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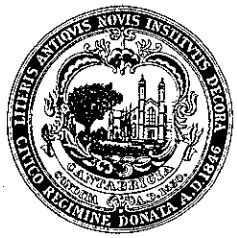

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CITY OF CAMBRIDGE

Office of the City Solicitor
795 Massachusetts Avenue
Cambridge, Massachusetts 02139

January 2, 2013

Robert W. Healy
City Manager
City Hall
Cambridge, MA 02139

Re: Awaiting Report No. 12-54 Re: Report on How to Establish a Community Choice Aggregation Network Which Will Engage in Electricity Procurement for the Entire City of Cambridge

Dear Mr. Healy:

In the above-referenced Policy Order Resolution, the City Council asked "how to establish a Community Choice Aggregation Network which will engage in electricity procurement for the entire City of Cambridge." The state Legislature enacted legislation in 1997 that allows for such "load aggregation programs" (at G.L.c.164, §134, copy attached) if a municipality or group of municipalities so chooses. As noted in the Policy Order Resolution, an example of such a program in Massachusetts is the Cape Light Compact created in 2002 which is a public entity that serves approximately 200,000 electric consumers from all 21 towns on Cape Cod and Martha's Vineyard. Barnstable County is the fiscal agent and administrator for the Cape Light Compact.

G.L.c.164, §134 sets out the legal steps required to create a local electric load aggregation program as follows—

> (a) Any municipality...is hereby authorized to aggregate the electrical load of interested electricity consumers within its boundaries.... Such municipality...may group retail electricity customers to solicit bids, broker, and contract for electric power and energy services for such customers. Such municipality...may enter into agreements for services to facilitate the sale and purchase of electric energy and other related services. Such service agreements may be entered into by a single city....
>
> ...A city may initiate a process to authorize aggregation by a majority vote of the city council, with the approval of...the city manager in a Plan D or Plan E city.

> Upon an affirmative vote to initiate said process, a municipality...establishing load aggregation pursuant to this section shall, in consultation with the department of energy resources, pursuant to section 6 of chapter 25A, develop a plan, for review by its citizens, detailing the process and consequences of aggregation.... Said plan...shall include, without limitation, an organizational structure of the program, its operations, and its funding; rate setting and other costs to participants; the methods for entering and terminating agreements with other entities; the rights and responsibilities of program participants; and termination of the program. Prior to its decision [on whether to approve the plan], the department shall conduct a public hearing.
>
> Participation by any retail customer in a municipal or group aggregation program shall be voluntary.... [S]uch program shall allow any retail customer to opt-out and choose any supplier or provider such retail customer wishes.
>
> (b) A municipality...establishing a load aggregation program pursuant to subsection (a) may, by a vote of its...legislative body... adopt an energy plan which shall define the manner in which the municipality or municipalities may implement demand side management programs and renewable energy programs [the cost of which could be offset in part with state grant funds].

G.L.c.25A, §6(11) provides that the commonwealth will provide technical assistance to municipalities which are working on transitioning to aggregation of its citizens' electricity demands. G.L.c.30B, §§1(b)(32) and (33) exempt these aggregation contracts from the procurement requirements of G.L.c.30B.

This is the general legal framework for the creation of a municipal electricity aggregation program.

Very truly yours,

Nancy E. Glowa

Commonwealth of Massachusetts
Executive Office of Energy and Environmental Affairs

Department of Energy Resources

GUIDE TO MUNICIPAL ELECTRIC AGGREGATION IN MASSACHUSETTS

Deval L. Patrick
Governor

Timothy P. Murray
Lieutenant Governor

Ian A. Bowles
Secretary, Executive Office of Energy
and Environmental Affairs

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List of Abbreviations

DOER	Division of Energy Resources
AG	Office of the Attorney General
DTE	Department of Telecommunications and Energy
LDC	Local Distribution Company (see DISCO)
DISCO	Distribution Company
ESA	Electric Service Agreement
HEFA	Massachusetts Health and Educational Facilities Authority
MMA	Massachusetts Municipal Association
RFP	Request for Proposal (or RFR – Request for Response)

Acknowledgements

The Division of Energy Resources' Municipal Aggregation and Public Procurement Team prepared this guide under the direction of team leader Eileen McHugh. Readers may obtain specific information concerning the report from the Division at (617) 727-4732

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Production and editorial assistance coordinated by Karin Pisiewski and Stan Wesolowski

Disclaimer

This Guidebook is for informational purposes only. The information contained within is general and subject to change. It is intended to serve as an introduction to elements pertaining to the development of a municipal aggregation plan and should not be used as a substitute for a thorough analysis of facts and the law. The Guidebook is not intended to provide legal or technical advice. **The Commonwealth of Massachusetts and DOER make no warranties, expressed or implied, and assume no legal liability or responsibility for the accuracy, completeness, or usefulness of any information provided within this Guidebook.** The views and opinions expressed herein do not necessarily state or reflect those of the Commonwealth of Massachusetts, any agency thereof, or any of the organizations and individuals that have offered comments as this Guidebook was being drafted.

The Internet website addresses provided in this Guidebook were accurate as of the date of publication. However, website addresses are subject to change by the website administrator. Therefore, some website addresses may become invalid over time.

In addition, users of this Guidebook are strongly encouraged to search actively for the most recent updates of governmental regulations. Readers may check for recent updates to municipal aggregation at the Department of Telecommunications and Energy at www.mass.gov/dte or by calling (617) 392-6066.

Introduction

Municipal Electric Aggregation is the method by which local and county governments can buy electric power on behalf of the consumers within their borders. This guidebook outlines the potential benefits of municipal aggregation, and the methodologies necessary for a successful implementation.

Municipal Electric Aggregation is possible in Massachusetts due to the passage in 1997 of "An Act Relative to Restructuring The Electric Utility Industry in the Commonwealth, Regulating the Provision of Electricity and Other Services, and Promoting Consumer Protections Therein[1]" (hereinafter referred to as "the Act"). The Act allows consumers to purchase electric power from an entity other than their distribution company.

A key provision[2] of the Act specifically allows local municipal or county governments to aggregate the electric loads of the consumers within their boundaries in order to negotiate more favorable terms with a power supplier. *However, this option, as well as most of the provisions of the Act, is not available to those served by existing municipal power plants.*

Municipal Electric Aggregators, by *also* developing an Energy Plan (for demand-side energy management, can access monies from the System Benefit Charge[3].

The Massachusetts Division of Energy Resources (DOER), under Chapter 25A, Section 6, is assigned the responsibility of providing assistance to municipalities wanting to aggregate their citizens' electric power loads. DOER supports municipal aggregation and presents this *Guide to Municipal Aggregation in Massachusetts.*

The major sections of this Guidebook are as follows:

Section I: Load Aggregation: an explanation of the basics of load aggregation, the role of the aggregator and major customer types.

Section II: Advantages and Disadvantages of Municipal Aggregation: a description of incentives and limitations, various benefits aggregation may provide, and an overview of the basic process.

Section III: Becoming a Municipal Aggregator: an overview of the key decisions needed to assess whether or not to aggregate.

Section IV: The Feasibility Study: a discussion of the purpose of a study and possible consumer wants and needs.

Section V: Elements of an Aggregation Plan: a review of the required elements of a plan under the Act.

Section VI: Selecting a Supplier: The Request for Proposal Process: examples of elements of the RFP, including selection and evaluation criteria.

Section VII: The Electric Service Agreement: an outline of contract provisions.

Section VIII: Additional Requirements: an illustration of notification and disclosure requirements.

Section IX: Ongoing Operations: a summary of transition and compliance activities.

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[1] M.G. L. Chapter 164, § 134 (a), (b)
[2] Section 134(a), (b) - see Appendix C
[3] See Glossary

I. Load Aggregation

Definition of Load Aggregation

Load aggregation is the formation of a group of consumers into a single buying pool for the direct purchase of electricity supply. There are two basic types of aggregation. The Restructuring Act of 1997 created a process[4] under which a municipality, or group of municipalities, may aggregate the entire electric load within the boundaries of the participating communities and solicit contracts to serve that load. One successful example is the Cape Light Compact Pilot, serving the towns of Cape Cod[5]. This is a **public aggregation (Municipal Aggregation).**

Public aggregations are unique in that they allow the aggregators to access the energy efficiency system benefit charge funds generated by the participants (all Massachusetts electricity customers). If they choose to access the funding, they must design and carry out an approved energy efficiency plan, in the same way the Distribution Company does. In addition, a public aggregation is "opt-out," all customers within the municipality are participants automatically, unless they request not to be. Public aggregators must also secure contract prices that are less than the standard offer price.

