses that have a stake in lower energy prices and improved services. Yet this round of deregulation will not happen of its own accord. Many players seem to be neutralized by confusion and debate — much of which has been promoted by those who perceive their interests are threatened by restructuring.

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There is, for example, the issue of stranded investments, assets that will no longer be competitive once the market is restructured. Holders of stranded investments claim that they should recoup some or all of the cost from some set of consumers. They claim further that stranded cost recovery is justified because of a nebulous regulatory compact between utility companies and their regulators. Yet

when examined carefully, the whole idea of stranded cost recovery appears flawed and inequitable: Virtually no other industry is able to recoup investment in plant and equipment when the market reveals the investment to be, in retrospect, economically inefficient. Such bail-outs reward the very inefficient behavior that "created" stranded costs and, worse, penalize those firms that made prudent investment decisions and therefore are saddled with significant stranded costs. It should go without saying that such cost recovery vastly complicates any move toward restructuring, delays the process, and ultimately reduces the benefit to consumers of deregulation.

There are also issues of safety and reliability in utility deregulation. Opponents of consumer choice in energy services claim that deregulation would bring with it the unintended consequence of reduced safety and reliability. This claim is more outrageous than the stranded cost argument because it enjoys less basis in empirical fact. On the electric side, wholesale wheeling of power has long taken place without adverse consequences, likewise wholesale transportation of natural gas is a common occurrence.

There is no credible scenario in which either personal safety or transmission grid reliability would be undermined by the retail wheeling of electricity. The U.S. electric transmission system is highly mature, integrated, and redundant. Retail competition would not affect the system's underlying stability and robustness. Any second-order effects potentially caused by retail competition (e.g., parallel flows of electricity) could be eliminated technologically or mitigated contractually; they simply would not compromise safety and reliability. Similarly, it is hard to imagine situations in which retail competition would disrupt the reliability of the natural gas pipeline system.

In reality, where retail choice in electric power has been introduced, either on a pilot basis or more permanently (e.g., the U.K. and certain countries of the former Eastern Bloc), safety and reliability have actually increased with competition. (The irony here is that, in terms of an innovative and open regulatory structure, the U.S. energy service industry has been leapfrogged by formerly moribund Soviet suppliers.) This result is not surprising; greater safety and reliability are hallmarks

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of the free market because it is one aspect of service quality that consumers use in making a purchasing decision.

Unreliability leads consumers to switch to alternate suppliers perhaps faster than any other single service attribute. Consequently, there is every incentive for companies to provide energy services with high reliability if they do not want to lose those customers. Indeed, it is monopolists that are not subject to such incentives.

It is unimaginable that, for example, United Parcel Service, Federal Express, or Airborne Express could have penetrated the market of the U.S. Postal Service, a former monopolist, if they did not offer equal or greater reliability in service. In short, those who suggest reliability is put

at risk by pilot programs should explain in detail the mechanism through which outages would occur.

Perhaps most insidious among the arguments against radical restructuring of the energy service industry is the go-slow concept. Appealing on its surface, the go-slow concept is grounded on fear of the unknown: No one knows precisely what effects deregulation will have, so we had better go slow with the process.

Indeed, like any new undertaking, restructuring the energy industry carries with it some uncertainty – some unpredictability in potential outcomes that goes beyond random variability. It is true that nobody knows exactly what impact deregulation will have on the industry and on the consumer. It is true that outcomes are uncertain. But it is not true that going slow resolves these issues. On the contrary, perhaps the best way to understand the effect of deregulation and to reduce uncertainty is a *bona fide* market trial. Pilot programs offer an unparalleled

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opportunity to observe the effect of deregulation and thereby to reduce uncertainty. If the mechanics work, the likelihood that the market will work increases. While supporters of deregulation and its nay-sayers may disagree over the benefits of retail competition, they surely can agree on the public-policy merits of carefully-designed empirical exercises in competition.

Information from pilots should clarify the debate and enable regulators to intelligently shape an industry that everyone already acknowledges is changing dramatically.

Why

ERI CHAMPIONS PILOT PROGRAMS

Pilot programs, properly designed and executed, provide the insights necessary to resolve many of the questions surrounding the move towards competition. These learnings will help regulators to shape better public policy, consumers to understand how to take advantage of the opportunities afforded by competitive market, and, importantly, they will help utilities figure out how to operate in a competitive (as opposed to a regulated) market. This last point is perhaps most important to ERI, as it knows that it has much to learn and can only do so by doing – not by discussing, delaying or posturing.