More common are aggregations of like entities pooling their load to attract favorable rates. The Massachusetts Health and Educational Facilities Authority (HEFA) is perhaps one of the best known aggregations (PowerOptions), and the Massachusetts Municipal Association (MMA) has a power program available to municipalities, serving municipal buildings. We refer to this form of aggregation as **market aggregation.**

In load aggregations, each participant ultimately enters a service agreement directly with the supplier chosen by the aggregator. This Guide focuses on load aggregations where the municipality or group of municipalities acts as an agent, on behalf of the constituents to identify, compare, and choose among competing suppliers.

Aggregator's Role

The aggregator's primary role is to act as a catalyst or agent, introducing interested customers to a suitable supplier. The aggregator determines the service constituents want to acquire, solicits bids, and chooses a supplier. Once formed the aggregation and its participants enter a service agreement with the chosen supplier. At this point, the aggregator's role is monitoring and overseeing the contract. The supply service and distribution service used by members of an aggregation are subject to the same laws, regulations and tariffs as the service used by other retail customers. Similarly, the Competitive Supplier serving the aggregation is automatically subject to all regulations established under the Act, including licensing, consumer information, air emission standards and renewable portfolio standards.

Customer Sectors or Types

There are three broad customer sectors: residential, commercial, and industrial. Each sector's electricity demand and pattern usage (load profile) varies (See Appendix B for typical load profiles). Customer mix is a key cost determinant for distribution and other rate components. DOER's Market Monitor Report states that systems with a high proportion of load (electric demand) concentrated in large-usage customers are less costly to serve and tend to exhibit lower prices. Price comparisons and corresponding customer mix figures for each LDC indicate some correlation between low industrial/large commercial customer mix and higher rates.[6]

---

[4] Section 247, Chapter 164, The Acts of 1997, which became section 134 of M.G.L. chapter 164. See Appendix C

[5] The Cape Compact's first successful procurement of supply is know as its Community Choice Pilot Program, as they will offer supply to default customers and do not anticipate prices less than the standard offer (a requirement of the Act), but will provide default customers with an alternative.

[6] *Market Monitor Report, 2000* Division of Energy Resources

II. Advantages and Disadvantages of Municipal Aggregation

Incentives and Limitations

When considering whether to aggregate or not, carefully weigh the advantages and disadvantages, including the cost of organizing and maintaining a municipal load aggregation, negotiating a contract, educating consumers, providing customer service, and administration against any perceived savings.

Advocates argue that aggregation fulfills a public interest and/or equity role, ensuring that the benefits of group efficiencies and purchasing power of retail electric competition reach all customers, including low-usage customers. Others point to advantages for municipal aggregators deriving from the attributes of local government – that it is non-profit, non-discriminatory, subject to ethics and open-bidding laws, and under local consumer control. Municipal officials can identify constituent preferences in an open democratic arena. Further, because participants are geographically concentrated, power procurement costs may be less. The provision of certain advanced metering technologies may also be more efficient given the concentration of customers. Advanced metering may allow consumers a greater choice of rate options and other services. Options that use communications technologies could provide access to lower prices and other services. Lower electricity costs through municipal aggregation may possibly enhance economic development efforts by attracting businesses to the community.

Municipal aggregation may also help constituents purchase energy efficiency services, and electricity from cleaner-than-average or renewable sources. For example, under the Act, a municipal aggregation that adopts a certified energy plan may seek implementation funding from the Massachusetts Renewable Energy Trust Fund and from demand side management (DSM) system benefit charges levied on retail electricity ratepayers by the distribution companies. The Department of Telecommunications and Energy (DTE) establishes the processes and requirements aggregators must meet to expend DSM funds only.

An aggregation may create opportunities, but it may also create challenges for municipalities. Potential considerations include the possible lack of political support, and/or potential adverse impacts on municipal finances.

Making use of resources with the skills necessary to analyze load data and negotiate favorable terms is essential in the process of aggregation. The challenges to municipalities wanting to aggregate are the technical and legal aspects of:

- Analyzing load data
- Administering the RFP process
- Leading negotiations with suppliers
- Providing ongoing management and monitoring on behalf of constituents.

Gaining understanding of how individual load factors, cost of service, and supply objectives impact pricing for members of the aggregation is resource intensive and time consuming. Municipalities seeking the expertise required of an aggregator need to consider the cost of acquiring that expertise.

Benefits of Load Aggregation for Consumers

Load aggregation may offer retail customers several purchasing advantages, such as:

- **Lower Transaction Costs.** By alleviating most of the effort associated with the screening and selection process, the load aggregator enables individual consumers to choose a Competitive Supplier at either little or no transaction cost[7] to those individuals. Aggregating individual customers lowers these costs.

[7] In order to carry out a market transaction it is necessary to discover who it is that one wishes to deal with, to conduct negotiations leading up to a bargain, to draw up the contract, to undertake the inspection needed to make sure that the terms of the contract are being observed, and so on. , Ronald Coase "*The Problem of Social Cost*".

- **Competitive Opportunity.** Load aggregation may foster better competition by allowing low-use consumers to take advantage of the market. Suppliers are more willing to compete for a large group of individual consumers by responding to a single Request for Proposal (RFP). Because of the high cost of customer acquisition, relatively few suppliers are willing to compete for low-use individual customers one at a time.

- **Greater Buying Power.** Local governments use aggregation as a way to obtain services or products at favorable prices and terms. The same is true for the purchase of electricity. Because of economies of scale, load aggregation may increase the buying power of participating consumers; particularly if they seek customized service. For example, a load aggregation seeking custom services, such as "cleaner-than-average" electricity, load control and energy efficiency services, or a range of pricing options has more buying clout and product options as a group than as individuals. Even a load aggregation seeking to simply acquire electricity supply service may have more buying power than an individual consumer seeking to buy that service from a Competitive Supplier. The load aggregation may enable the Competitive Supplier to capture market share at a relatively low transaction cost

- **Savings from Load Diversity.** The best way to understand energy consumption patterns is to create an annual load profile. Residential, commercial and industrial customers use electricity differently at various times of the day. Residential and small commercial sector's electricity use can vary substantially during the day, resulting in erratic load profiles (see Appendix B). Generally, supplying an even load profile is less expensive than serving an erratic one. Offering a larger, more diverse load (one that is more even) increases the possibility of receiving better prices than individual consumers receive.

Public Benefits for Municipalities

If a number of towns want to form a municipal aggregation together, several factors require examination:

- The same understanding of the aggregation's potential benefits, including a common expectation that participating in the aggregation is beneficial to all involved.

- Similar interests in the structure of supply arrangements, whether they are price structure, term, or stability, the sources of the supply or the availability of other services (such as energy efficiency advice, installation and financing or other services).

- Confidence in the aggregation, including an expectation that risks, pricing, and rules, (including allocation of costs and benefits) are equitably applied.

When evaluating benefits, consider the merits of services and features in terms of likely levels of participation, savings per participant, economic development implications, business retention and recruitment benefits, costs to the municipal government and potential sources of funding.

III. Becoming a Municipal Aggregator

Municipal Aggregation Process

There are a number of steps local governments must execute in order to become a municipal aggregator. (See Figure 1 on the following page) A town may initiate a process to aggregate electrical load upon authorization by a majority vote of town meeting or town council. A city may initiate a process to authorize aggregation by a majority vote of the city council, with the approval of the mayor, or the city manager in a Plan D or Plan E city. Two or more municipalities may initiate, as a group, a process jointly to authorize aggregation by a majority vote of each particular municipality.[8]

Local governments need an affirmative vote to start the aggregation process. After confirmation of an affirmative vote, a municipality or group of municipalities wanting to create an aggregation develops a plan in consultation with the Division of Energy Resources (DOER).[9] DOER provides assistance to municipalities and governmental bodies seeking aggregation of their citizens' demand for electricity.

> *For purposes of aggregating retail customers within their jurisdiction, municipalities are exempt from the purchasing requirements of M.G.L. chapter 30B. If municipalities become "aggregators", the Restructuring Act establishes purchasing processes and requirements.*

Citizens review and approve the completed plan. Once voters accept the Municipal Aggregation Plan, the Municipal Aggregator submits the plan to the Department of Telecommunications and Energy (DTE) for certification.

Prior to its decision of whether or not to approve the Aggregation Plan, the DTE conducts a public hearing.

Additionally, the Restructuring Act allows Municipal Aggregators access to energy efficiency funds collected by distribution companies and establishes the processes and requirements needed to expend these funds.

As in the process for initiating and developing a Municipal Aggregation Plan, Municipal Aggregators may seek voter approval to develop and submit for certification an Energy Efficiency Plan to the Department of Telecommunications and Energy (DTE).

Similarly, prior to its decision of whether or not to approve the Energy Efficiency Plan, the DTE conducts a public hearing.

You will find these basic steps outlined in Figure 1 on the following page. Appendix A of this document summarizes additional provisions in the Act and Appendix C is the full and complete text. As stated elsewhere, you are encouraged to search actively for the most recent updates of governmental regulations. You may find recent updates at www.mass.gov/dte.

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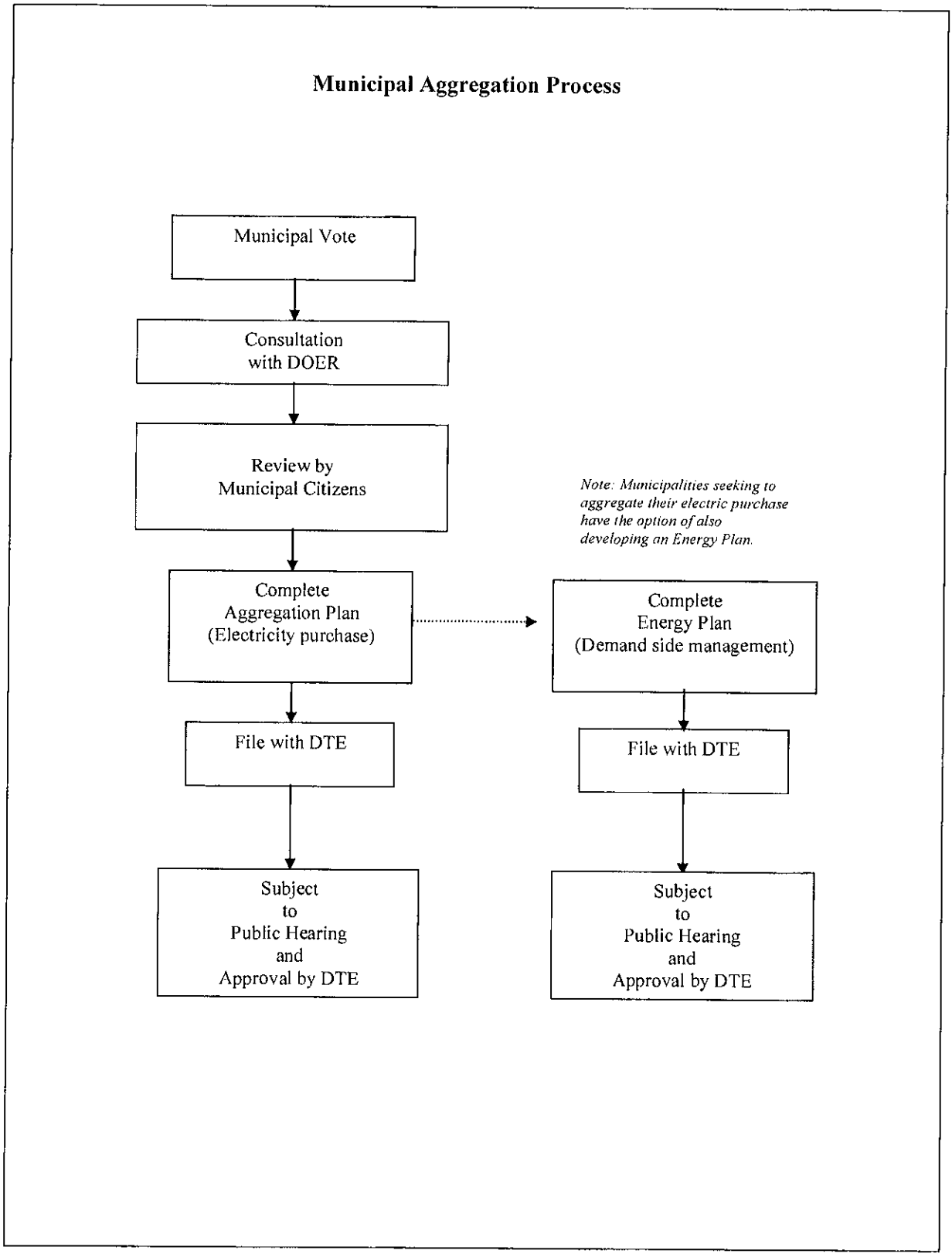
[8] M.G.L Chapter 164: Section 134 (a)

[9] Pursuant to Chapter 25A, § 6

Figure 1: Municipal Aggregation Process



IV. Basic Considerations

There are a number of basic considerations when deciding whether or not to aggregate, such as assessing market conditions, making organizational choices, creating a citizens committee, becoming familiar with legislation, regulations and tariffs and determining communication needs. On page nine (9) is a case study of Cape Light Compact, an existing aggregation, outlining challenges and lessons learned.

Market Assessment

Load characteristics such as size and shape have an effect on whether the aggregation attracts any proposals. A market assessment can determine the potential offers that the characteristics of the aggregated load may attract. A small load, with a load profile deemed expensive to supply might not attract any offers. Communities in this position can possibly join with other communities to provide a larger, more attractive energy demand. Conversely, a sizeable city with a large energy demand and diverse customer types (residential, commercial, and industrial) may provide load characteristics that attract a number of offers.

Key Decisions

The following list presents some of the organizational decisions municipalities will encounter early in the process:

- Whether to become an independent aggregation or join with others
- Organizational role/responsibility of the public entity for the buying group
- Whether to aggregate for municipal and retail customers (e.g. commercial, industrial and residential) or municipal buildings only
- Resources needed and level of investment
- Degree of local control preferred
- Energy services sought
- Renewable energy components desired
- Timetable

Before evaluating the option of an aggregation, a municipality must obtain authorization from its local legislative body. If approved by town or city council vote, the municipality may pursue aggregation options, including development of an aggregation plan. During the development of a municipal aggregation plan there are three major phases the community needs to address in deciding whether to proceed to the next stage. These phases are:

- Conducting a Feasibility Study
- Issuing an RFP
- Selecting a Qualified Supplier

Proceeding through all three phases requires time and money, which varies according to the size of the municipal aggregation. Determining the decision-making processes and at what point to bring important matters to the town or city council is another issue municipalities will encounter.

Key Participants

The opportunity to select an electricity supplier on behalf of consumers is a new phenomenon. Creating a citizens committee is an effective way to involve the community, while bringing relevant local expertise into the discussion process. The appointment of a municipal aggregation committee can start the evaluation process by having the committee examine, and report on, available electricity supply purchasing opportunities.

The local distribution company has experience and information on providing electricity to your geographic area and important information about the area's electricity demand and behavior. After forming the aggregation committee, start discussions with the local Distribution Company (LDC) or companies as soon as feasible.

Legislation, Regulation, and Tariffs

Municipalities who aggregate retail customers within their jurisdiction are exempt from the purchasing requirements of Massachusetts General Law Chapter 30B. However, as established in the Act, would-be "aggregators" are subject to purchasing processes and requirements. Further, the Act recognizes load aggregation, including municipal aggregation, as a purchasing arrangement undertaken by or on behalf of a group of retail customers. As such, the Act defines load aggregation as:

> *A municipality or group of municipalities which aggregates its electrical load and operates pursuant to the provisions of this section shall not be considered a utility engaging in the wholesale purchase and resale of electric power. Providing electric power or energy services to aggregated customers within a municipality or group of municipalities shall not be considered a wholesale utility transaction. The provision of aggregated electric power and energy services as authorized by this section shall be regulated by any applicable laws or regulations, which govern, aggregated electric power and energy services in competitive markets.*[10]

Municipalities wanting to implement a public aggregation plan must file the plan and receive approval from the Massachusetts Department of Telecommunications and Energy (DTE). Before seeking DTE approval, municipalities "shall, in consultation with the Division of Energy Resources, pursuant to section 6 of chapter 25A, develop a plan" [C164, § 134 (a)].[11] In particular, the plan must comply with the following three mandatory policy objectives: universal access, reliability, and equitable treatment of all customers. Section VI, on page 13 contains a further explanation.

Communication

The primary reason for establishing a municipal load aggregation is to provide constituents with a service they want in a manner they cannot obtain competitively from other sources. Moreover, the Act requires that citizens review the municipal aggregation plan, and that the majority of the citizens support its implementation.