Pilot programs demonstrate the practicality of different industry structures. The best industry structure for the future has been the subject of vigorous debate for some time now. While pilot programs will not necessarily reveal which industry structure is the best, they surely will show that a variety of different structures – all centered on consumer choice at the retail level and competition among many suppliers – can be made to work in the energy service industry. Pilot programs will provide practical examples of how key issues of market restructuring can be resolved in an internally consistent, mutually beneficial, economically viable way. Pilots will also identify key technical issues that should be addressed as the entire energy service industry is deregulated. Pilots will show that retail competition in energy is fully feasible right now, rather than at some unspecified point in the future. They will demonstrate the integrity and reliability of the transmission and distribution system, the ease

of arranging for appropriate metering, the irrelevance of stranded-cost arguments.

By providing consumers with low-risk opportunities to experience choice and the economic benefits of a competitive market, pilots will teach consumers how to take advantage of competition in the energy service industry. They will be made increasingly aware of energy choices and become discriminating about

the kinds of products and services they will consume.

Educated, discerning, demanding consumers of energy services are the best hope of public policymakers and the worst fear of opponents of change.

Finally, pilot programs will teach energy service companies to be more cost-efficient, customer-focused, and innovative. Since inefficient companies in a competitive market cannot pass along their costs to a captive customer base, they will have to

become more cost-efficient, or they will not long survive the rigors of the market. They will have to become more customer-focused if they are not going to lose increasingly demanding and sophisticated customers to competitors. And they will have to become innovative if they are to respond to existing and emergent customer demands for energy services that create value. Pilots offer utilities low-risk opportunities to teach their own employees to become more competitive. Each pilot a utility participates in should be viewed as an investment in its own human resource capital. As retail markets open up to competition, utilities and their employees who have successfully developed new products and services while

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satisfying the needs of their customers will become the "powerhouses" of tomorrow.

A pilot program not only demonstrates the future, it actually creates it. Pilots dispel anti-change myths regarding, for example, reliability and stranded costs. They make the benefits of competition – innovative products and services and lower prices – tangible to consumers. Unlike mere experiments, which are designed to create data, pilot programs are limited exercises which enable utilities and consumers to respond to emergent market conditions, to develop follow-on innovations, and to facilitate a competitive future by demonstrating that it is feasible. Each and every pilot program is a sure step toward the

future of the energy service industry. The true test of pilots is that they inject real competition into a market. Consumers are given real choices between service providers and their products, are no longer held hostage by monopolistic franchise-holders, and are educated regarding the operation of an open energy service market. Retailers compete to win the hearts – and business – of consumers. Local monopolies cannot exert their market power to impede free-market outcomes, including choice by consumers of electric or gas service from providers that are entirely new to the service territory. Provision is made for orderly transition to whatever specific market structure comes after the pilot. The magic of the market replaces the monotony of monopoly.

What

EXACTLY is A PILOT PROGRAM?

"Potemkin city" pilots are those that are unnecessarily encumbered, that offer discounted rates to only a few large customers, that do not provide customers with choice and access to new markets, that permit participating companies to behave in ways grossly at variance with how they would behave in a permanently deregulated market, or that are designed so as merely to delay the ultimate restructuring of the energy service industry.

This is not to say that pilot programs in competition are a sustainable, permanent form of competition. Pilots are indeed constrained in time and place. In the long term, islands of competition cannot permanently float on a sea of monopolistic service territories. Pilots are a limited, but necessary, first step toward a restructured energy service industry. These conditions are acceptable so long as pilot programs create genuine retail competition without encumbrance, offering meaning despite their inherent limitations.

Pilot programs must be designed to offer rich learning opportunities to utility managers, consumers, and government officials. Accordingly, outcomes are not predetermined or predictable. Useful data must be collected and disseminated in a transparent way. Information should be made available to consumers, competitors, and regulators in a timely fashion. This allows for the answering of legitimate questions with neutral and dispassionate assessment of the results. News of success – or failure, if it should come to pass – can then be spread widely but responsibly. Not only the pilot region but the nation as a whole is kept abreast of developments.