To achieve this goal, creation of a communication and education plan can facilitate two-way interaction, enabling the municipality to supply information to constituents, while also obtaining their input. The design and content of education materials alternatively reflects the needs of constituents for desired services and pricing options. It indicates interest in participating in a municipal load aggregation, which is critical to the feasibility analysis and subsequent decisions, such as goals and RFP development.

The emphasis of the communications changes as the aggregation progresses. Initial communication informs constituents about deregulation, purchasing opportunities, and basic terminology. Subsequent consumer education materials focus on keeping constituents apprised of project status and decisions. Finally, they may provide formal notification to constituents as required by the Act.

> *It shall be the duty of the aggregated entity to fully inform participating ratepayers in advance of automatic enrollment that they are to be automatically enrolled and that they have the right to opt-out of the aggregated entity without penalty. In addition, such disclosure shall prominently state all charges to be made and shall include full disclosure of the standard offer rate, how to access it, and the fact that it is available to them without penalty.*[12]

Consumer education materials must be appropriate for all audiences and written in a clear, concise manner. The region's local, community-based organizations may assist efforts to reach special audiences.

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[10] M.G.L Chapter 164: Section 134 (a)

[11] For a synopsis of Municipal Aggregation provisions of this section see Appendix A.

[12] M.G.L. Chapter 164: Section 134 (a)

Figure 2: Case Study, Cape Light Compact

Cape Light Compact

As of the date of this publication, only two states, Massachusetts and Ohio, have provisions that facilitate Municipal Aggregation. To date, the Cape Light Compact is the only Municipal Aggregation operating in Massachusetts or New England.

Background:

The Cape Light Compact represents 180,000 potential consumers and approximately 300MW of average demand. The Compact formed in 1997 through an intergovernmental agreement of twenty-one towns and two counties for establishing competitive power supply, energy efficiency, and consumer advocacy. The Compact provides an option for purchase of power supply and, through access to system benefits charge, an option for energy efficiency and conservation programs. The member towns are: Aquinnah, Barnstable, Bourne, Brewster, Chatham, Chilmark, Dennis, Eastham, Edgartown, Falmouth, Harwich, Mashpee, Oak Bluffs, Orleans, Provincetown, Sandwich, Tisbury, Truro, Wellfleet, West Tisbury, and Yarmouth.

Status:

The Cape Compact is currently servicing approximately 45,000 default service customers under the Community Choice Pilot Program with a twenty-month supplier contract that started on May 1, 2002. This choice, expected to bring electricity consumers nearly $2 million in savings in 2002, is the first of its kind in Massachusetts. In addition to savings for consumers, the contract also includes an important commitment to renewable energy or "green power" and provides an option for consumers who want to purchase 50 percent or 100 percent renewable energy.

Additionally, the Cape Compact administers the energy efficiency system benefits and programs for all residential, commercial and industrial electric customers in member towns. The programs are too numerous to list here -- for complete information go to http://www.capelightcompactenergysave.com/

Also under examination are distributed generation options as part of an integrated distributed resources approach that would include premium power, peak shaving, and improvements in reliability.

Start-Up Challenges:

- A general lack of understanding about Municipal Aggregation. (Although local governments have historically used aggregation as a way to obtain services or products at favorable prices and terms, this procedure for purchasing electricity is recent.)
- Lack of consumer awareness
- Establishing a call center
- Determining the schedule for expanded consumer education activities

Lessons Learned:

- The importance of communication and consumer education
- Understanding market volatility and market barriers — creating ways to address them
- Maintaining flexibility
- Having a comprehensive approach
- Incorporating lessons from other cities and towns
- Involving elected officials and consumers in the process and on the committee
- Maintaining choice for participants

V. The Feasibility Study

Purpose of a Feasibility Study

Upon deciding to examine municipal aggregation as an option, the next step is to conduct a feasibility study.

The feasibility study serves two important purposes. First, it provides decision-makers with an assessment of benefits and costs of providing electricity supply and related services through a municipal aggregation. Second, in the event the assessment reveals that the municipality proceed to the RFP stage, the information gathered during the feasibility study provides decision-makers with the background needed to establish goals and identify services requested in the aggregation RFP.

The assessment may be prepared from two perspectives: from the viewpoint of A) the likely participants, and, B) the municipality as a whole and serve to measure the potential benefits and costs of aggregation against the existing electric power supply service.

Figure 3: Feasibility Study Features

Typical features of the feasibility study for informing local decisions:

- ***Power Supply Analysis.*** **An analysis of the power supply including not only historic data, but an estimate of future needs**
- ***Engineering Evaluation.*** **An engineering assessment of the local distribution and transmission system and any possible congestion issues (this could have price implications)**
- ***Market and Contract Issues.*** **A market study evaluating economic concerns**
- ***Political and Legal Issues.*** **An examination of any political or statutory matters**
- ***Findings and Recommendations.***

Source: Community Franchise Study
Urban Consortium Energy Task Force of Public Technology, Inc

Level of Constituent Participation

As noted earlier, the primary justification for establishing a municipal aggregation is to provide constituents with a service, and/or service features, that they want but cannot obtain competitively from other sources. Getting answers to the following questions helps to determine citizens' needs:

- What service and/or service features are constituents using?
- What services and features do constituents want?
- What are the existing and forecasted service features?
- What service and/or service features can a municipal aggregation acquire?

This information helps to assess whether or not the majority of constituents are willing to participate in an aggregation on an ongoing basis. In other words, will the services provided through a municipal aggregation be competitive with other options available to participants over the duration of the plan?

Knowing that services are competitive over the term of the plan is particularly important to municipalities expecting to solicit multi-year supply bids. If the multi-year contract assumes that most customers will remain in the aggregation for the entire period, customers exiting the aggregation prematurely may expose the supplier to unrecoverable costs. The ability of participants to exit the load aggregation at any time (without losing their electricity service) needs to be addressed in the feasibility study and the RFP to avoid exposure to unexpected financial liability during the course of the aggregation.

Current Services and Features

Data on current electricity use, features, and expenditures is the core of assessing the feasibility of an aggregation.

- **Electricity Usage Data.** Collecting electricity usage information by sector (residential, commercial, and industrial) provides statistics on annual kWh consumption, peak demand, and the number of customers and representative load profiles. One can then deduct the load of customers in existing contracts with other Competitive Suppliers to determine the load in each sector not expected to participate in the aggregation. (However, collecting information on the expiration dates of those contracts is important to determine if those customers might become eligible to participate during the period of the aggregation).

  In collecting data, it may be useful to obtain actual load data for a limited number of industrial and commercial electric consumers with the largest annual usage. However, while this information is valuable, it is important to avoid allocating an undue level of time and effort obtaining releases and collecting actual data, particularly for the initial feasibility study. Furthermore, most utilities provide general load data. Understand that individual distribution companies have their own format so allow plenty of time to process and analyze this information in order to understand usage levels and patterns. (See Appendix B for sample load profiles)

- **Load Diversity.** It is often the assumption that load aggregation offers load diversity benefits. Combining consumers with complementary, offsetting load profiles offers suppliers an aggregate load that is more economical to serve than individual constituent loads. In practice, a flat load profile is less expensive to supply than an equivalent load with an erratic profile that peaks in high price hours and declines in low price hours. Inexpensive baseload generating units can provide the bulk of electricity to a flat load, while incremental or peak load above the base level is served by more expensive generating units.

  In Massachusetts, for the last decade, the commercial sector (see Customer Sector, page 2) has been the largest electricity consumer in Massachusetts (44 percent). The ten-year average for Massachusetts also shows residential consumption at 34 percent and industrial consumption at 21 percent. Commercial consumption is generally low in the morning and late evening. Consumption peaks during core business hours. Residential consumption is more sporadic and less predictable. (See Appendix B) The cost of electricity follows a pattern similar to the consumption of electricity; the cost is low in the morning, peaks in the afternoon, and subsides in the evening.[13] In any given locality, combining these load sectors typically flattens the entire load profile.

- **Electricity Service and Price Data.** Collecting electricity service and price data by sector is important, including electricity distribution service rates, current and projected electricity supply prices for Standard Offer Service and for Default Service. Other data requiring collection includes the price and bill payment options available to consumers on Standard Offer Service and for Default Service energy, current and projected generation mix, renewable energy content, and air emissions of electricity supply used to provide Standard Offer Service and Default Service energy.

[13] For prices and usage data go to the New England Independent System Operator website at http://www.iso-ne.com

Desired Services and Features

One barrier to soliciting constituents' input is unfamiliarity with many services and service features. The following service and pricing features may interest consumers shopping for a power supplier. They are suggestions only, and do not represent a complete list of all possible options.

- Guaranteed prices that do not exceed the reference sources – standard offer and default service. State in specific terms, e.g., 5 % for the term of the program. (Plainly define savings. Make sure consumers understand whether stated savings are on the total bill or just the generation portion.)

- Guaranteed savings in annual electricity bills of a specific amount over the term of the program. (A combination of competitive electricity supply price and energy efficiency measures to reduce consumption levels achieves this and saves on the total bill rather than just the generation portion. It is important to note that generation represents less than one-third of the total electricity bill for the average residential customer in Massachusetts.)

- Price predictability and/or bill stability. Some customers may want the option to lock-in a fixed price for a year, others might want to lock-in a fixed amount for annual usage for the life of the contract, while others might want the ability to pay a price tied to a published market price index. Some customer may want a long-term contract, with a foreseeable price.

- Pricing options, such as ability to choose between a fixed annual price, time-of-use pricing or monthly market prices.

- Annual bill options, such as ability to choose a "weather-proof" (not susceptible to weather changes; otherwise know as monthly budget payment options) annual bill for budgeting purposes. Other billing options may include on-line payments and consolidated billing for customers with many meters.

- Electricity that is from a "cleaner-than-standard" source or is from a source with a "higher-than-standard" use of renewable resources.

- The ability to buy multiple services from the same vendor, e.g., electricity, natural gas, telecommunications, and/or Internet access.

VI. Elements of an Aggregation Plan

Once the analysis is completed and the decision made to form an aggregation, create the Aggregation Plan. Under the Act, municipalities wanting to implement a municipal aggregation must file a plan with the DTE that addresses several specific points, including:

- Detailed process and consequences of aggregation
- Universal access, reliability, and equitable treatment of all customer classes
- Organizational structure
- Program operations
- Rate setting and other costs
- Methods for entering and terminating agreements
- Rights and responsibilities of participants
- Termination
- Constituent notification and enrollment

The intention of this section of the Guide is to suggest elements of the Plan, not to prescribe the Plan. Monitoring DTE reviews of other municipal aggregation plans and consulting with the DTE and DOER regarding the most current planning elements provides the most recent information. You can conduct a search for this information on-line at http://www.mass.gov/dte.

Consequences of Aggregating

For participants, possible consequences include savings in electricity bills relative to the standard offer as well as any other benefits expected through the aggregation, such as a greater range of pricing options and higher levels of renewable energy. For the municipality, these consequences include broader availability of energy savings, improvements in the local economy, greater control of energy efficiency funds and possible increase in administrative costs.

Policy Objectives

- ***Universal access.*** A municipal aggregation plan must provide for universal access by giving all consumers within its boundaries the opportunity to participate, whether they are currently on Standard Offer, Default Service or the supply service of a Competitive Supplier. (Pursuant to the Act, service will be available to qualifying low-income customers at a discounted distribution service rate).

- ***Reliability.*** Consider the supplier's ability to fulfill its obligations without exposing supply recipients to unanticipated costs. Obtaining financial and contractual guarantees from the selected supplier to cover financial risks, including costs of replacement electricity if it fails to deliver or perform, provides some protection to the aggregator from these unexpected costs.

- ***Equitable treatment.*** The municipal load aggregation **must** ensure equitable treatment of all classes of participating consumers (residential, commercial and industrial) by requiring the supplier to provide service to customers with comparable load characteristics at comparable prices, terms and conditions.

Structure, Operations, and Funding

The organizational structure and funding reflects the specific characteristics of the community, or communities, and their particular load aggregation. Identify the official(s) responsible for contract administration, program evaluation, and ongoing program administration and monitoring. Also, disclose the funding level and source for program implementation. Include descriptions of the various contractors, the authorizations needed for the contracts, and the approval processes governing those agreements.

Also include:

- ***Procedure for Termination.*** Describes the contract provisions, authorizations, and approval processes governing termination of the program.

- ***Constituent notification and enrollment.*** Confirms compliance with the Act's provision for notification of constituents prior to the automatic enrollment of all customers, allowance for customers to affirmatively opt-out before the program commences, and consumer return to the Standard Offer without penalty within 180 days of the start.

- ***Rights and responsibilities of participants.*** Describes any rights and/or responsibilities to those of any retail electricity consumer under the Act, regulations, and tariffs.

The Act allows two or more municipalities to aggregate together. This requires authorization by a majority vote of each municipality. ***There are no further requirements under the Act to provide guidance and direction in this regard.*** Chapter 40, Section 4A provides a specific method for developing inter-municipal agreements. Cities and towns may establish an inter-municipal agreement when two or more municipalities form an aggregation.

Staffing and Budget Resources

From the perspective of the municipality, it is important to estimate the cost of implementing the program in terms of staff time and external consultants necessary to design and operate a load aggregation plan. Compare these costs to the estimate of annual benefits per participant, as well as to the municipality's overall operating budget. This comparison helps determine whether the potential benefits of load aggregation to constituents are sufficient to justify allocating municipal staff and budget resources to this initiative.

Include estimates of staff and financial resources, for the start-up stage, consumer outreach and information, analyses, RFP preparation, RFP evaluation, contract negotiation, town and DTE hearings and constituent inquiries. Also include program operational expenses, resources for contract administration, and performance evaluation. These activities entail monitoring the effectiveness of supplier interaction with participants through periodic surveys, compliance with contract terms, supplier relationships with the Local Distribution Company, regulatory monitoring and ongoing market analysis.

> *"Forming an aggregated group can be a fairly complex process. An aggregator performs a variety of roles, many of which require a high degree of technical and legal expertise. Few organizations or small companies have staff with a thorough understanding [of] load profiling, power procurement and pricing issues. For these reasons, most governmental and nonprofit aggregators hire a consultant or agent to perform these essential functions."*[14]

Pricing Information

The Act requires that constituents be clearly advised of all charges associated with participation in the aggregation, including not only prices for electricity, but also any penalties for leaving the aggregation after the initial 180-day opt-out period.[15]

- ***Rate setting and special charges.*** Detail the methods used for establishing the price for energy and/or energy-related services and describe any other charges to participating consumers, including any penalty fees for early termination. Generally, the procurement process establishes the price per kilowatt-hour. The price for requested additional services could be addressed in the contract. If the prices charged to participating consumers vary according to load or service characteristics, justification for those price differences explains that the program is treating all participants equitably.

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[14] Caroline Sahley, *Electric Consumer Aggregation Options*, page 21.

[15] M.G.L Chapter 164: Section 134 (a) "Once enrolled in the aggregated entity, any ratepayer choosing to opt-out within 180 days shall do so without penalty and shall be entitled to receive standard offer service as if he was originally enrolled therein."

- ***Prices relative to Standard Offer***. The electricity price cannot exceed Standard Offer Service. Alternatively, if the price is to exceed the price of Standard Offer Service, establish that the excess is due to the purchase of renewable energy. Additionally, express the method used for establishing and resetting the price over the course of the program, and the benchmarks against which it is measured.

- ***Prices relative to other supply options***. In order to maintain support, demonstrate that the load aggregation is viable and offers services that consumers want at a price they are willing to pay. Compare the price for energy from prospective Competitive Suppliers relative to the other options available over the duration of the planning period. In relation to the Act, compare that price to the Standard Offer, making sure that the comparison is sufficient and straightforward. In the latter years of the transition period, Standard Offer Service prices will increase. Therefore, compare the price for energy from prospective Competitive Suppliers against each other and against projections of the average monthly market price of electricity.