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Several pilots that share these characteristics are currently being implemented around the country, including Rock Valley, Iowa; the territory of Central Illinois Light Company (CILCO); and the area surrounding Freedom Electric in New Hampshire. A few comments about each of these programs may be instructive. (Details of electric and gas pilot programs initiated to date in the U.S. are appended.)

Rock Valley, Iowa, is the site of the first gas retail pilot program in the nation. One primary focus of the pilot is customer choice. The pilot was designed so that while only four gas suppliers (including utilities, brokers and marketers) could compete in the area, they could compete freely. The local gas distributor, Midwest, reviewed bids from 50 gas suppliers nationwide and developed a short list of qualified suppliers who were asked to indicate their interest in the pilot by bidding for selection. ERI, sensing it would learn a great deal about several things from the pilot including gas management and delivery, tariff administration, product innovation and operations (customer service and billings) procedures, bid according to what this experience would be worth. In order to remain in the pilot each of the four selected gas suppliers (Midwest, Noram, Utilicorp and Equitable Gas Energy) was required to acquire 50 customers from approximately 1000 eligible consumers. All but one were able to do this by listening to customers and offering them what they wanted. While Equitable Gas Energy was the apparent winner of the pilot program, capturing some 78 percent of the customers, the real winners were the people of Rock Valley, among the very first

American consumers to experience the freedom to choose among retail gas suppliers. ERI is in the process of evaluating what it learned in the first phase of the pilot and gearing up for continued product and service innovation.

The CILCO pilot, called PowerQuest, is a two-part program of two years' duration. PowerQuest is the nation's first electric retail pilot program. One part of the program is open to industrial customers with a peak load of at least ten megawatts; the other is open to any consumer located in certain geographic areas. Fifty megawatts has been allocated for each part. Customers will be direct-billed by energy suppliers. This program is just getting underway, so outcomes of the competition are not yet known.

While not officially a pilot program, Freedom Electric has created a unique situation which resembles a pilot. Freedom

Electric is using an innovative plan to seek utility status and, eventually, a FERC order to wheel power within Public Service of New Hampshire's (PSNH) service territory. If successful, it proposes to purchase electricity at wholesale for delivery to residential and industrial cus-

tomers over PSNH's power lines. Presumably, Freedom Electric, on behalf of its customers, will solicit options and choose from among many energy suppliers.

A single pilot program, by its nature, cannot address the myriad of questions concerning competition that have recently surfaced. However, a well-designed pilot can address many of them. Therefore, it is important that pilot program designers clearly define their objectives and

decide design issues accordingly. This section of the paper will aid policy makers in designing pilot programs that provide useful and compelling insights to policymakers, consumers and other energy suppliers.

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Designing.....

.....EFFECTIVE pilot programs.....

From the outset, it is important to focus the pilot. For instance, is the objective to test customer response to choice, or to test different treatments of stranded costs, or to gauge market response to competition? There are several other objectives a pilot might fulfill as well. Once a focus has been articulated, it should be used to guide the decisions on several primary issues. Broadly, these include the when, where and who of competition.

Duration is a significant consideration in setting up a pilot. If the objective is to test consumer response to choice, then the duration must be long enough to promote a wide variety of products and follow-up innovations. If the objective is to explore specific treatments of stranded costs, a shorter time frame may be adequate to determine response. If, finally, the objective is to test market response, a longer duration may be required to provide incentives for energy suppliers to compete in the pilot.

Another important general design issue is determining the extent and location of the pilot program, which fixes the degree of customer participation that will be permitted. These limitations pertain both to the breadth of participation (i.e., its geographic extent) and depth (i.e., the classes of customers permitted to reap the benefits of obtaining energy services in a competitive market). Limiting customer participation is an unfortunate but necessary aspect of pilot programs (*vis-à-vis* fully-developed competitive markets). Almost unlimited choices are available for pilot program design parameters: the scale of the program (e.g., local, state, or regional), the sample population that will

participate in the pilot (e.g., urban, suburban, or rural), other demographic features (e.g., socioeconomic status), and the precise geographic extent of the pilot program (e.g., an entire service territory or some portion thereof). To the degree practicable, both the breadth and depth of participation should be broad. In general, the pilot population should be representative of a much larger group (e.g., an entire service area or state).