Figure 4: Possible Pricing Options

1. Fixed Pricing	This offers the customer a fixed, known price for the electric commodity. It offers the least exposure to price volatility, although that reduced risk is usually reflected in a higher price. The electricity provider accepts the risk associated with the commodity price volatility during the period of the contract. This may be an attractive option for customers with a low risk tolerance, fixed budget constraints, or limited flexibility to respond to price swings.
2. Indexed (Variable) Pricing	This structure links the price of the commodity to an agreed upon market index such as the PX (California Power Exchange) market clearing price. Due to exposure to market pricing volatility, this option can be more risky if you do not have the ability to shift your load or curtail your use during high priced peak usage periods. This option is particularly attractive to customers who can shift energy consumption to take advantage of low off-peak prices while avoiding high price spikes during peak periods. However, there is a risk under this scenario, especially if you cannot shift or reduce load during periods of high price spikes. For public agencies, with a set energy budget, this could be a problem.
3. Portfolio Pricing	Portfolio pricing allows you to design a specific program with your supplier that has price volatility generally linked to specific resources. This approach will tend to mitigate, though not eliminate, price volatility. It requires that the supplier thoroughly understand your electricity use patterns so that their risks are minimized. If a supplier perceives a low risk of offering a lower price, he will generally do so. However, in many cases, it may be that the risk is simply being transferred to the energy consumer, for example through penalty clauses, if certain requirements are not met.
Source: What Should You Know: Buying Electricity and Natural Gas in Today's Restructured Market California Energy Commission	

Consumer Education Tools

Before developing the content of the education materials, assess consumer knowledge regarding electric utility restructuring and aggregation. Use the information gathered to create educational materials based on actual market awareness.

In addition to targeting consumers, consider informing legislators, municipal employees, community leaders, and the media. The media, both paid and unpaid, may assist in educating consumers. Legislators are an important audience from a public education perspective because they will likely have questions from their constituents. Some consumers may ask local leaders to answer questions about how the aggregation will actually work.

Design the plan so that the information reaches everyone in the municipality such as the visually impaired, low-income, elderly, people who speak English as a second language, etc. Suggestions for educating constituents and conducting outreach on energy and energy-related services programs are group presentations and periodic mailings. Other outreach suggestions include posting the materials in town halls, libraries, municipal offices, and community events. Other possible channels to distribute information are: brochures, speakers bureau, roundtables, news releases, educational video, local cable, radio, ads in major area newspapers and the town website. Local organizations and special interest groups such as Chambers of Commerce, Rotary Club, and Senior Centers may be willing to distribute information to their members. Tailor the options chosen to the audience and community.

VII. Selecting a Supplier: The Request for Proposal Process

If the initial feasibility study is positive, the next step is selection of an electricity supplier. In general, this involves collecting any additional data not previously collected, developing an RFP, and attracting qualified market suppliers to submit proposals. The steps below are illustrated on the flowchart (Figure 5) on the following page.

Define Needs

Define and describe the supply services and energy-related or ancillary services desired. These typically include the full range of services necessary to ensure reliable supply, effective administration, coordination with transmission and distribution intermediaries, and responsive customer assistance (see "Desired Services", page 12). Energy-related or ancillary services include activities related to energy efficiency and management, power quality and reliability enhancement, electrical infrastructure, techniques for customer management of supply and price risks, and transaction services.

Develop RFP

The content and design of the RFP varies based on the specific services and service features solicited. In general, the procurement document includes several components:

- a description of the load aggregation (potential size of the aggregated load, and the number of customers and/or accounts)
- the services and features desired by the participants
- the qualification criteria required in order to have a bid considered
- the criteria used to select the supplier
- the essential provisions of the standard contract between the chosen supplier and participating constituents
- term of service

Description of Soliciting Organization and Organizer

Craft a municipal summary of the aggregation group. Begin by describing the organization, and history of the energy program's formation, its enabling authorization (both under the Act and by local legislative authority), its decision-making and advisory process, population and businesses served, geographic location, demographic information (# of households, per capita income, the equalized valuation for each municipality), commercial/industrial information (largest employers, products manufactured), and relevant information. This information helps a supplier to serve the group's needs.

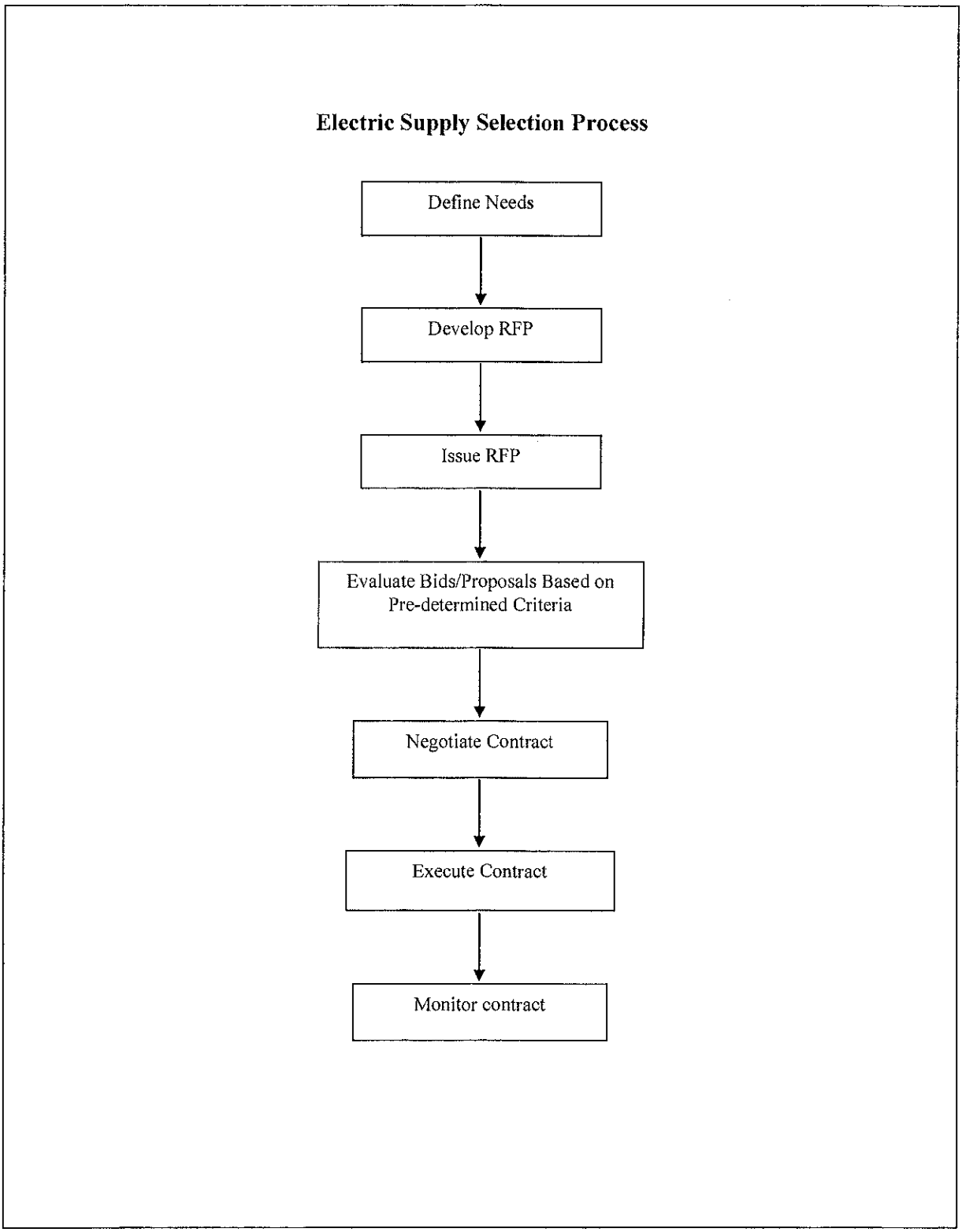
If using a consulting firm for the program's development and implementation, briefly describe the firm's responsibilities and method of compensation. This latter point becomes relevant if requesting the supplier to reimburse the program.

Selection Process

The selection process generally includes the following:

- The issue date for the proposal
- Scheduling of a pre-bid conference
- Submittal of questions
- Release of proposal addenda
- Response deadline
- The conditions deemed negotiable and non-negotiable
- The evaluation process and criteria
- The interview process for finalists
- The contract product outcomes
- Proposal content requirements

Figure 5: The Electric Supply Selection Process



Supplier information

The following suggestions assist in proper evaluation of each supplier's response.

- Corporate name, including local and corporate headquarters, mailing and email addresses, telephone and fax numbers, a copy of the DTE supplier license, description of key staff, description of any corporate affiliations (particularly parent companies, affiliations with regulated distribution companies).
- Complete financial records, generally including audited financial statements, annual reports, consolidated financials, published evaluations of credit or business condition for a non-regulated utility, notices of credit standing occurring within the past two years, and five year credit rating history for both the supplier and corporate parents, as necessary.
- Business activity restrictions, if any, that impede the ability of the supplier from fully completing the requirements of the supply contract.
- Performance guarantees such as performance bond, parent or affiliate guarantee, letter of credit or deposit of cash or securities presented to ensure performance, and whether or not restrictions are placed on the guarantees.
- Supply sources, generally requires complete description of supplier power source, agreements for generation supply whether owned or purchased wholesale, with complete descriptions of availability, fuel supply, reserves and backup supply, experience in operating under NEPOOL[16] policies, and related assurance criteria.
- Pricing terms and conditions proposed in direct response to proposal requirements, as well as optional pricing programs the supplier believes advantageous to the purchaser.
- Administration/customer service, defaults, litigation and penalties in order to ascertain compliance with DTE regulatory standards and procedures, as well as additional standards and procedures employed by the supplier.
- Marketing plan assigned to evaluate comprehensiveness, practicality, timeliness, and customer needs.
- References for similar retail supply contracts, if available.
- Energy-related and ancillary service description and offering, which includes, price parameters, methodology, and marketing process.
- Force majeure conditions under which supplier would enter a contract (Act of God).
- Certificate of Noncollusion, signed by a bidder, stating his/her bid is made freely without consultation with any other bidder.
- State Taxes Certification Clause demonstrating compliance with Commonwealth tax laws.

Other Proposal Information

Additional standard language include the following:

- Notice to Bidders.
- General Specifications for Supplies and Services.
- Reference to Chapter 164 General Laws as the authorization to purchase energy and energy-related services.
- Requirement to submit bids or proposals in writing, by officer of corporation authorized to make the bid.
- Requirement for how, when, and where submission of bids or proposals occurs.
- General statement indicating the method for bid or proposal rejection.
- Allowance for bidders or proposers to withdraw their bids, in writing, prior to the bid or proposal opening date and time.
- A statement that bid openings occurs at a specific location, date and time.

[16] New England Power Pool, formed in 1971, is a voluntary association that includes investor-owned utility systems, municipal and consumer-owned systems, joint marketing agencies, power marketers, load aggregators, generation owners, and end users.

- A statement advising bidders that the contract award is contingent upon the awarding authority being satisfied the supplier has sufficient capital and supply to fulfill contractual obligations properly.
- A statement that the awarding authority is under no obligation to award a contract as a result of receiving proposals, and will only award a contract if it is reasonable and in the best interest of the municipality to accept it, as well as including a statement that the municipality reserves the right to reject any and all bids.
- A statement indicating that if either the energy and/or energy-related services provided under the contract are deemed unsatisfactory and in violation of the specifications, the municipality will notify the bidder in writing; that if mutually agreeable arrangements cannot be achieved between the municipality and the supplier, the contract terminates; that notice of termination will be in writing and notification will be sent by registered or certified mail; and that termination becomes effective on a specified date.
- A statement informing the bidder that all applicable State laws, Municipal laws, and the rules and regulations of all authorities having jurisdiction over the bid/purchase apply to the contract throughout, and are deemed to be included in the contract the same as though herein written out in full.

Evaluation Criteria

The objective of this task is to match responses with required proposal criteria (assuming that the proposal is reflective of the goals and objectives for competitive purchase). A second and significant objective of this task is the evaluation of comparative market opportunities for energy and energy-related services purchasing.

RFP evaluation criteria includes oral interviews, a review of pricing, a review of financial strengths and assurances, sourcing capability and plan, commercial competence, retail/aggregation experience, legal conformity, organizational structure of the bidder, marketing plan, and energy-related service and pricing.

The RFP advises proposers of the evaluation criteria, and method for review. The criteria for evaluating bids or proposals depends on the characteristics of the supply arrangements desired. However, examine common themes in evaluating proposals. First, it is important to distinguish between **threshold criteria**, or threshold levels, that all bidders **must** meet in order to be considered and the **selection criteria** that is the bases for the selection. Second, if basing the decision upon multiple criteria, the RFP may indicate the relative weights assigned to each. The following sections are examples of possible criteria.

Threshold Criteria

- ***Financials***. Financial analysis incorporates a review of key indices, including profitability, liquidity ratios, debt management, asset management, annual growth rates, profit margins, P/E ratio, and select balance sheet, and income statement numbers. One objective is to identify assets and income available to support the full financial commitment of power over the contract term. Undercapitalized suppliers generally must rely upon corporate parents to underwrite the contract.

- ***Sourcing***. This review seeks detail on the power source, owned generation, purchased power contracts, and the ability to transport power through grid in a cost-effective manner. What is the company's priority on the transmission system for both spot purchases and power purchased under contract (in most distribution areas these priorities are established)? Supply changes may be interruptions in supply or forced curtailments or nomination changes. What is the impact if this occurs? How is this tracked and the impact on operations mitigated?

- ***Renewable Energy Portfolio Standard***[17]. The company needs to provide details on how it plans to comply.

[17] See M.G.L. c. 25A, § 11F and 225 CMR 14.00. Go to www.mass.gov/doer for details.

- ***Competence and Experience***. Consider the quality and structure of the proposal. Is the company new to the business? Who are their business partners and how many (if any) retail supply contracts have they developed?

- ***Legal conformity***. Does the proposal meet minimum response requirements? Is the supplier licensed in Massachusetts? Do they supply evidence indicating a full range of knowledge on FERC[18] requirements?

- ***Organizational structure***. How does the supplier intend to manage the contract? Who are the key staff personnel? Who actually approves the negotiated contract? What level of oversight is given to marketing personnel?

Selection Criteria

- ***Pricing***. Compare and analyze the price quotations supplied against the consumption data analysis previously prepared to arrive at a savings estimate for the aggregation program. Do not consider price proposals above Standard Offer. Examine pricing frameworks. Are prices fixed and if so are they proposed or to be negotiated with the supplier? Does the price use various financial markets, a percentage of the Standard Offer or cost plus?

- ***Marketing plan***. What is the supplier's approach to residential, commercial and industrial contract development? How many people are available to implement the contract and what is the time frame? What is their business plan for servicing the Massachusetts retail market? Will the aggregation be a core part of their business?

- ***Energy services***. How comprehensive is the response? How effectively does it respond to the proposal requirements? How is pricing approached for each element? Who are their business partners that perform the energy services?

- ***Customer Service***. What types of resources are available and how are contract performance issues resolved? Does the company have a local office? How is the company organized to meet consumer's needs? Who are the contacts and when are they available?

- ***Individual interviews***. These provide an opportunity to meet with suppliers in order to query them on their proposal, raising questions not discovered during a paper review of the proposal. Request the supplier to present an overview of their proposal.

[18] See Glossary

VIII. The Electric Service Agreement

The electric service agreement or supply contract details delivery and price of electric supply and any additional services. There is no standard developed yet for a supply contract. Respondents or bidders may supply a sample retail supply contract for review and consideration, however the proposal may further advise that the municipality is under no obligation to accept the sample terms and conditions. Every buyer should feel comfortable with the terms under which it and its supplier can terminate a contract or not fulfill their obligations. Clarify market risks, specifically those effecting costs and responsibilities. *(Note: Due to the manner in which electricity is purchased in the wholesale market, suppliers can hold prices for a short time only, typically one to five days).* For information on the wholesale purchase of electricity, see the ISO New England website at http://www.iso-ne.com/

Contract Provisions

The electric service agreement may contain the following contract provisions. The aggregator has the right to negotiate these provisions to meet its needs.

- **Term.** The starting and ending points of the supply arrangements should be clear, including the effect of the Massachusetts account enrollment rules (supplier switching) that delay effective dates to the specific meter readings of customers. (Billing is staggered -- not all customers receive bills on the same date.) It should be clear at what point a customer is switched and how the cycle of billing effects the date. Contract term may affect price. A supplier providing a long-term contract will protect themselves against long-term price changes.

- **Rights to Revert to Standard Offer.** In a Municipal Aggregation, customers have a right to return to Standard Offer Service, without penalty, by opting out before enrollment or up to 180 days after enrollment. Explicitly document these rights in the contract as well as the procedures for exercising them.

- **Low Income.** There are special provisions for supply and cost recovery relating to low-income customers.[19] These guidelines place low-income customers on the lowest rate. The discount received is attached to the Transmission and Distribution part of the bill and stays with the Distribution Company. In addition, Low-Income customers may return to standard offer at anytime. Express these provisions in the contract.

- **Delivery Point.** Note the point of physical delivery of the power in the contract, this point has implications for calculation of line losses, title responsibility and sales taxes.

- **Description of Service.** Describe the nature of the power supply. Presumably, it is equivalent to Standard Offer Service, but changes in components of the supply may create unexpected cost increases. The range of bundled services varies; request individual prices for each service before evaluating a proposal. Some proposals may only provide a single price quote.