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Another general design issue is customers' continued reliance on the incumbent electric or gas utility to provide transmission and distribution services. In this respect the incumbent utility must fill the role as the default bundled supplier. The local utility will, in a pilot program or

even under full competition, maintain various residual responsibilities. These, it should be remembered, are subject to deliberate choice by regulators. The former monopoly suppliers of unbundled services will have to learn to be proficient providers of just part of the total, unbundled set of energy products that consumers will demand. However, as ongoing franchise holders of natural monopolies, the incumbent utilities will also have to maintain various protections to which customers have become accustomed, including safety and reliability of service. Moreover, the local franchise holders will maintain their status as suppliers of last resort, providing bundled energy services for those customers who, for whatever reason, cannot or do not choose to obtain unbundled services from alternate suppliers in the competitive marketplace. The standards set for reliability and safety, the conditions under which local utilities must offer service as the provider of last resort, and other issues,

are open to careful analysis and design. Pilots should be designed to mitigate potential service problems and educate consumers on their default options.

A general design issue of central importance is attracting competing energy service retailers to participate in the pilot. Attracting entrants into newly-opened markets is what makes competition economically feasible. Without market entry, the *de facto* condition after deregulation is essentially the *de jure* condition before. The key to attracting retailers into the pilot market is limiting the encumbrances on them. If companies are permitted to create and capture significant value for many classes of consumers under a variety of market conditions, then they will enter the market and compete.

A related issue concerns the types of firms that are permitted to compete. Allowing market entry by energy service retailers has obvious advantages over simply allowing competition among regulated bundled suppliers. An energy service retailer is a company that interfaces directly with customers, offers services to them, and gets paid for services consumed, even though these retailers may not own the actual source of energy being provided. These retailers find sources of power (e.g., generators of electricity); they secure means of transmission and distribution of that power to consumers; they provide additional value-added services; and they bill customers for services rendered and products consumed. A useful analogy can be drawn to, for example, travel agents, who operate no ships, airplanes, or hotels, but create value for consumers by offering access to these travel-

related amenities. It is likely that, at least initially, these retailers will offer a broader array of services than conventional utilities.

Finally, the key to designing an effective pilot program is injecting competition into a market that, in most consumers' eyes, already works, after a fashion. Economic theory and practical market experience suggest that full retail consumer

choice of suppliers and products creates a very pure and robust form of competition — one that can be expected to yield the largest gains for retail customers. As a consequence, retail consumer choice is an important design criterion for pilots. The retail consumer choice concept will likely prove to be more effective than alternative models and competing concepts.

Consumers should be free to choose from a host of services and also free to switch back to their local utility if desired.

As with other public policy initiatives, the devil is in the details. The general design issues discussed above should not overshadow the numerous detailed design issues that, together, are critically important to the creation and sustenance of a viable pilot program. Moreover, it is the detailed design of pilot programs that will determine whether the information and insight produced in the programs are distorted and misleading or accurate and valuable.

Foremost among these detailed design issues are distribution and other residual charges by the incumbent electric or gas utility. These include charges for distribution, transmission, administration,

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customer hookup, and other customer charges. Who pays, how much is paid, and under what circumstances, can be varied almost continuously for each of these parameters. For example, the distribution fee charged by the local utility should be neither too low, which would provide an artificially high incentive for market entry, or too high, which would yield an inappropriately low incentive for competition. As a corollary to proper pricing by local utilities, market entrants should also price their products and services appropriately. They should not, for example, be permitted to price at predatory levels or to behave in other economically unsustainable ways.

Improper pricing of energy services, as with other economic goods, leads to inefficiency, inappropriate levels of competition, or cross-subsidies to one class of customers or another. This requires ongoing involvement and vigilance on the part of regulatory commissions that oversee pilot programs. Adjustments and mid-course corrections should be made, as necessary. Pilots cannot simply be put on "autopilot."

Another important detailed design issue is customer usage metering and billing. Metering for competition is not technologically challenging, though it has been done very little at the retail level. Metering is not a natural monopoly; there is no compelling reason why local franchise holders should control the process or technology of metering. It is important, therefore, that access to the incumbent utility's records be provided for purposes of auditing billing information, to ensure that charges for competitively-supplied energy content are accurate. In addition, appropriate metering standards need to be

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agreed upon and promulgated in the industry to facilitate metering for competition. Pilot program designers should realize the full implications of their metering requirements. For example, use of state of the art automatic meter reading (AMR) has the added benefit of creating incentives in that industry to improve technology and reduce cost — we are already seeing these benefits as more and more utilities are installing AMR devices. On the issue of billing, appropriate controls should be established for the extension of credit. Such controls could be imposed in an unobtrusive way as a condition of participation in the pilot program.

Another detailed design issue is a process or procedure for assigning responsibility for service interruptions. Who provides backup service, under what conditions, with what notice provisions, at what price, and with what restrictions on retailer switching, are all important issues that require careful consideration. This issue extends to the technicalities of high-voltage transmission of competitively-provided energy content to an electric utility system. Addressing this issue involves establishing delivery requirements while minimizing unnecessary oversight. Again, one objective of a pilot may be to work out this process. This work could lead to industry standards.

Avoiding an onerous application process and other bureaucratic burdens is a detailed design issue that seems deceptively easy. This involves, for example, creating a convenient retailer sign-up process and setting up distribution metering and charges. Likewise, creating systems for dealing with multiple-retailer customers, including restrictions on such

customers and assessing the impact of multiple-retailer factors on the sales process, are design issues that could prove nettlesome. Pilot program designers should consider the full sales cycle and the variety of customer responses (e.g., switching, partial service selection) when establishing these details. Likewise, pilot program designers should consider what information needs to be collected for future dissemination regarding the outcome of the pilot.

Other detailed design issues of note include provisions for customers' switching from one energy supplier to another and planning for termination of the pilot program. Regarding switching, key questions are: How often will switching be allowed? Will customers be permitted to switch back to bundled services from local utility company once they have switched to an alternate supplier? Will partial switching be permitted, allowing consumers to switch suppliers for only part of their load while continuing to purchase power and other services from their former utility? Will there be a cap on the number of switches permitted? What is the default choice of energy supplier, if the customer elects to do nothing? (The answer to the last question is likely the local distribution company, although other solutions are available.)

Related to the issue of switching is the matter of the pilot's termination. Will the pilot come to a close at a date certain, or when certain information has been gathered, or when certain conditions pertain, or when an affirmative regulatory decision is made to terminate the program? Can the pilot be extended, by whom, and

under what circumstances? What happens to customers who have elected alternate service providers when and if the pilot comes to an end? Should the local utility be compelled to plan for the return of all consumers at the conclusion of the pilot?

One approach to the termination issue is to "grandfather" customers who elect to obtain energy services from outside suppliers so that, even after the pilot program

comes to an end, they can continue to reap the benefits of their participation in the market, if they so choose. Grandfathering customers in this manner also has the salutary effect of increasing the likelihood that consumers entering a pilot will behave as if they were participating in a permanently deregulated energy service market. Without a carefully-designed termination strategy, pilot programs

run the risk of eliciting strategic thinking and "end-game" behavior on the part of consumers.

Building credibility – with consumers, regulators, and competitors – is absolutely central to the design of an effective pilot program. Credibility comes from participating companies' transparency to observers, responsiveness to public desires, and close liaison with state regulators. If these conditions are lacking, credibility is lost and the pilot will likely be ineffective in demonstrating the viability of deregulated energy markets.

This reasoning suggests several criteria for judging the effectiveness of a pilot from the standpoint of economics and public policy: Can competitors participate in an economically sustainable fashion? Will consumers benefit, that is, retain

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more surplus value from the energy-related products and services they consume? Will the market structure created in the pilot be reasonably competitive or will participants be able to exploit their residual market power and position? Is adequate provision made for learning from the pilot, for transferring the lessons learned, and for transitioning to some structure after the pilot concludes?

Naturally, these tests cannot be considered rigorously for all pilot programs, nor should they be applied slavishly or to the exclusion of other measures of merit. Nonetheless, these criteria, intelligently and flexibly considered, can yield some notion of how "good" a proposed or operating pilot program is. Useful proxies for

these criteria include pricing margins, which can be scrutinized and analyzed, and competitor behavior, which can be forecast and modeled. Successfully implementing pilot programs is, for energy service companies, the ultimate test. In the implementation process, utilities will have to come to grips with a variety of issues with which they have never before grappled: What are customers? What do they want? What are products? The one consolation is that, if these issues are not carefully thought through during implementation, the marketplace will give energy service companies immediate and direct – if perhaps unrelenting and unforgiving – feedback. This learning process will improve the companies' ability to compete in the future.

Implementation

Developing a catalogue of products and services is one of the first priorities in implementation. Energy service providers must answer for themselves, in great detail and with empirical data, a series of questions: Who, precisely, are their customers? What products and services do these customers want, both in terms of expressed and latent preferences? Having answered these questions, at least in terms of the pilot program at hand, a successful energy service company will create a product development process that can yield the kinds of services that their customers want and need. Innovation, based as it is on insight and serendipity, is an important ingredient in the product development process. So too is market research, which must be up-to-date and methodologically sound. Empirical data, gleaned from market research, should be injected into the product development process in an interactive way. It is, of course, impossible to gauge market demand for products that do not yet exist, but as the creative process proceeds, it is possible to gauge likely customer receptivity to new services that meet their heretofore unarticulated needs and desires.

Another important implementation issue is pricing specific products and services. Energy service companies involved in pilot programs, and interested more broadly in competing in emerging markets, must determine the degree to which customers are price-sensitive, and the degree to which they are willing to pay for improved service and innovative products. Successful companies will assess the price elasticity of demand for various energy services and the degree to which

entrant retailers are competing on price alone. It is altogether possible that, as in certain other markets, rough price parity is necessary for consumers even to consider a company's products and services. At that point, non-price features – the outputs of the product development process discussed earlier – become the major area of competition. Marketing, prospecting, and selling are implementation issues of truly central importance. Successful

energy service companies will develop a marketing program that is customized for the pilot program but that can be generalized beyond the pilot. Advertising will assume an important role in the industry, a role it plays in virtually all other non-monopoly businesses. Energy service firms will have to learn how to prospect for customers, how to target customer segments, and how to appeal to those segments.

They will have to develop a world-class, professional sales force that is not only up to the task of marketing within the confines of the pilot, but that can go on to succeed in altogether different markets.

Providing extraordinary service to customers is another key implementation issue. Extraordinary service hinges on several independent, though interrelated, processes, including ensuring high quality, differentiating products and services with respect to competitors, and continuously improving on the standard of excellence. Increasingly sophisticated consumers, in pilot programs and elsewhere, will come to consider formerly excellent levels of service to be merely average. Companies that do not recognize this, even in industries (such as energy services) that have not been paragons of service

*The marketplace
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energy service
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feedback*

excellence in the past, will be rejected by consumers and crushed by the competition.

In electing to initiate or to participate in a pilot program, an energy service company must first consider a variety of strategic issues that affect the decision to participate and the selection of tactics once the decision has been made. The strategic game is most apparent to incumbent utility companies, which must decide whether to pursue a pilot program in their home territory.

Foremost among these strategic considerations is financial impact. This impact can be devastating or uplifting, with the stakes particularly high for the incumbent electric or gas utility. Forecasting the impact takes market insight and analytical skill. The effect of ratepayer protections must also be assessed. Successful incumbents should consider potential costs from

Increasingly sophisticated consumers, in pilot programs and elsewhere, will come to consider formerly excellent levels of service to be merely average.

pilots to be an investment in change – change that can bring with it great rewards in the long run. Once a decision to participate has been made, the important and challenging strategic issue is improving and changing the operation of the newly-competitive company. This

involves, among other tasks, developing the unregulated retailer organization's structure and capability. Attracting and developing competitive, market-ready pilot programs. Reciprocal pilots would involve two or more utility companies mutually pledging some portion of their load, say 100 megawatts apiece, to the program. Only those companies that pledge load would be permitted to offer services and compete for customers in each reciprocal pilot region. Naturally, no single company development and careful consideration throughout the energy service industry.

Is there life.....

.....AFTER THE pilot?.....

There is indeed life after a pilot program. It involves, for example, demanding change nationally. Becoming an advocate for change also means initiating pilots elsewhere, identifying key allies for change, and transferring the technology of competition.

Expanding a pilot is a fairly straightforward path to change. If results are good, customers are satisfied, and regulators can recognize success, pilot programs should be extended in time and perhaps in place. At the very least, consideration should be given to "grandfathering," as described above.

An intriguing way to speed the spread of retail competition is to establish *reciprocal* pilot programs. Reciprocal pilots would involve two or more utility companies mutually pledging some portion of

their load, say 100 megawatts apiece, to the program. Only those companies that pledge load would be permitted to offer services and compete for customers in each reciprocal pilot region. Naturally, no single company would want to expose itself unduly or prematurely by initially pledging too much of its customer base to the program. Important design issues include whether only reciprocal participants could compete for customers and whether only utilities or other energy service companies could participate. Likewise, there are issues (perhaps legitimate) regarding antitrust law and concerns (probably unfounded) regarding reliance on out-of-state suppliers for in-state energy needs. Nonetheless, the notion of reciprocal pilot programs deserves detailed development and careful consideration throughout the energy service industry.

Conclusion

This paper attempts to make three specific points.

First, our nation should welcome competition in the energy industry. The benefits far exceed mere price reductions and pertain to global industrial competition. Policy makers, consumers and utilities all have a stake in successful transition to competition and have a duty to become well-informed agents of change. Pilot programs, more than any debate, discussion and research are an important first step in the learning process.

Second, pilot programs are not simply inconsequential experiments. They need

to be well-designed with the purpose of exploring a specific set of issues. This paper discusses many of the design issues to be addressed and hopefully inspires the reader to think of others.

Finally, utilities have a steep learning curve to climb if they are to survive the transition to competition. This paper discusses pilot implementation issues with an eye towards providing utilities with suggestions on how to begin to compete. Successful utilities will learn how to listen to their customer and to translate their findings into desirable services and offerings.

Appendix.....

..... SAMPLE ELECTRIC & NATURAL GAS PILOT PROGRAMS

This Appendix describes many of the pilot programs currently in operation or proposed before state commissions (as of 02/26/96).

ELECTRIC PILOTS

Boston Edison

Boston Edison's E-Plan features a phase-in of unbundled energy service. In 1997, customer bills will include a breakdown that indicates simulated prices for generation and power delivery charges. The following year, Boston Edison will permit customers to select a new energy supplier.

Central Illinois Light Company

Central Illinois Light's (CILCO) proposed PowerQuest program consists of two parts. Under Rate 33, industrial customers with a peak load of at least 10MW can choose an alternative power supply source (program-wide participation is limited to 50MW). Eight CILCO customers are eligible for this two-year program. Rate 34 extends competitive options to all customers located within the boundaries of designated "open access sites." CILCO will not limit off-system purchases under this rate during the five-year pilot program.

Central Illinois Public Service

Central Illinois Public Service's (CIPS) plan includes a time-line for phased-in direct access. In Phase I, customers with a need for new load of at least 5 MW can seek alternative suppliers. CIPS's Phase II allows customers to select off-system suppliers for new or existing loads of at least 5 MW.

Commonwealth Edison Company

Commonwealth Edison (ComEd) issued a retail access plan designed to encourage economic expansion. The 5-year program permits direct access for customers with at least 3 MW of new load starting in 1998. Ultimately, the pilot will advance choice to all customers by 2003.

Cortland, New York

The City of Cortland, New York, petitioned the New York Public Service Commission (NYPSC) to allow it to conduct a retail wheeling pilot. The program enables all city residents to procure power competitively. Cortland's peak demand totals 43 MW.

Illinois Power

Illinois Power's (IP) pilot grants direct access to industrial customers. Direct Energy Access Service (DEAS) allows any industrial customer with a peak demand of at least 15 MW to purchase off-system power supply. Total participation is limited to 50 MW, with no more than 30 MW delivered to any one of IP's three regional service areas.

Massachusetts Electric

Massachusetts Electric proposed a retail choice program for 10,000 of its customers. *Choice: New England* will allow all classes of customers to select an off-system power supplier and, if approved, will begin on September 1, 1996.

Michigan

Michigan's 5-year pilot opens 150MW (90 MW for Detroit Edison and 60 MW for Consumers Power) of the state's electric load to outside suppliers. The program will begin once either utility has a need for additional capacity.

New Hampshire

New Hampshire's Public Utilities Commission (PUC) is finalizing guidelines for its retail wheeling pilot. Under the two-year program, each of the state's utilities must open 3% of its load to competition (a statewide total of 60MW). Utilities can recover 50% of stranded costs for the duration of the pilot. The Commission also proposed that utilities select half of the participants via lottery from a volunteer pool and the other half from designated geographic zones.

PSI Energy¹

Under its proposed Rider 18, PSI Energy will allow new or existing businesses with incremental load of at least 2 MW to procure that supply from power marketers. Total off-system purchases may not exceed 300 MW in this program designed to foster economic growth in Indiana.

¹ PSI and CG&E merged to form CINergy. CINergy filed its electric and gas pilots separately through the subsidiaries.

NATURAL GAS pilots

Bay State Gas Company

Massachusetts' Department of Public Utilities approved Bay State's plan for a residential unbundling program. Bay State has not yet selected a minimum consumption threshold, but plans to make transportation service available to groups of residential customers. The company aims to finalize the pilot for implementation in early June 1996.

California

Since 1991, California's core pilot has allowed commercial and industrial customers to choose a gas supplier. The program includes 5-10% of the state's core user market, mainly institutions such as hospitals, schools and government entities.

Cincinnati Gas & Electric Company²

In its most recent gas rate increase filing, Cincinnati Gas & Electric (CG&E) included provisions for an unbundling program for 8,000 to 12,000 of its customers. The Three-year pilot will allow aggregates of residential customers, i.e. condominium associations, to make off-system power purchases. The program is an expansion of CG&E's current firm transportation arrangements for more than 600 small commercial and industrial customers.

KN Energy

KN Energy plans to provide a retail unbundling pilot program to its Wyoming gas customers. Although some details remain unsettled, at present, customers can join the pilot at any point in the program and choose one of 5 alternative suppliers. Selected suppliers will be the top 5 from among a qualifying group that each recruit at least 500 customers or 50,000 MMBtu/year.

Minnegasco

Minnegasco, a subsidiary of NorAm Energy, wants to unbundle its gas service down to the local level. In its proposed Three-year pilot, the company will permit 1,000 commercial customers to buy gas from marketers. Each customer must commit for at least a year and must consume a minimum of 50,000 dt on peak days.

² PSI and CG&E merged to form CInergy. CInergy filed its electric and gas pilots separately through the subsidiaries.

New Jersey

At the end of 1993, the New Jersey Board of Public Utilities ordered each of the state's LDCs to submit plans to unbundle service to all but residential customers. These programs took effect in December 1994. In addition, South Jersey Gas recently proposed a pilot for 2,500 residential customers in Camden County, New Jersey. Under the plan, groups of residential customers (i.e., condominium associations) can purchase gas from alternative sources.

New York

In November 1995, all but two of New York's LDCs³ filed unbundling proposals with the NYPSC. Slated to receive approval in April/May 1996, these programs will permit some of New York's gas customers to select alternative suppliers. The proposals differ primarily in implementation timing and qualifying level of consumption. Most LDCs include provisions that permit marketers to aggregate customer accounts.

Pacific Gas & Electric

Pacific Gas & Electric's (PG&E) proposed pilot is an extension of the California core pilot. The "Gas Accord" allows residential and other small customers to purchase gas from off-system suppliers. PG&E has formed an advisory group of marketers and other interested parties to oversee the implementation of this unbundled service.

Rock Valley, Iowa

MidAmerican Energy Company initiated a one-year pilot program to provide its customers with choice and to allow the market to test marketing strategies, identify customer needs and explore other aspects of the energy business. Four gas companies were allowed to participate in the pilot program. Of the four, only three signed up enough customers to remain active participants. The winning gas companies are Equitable Gas Energy, Noram Energy Corporation and MidAmerican Energy Company. Eighty-two percent of Rock Valley's natural gas customers chose to take part in the pilot. Customers will receive two bills, one from the incumbent gas utility and one from their utility of choice. The pilot began in September 1995.

³ LILCO, Brooklyn Union Gas, Consolidated Edison, National Fuel Distributors, New York State Electric & Gas, Niagara Mohawk, Rochester Gas & Electric, National Fuel Distributors, Orange & Rockland, Central Hudson Electric & Gas, and Corning Natural Gas.

COMBINATION ELECTRIC & NATURAL GAS pilots

Pleasant Hills, Pennsylvania

Equitable Resources Inc., has proposed the first combination electric and gas pilot program in the country. The pilot program is designed to provide customers with ultimate choice in securing their energy needs. Pleasant Hills is a unique community because it is already served by four gas companies and two electric utilities. The pilot will allow customers to choose from any of the existing energy companies or from any new ones that wish to enter the market. The proposed pilot is under consideration at the Pennsylvania Public Utility Commission.