- **Price and Price Adjustments.** Clearly define the price, including implications of time-of-use pricing, indices, escalators, demand charges, exit fees, and other factors that may affect the price or how it is applied. Middlemen and suppliers fees will vary. Clearly identify these costs ahead of time. The foundation for fees should be clear and based upon simple, measurable performance objectives.

[19] Other Statutory Obligations: Pursuant to M.G.L. Ch. 164 sec. 1F (4)(i), low-income customers shall receive the discount rates comparable to those in effect prior to March 1, 1998.

- **Surety.** Characterize the financial assurances provided by the Supplier.

- **Force Majeure.** There are events outside the ability of the parties to control, such as any cause beyond the reasonable power of the party claiming Force Majeure. It may include sabotage, strikes, acts of God, war, riot, civil disturbance, drought, earthquake, flood, explosion, fire, lightning, landslide, etc. However, customers should not accept risks properly borne by the Supplier, such as responsibility for integrity of the chain of supply or the operations of a specific generator. Economic hardship of either party does not constitute Force Majeure. Neither does the inability of the contractor to obtain transportation, to obtain generation contracts or the event of higher actual costs than contracted costs.

- **Customer Participation Review.** If the supplier asserts rights to deny service to a customer, clarify the criteria for evaluation, including the test for acceptable credit, and state a process for adjudication of appeals.

- **Collections, Non-payment.** For most classes of customers, suppliers must adhere to Massachusetts's utility collection rules.[20] Make any additional implications for customers clear.

- **Metering, Equipment.** The electric industry does not require special metering for competitively supplied customers. However, such metering may have value to the supplier or the customer. Define responsibility for the costs of installing special or additional metering.

- **Renewal Provisions.** Clearly state if the contract is renewable upon its termination, or upon other events.

- **Customer Equity.** Provide parity in pricing terms to ensure equity among similarly situated customers.

- **Customer Service.** Plainly describe the means of how and when consumers can reach the supplier.

- **Energy Efficiency and Energy Management Services.** If access to services is part of the contract, provide the terms of such access, services provided, pricing, quality and performance expectations, and contacts.

- **Jurisdiction.** Any agreement should be governed by the laws of the Commonwealth of Massachusetts

- **Sample electricity service agreement.** The aggregator may invite the bidder to submit a sample retail supply contract for review and consideration. However, the municipality is under no obligation to accept the sample terms and conditions presented by the bidder.

- **Threshold or qualification criteria.** (See page 20 and 21)

[20] See http://www.state.ma.us/dte

IX. Additional Requirements

Notifying Constituents

Following DTE approval of a municipal aggregation plan, the aggregator **must notify all consumers**. The notification must reach everyone in the municipality, such as low-income, elderly, small businesses, visually impaired, and those who speak English as a second language, etc. The notification process takes place before scheduling the start of service.

Disclosure label and terms of service

Rule 220 CMR 11.00 governs the information a Competitive Supplier is required to provide to the consumer. The purpose of the regulation is to provide customers with a consistent format of information to evaluate the services offered by Competitive Suppliers and Local Distribution Companies. There are three pieces of information required: disclosure label, terms of service, and an annual booklet. A municipal aggregator is responsible for providing that same information.

Just as food has a label describing the contents, a similar label tells consumers the "ingredients" of the electricity you buy. The disclosure label includes the price, the length of the contract, the source of the electricity (coal, nuclear, natural gas, wind, or hydro), the emissions from the plants producing electricity, and whether the electricity is produced with a workforce that is unionized. On the following page is an example of a disclosure label.

COMPETITIVE SUPPLIER INFORMATION REQUIREMENT

Information Disclosure Label

- Price and price variability
- Customer service information
- Fuel, emissions, and labor characteristics

Terms of Service

- Pricing structure according to which Retail Customer will be billed, including explanation of price variability and price level adjustments
- Length and kind of contract
- Due date of bills and consequences of late payment
- Conditions under which a credit agency is contacted
- Deposit requirements and interest on deposits
- Limits on warranty and damages
- Any and all charges, fees, and penalties
- Consumer rights pertaining to estimated bills, third-party billing, and deferred payments
- A toll-free number for service complaints
- Low-income rate eligibility
- Provisions for Default Generation Service
- Applicable provisions of M.G.L. c.164, § 1F
- Method of notification of changes to items in the Terms of Service

Annual booklet

- Retail Customer's rights under the provisions of M.G.L. c. 164

Sample Generic Disclosure Label

Generation Price

Average unit price per kWh at different levels of use. Prices do not include regulated charges for customer service and delivery.

Average Use per Month	250 kwh	500 kwh	1000 kwh	2000 kwh
Average Price per Month	4.5 cents	4.5 cents	4.5 cents	5 cents

Your average generation price will vary according to when and how much electricity you consumer. See your most recent bill for your monthly use and your Terms of Service for the actual prices.

Contract

- **Minimum Length**: 3 Years (30-day notice required for termination. Penalties may apply.)
- **Contract Terms**: Fixed price over contract period

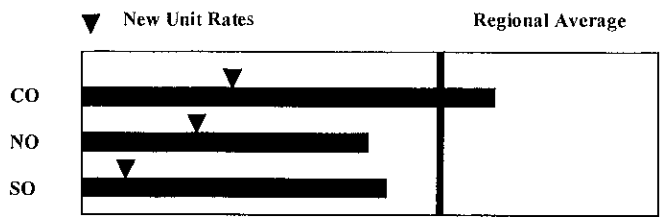
Power Sources

Demand for this electricity product in the period 3/102-2/28/03 was assigned from the following sources:

Power Source	Known Resources	System Power	Total
Biomass	5%	3%	8%
Coal	0%	10%	10%
Hydro: Large	11%	5%	16%
Hydro: Small	0%	2%	2%
Imported Power	0%	5%	5%
Municipal Trash	0%	15%	15%
Natural Gas	5%	0%	5%
Nuclear	0%	4%	4%
Oil	0%	24%	24%
Other Renewable	4%	0%	4%
Solar	5%	0%	5%
Wind	2%	0%	2%

Air Emissions

Carbon dioxide (CO), Nitrogen oxide (NO), and sulfur dioxide (SO) emissions rates from these sources, relative to the regional average, and to the emission rates of a new generating unit



Labor Information

95% of the electricity assigned to this electricity product came from power sources with union contracts with their employees.

)% of the electricity assigned to this electricity product came from power sources that used replacement labor during labor disputes between 3/1/02 and 2/28/03.

Notes

1. Electricity customers in New England are served by an integrated power grid, not particular generating units. The above information is on generating units assigned to this electricity product. To obtain information on all generating units owned by, or under contract to XYZ Company, call 1(800)123-4567

2. See reverse side and your contract terms and conditions for further information on this label. You may also call XY

X: Ongoing Operations

Customer Transition

Transition administration, even if managed on a firm schedule, may encounter more than one hurdle. Flexibility allows for unexpected challenges. The transition period begins after announcing the start-up and sending notices to customers. Customer switching takes place, not all at once, but rather in sequence with the LDC's billing cycle. This provides a meter reading for the ending billing period. Consideration of billing adjustments for customers is suggested. For example, some customers, transferred before the end of their six-month billing cycle, will have an additional charge or credit on their bill that defines the variable price. For pricing information, contact the LDC.

Figure 6: Identifying and Managing System Adjustments

Identifying and Managing System Adjustments

Even after start-up, system adjustments are likely to be needed. Anticipation of adjustments and timely identification of unanticipated adjustments is essential to the satisfaction of consumers.

Establish procedures to respond to:

- **Consumer queries and problems**
- **Power supplier problems**
- **Distribution Company problems**
- **Media queries**
- **Governmental shifts and proposed changes in policy**

Source: Community Franchise Study
Urban Consortium Energy Task Force of Public Technology, Inc.

Contract Compliance

After executing the contract and transferring customers to the new competitive supplier, the monitoring period begins. The committee or administrator of the contract addresses issues and monitors the contract for compliance. Although the LDC typically fields consumer's calls regarding distribution, the administrator may also process complaints from customers.

Figure 7: Contract Performance Evaluation

Preparing for Contract Expiration/Renewal

The process for contract expiration and renewal calls for more extensive evaluation of performance and a renewed bidding process.

The process includes:

- **Assessment on achievement of contract milestones**
- **Possible revision or upgrading of goals**
- **Market assessment or new feasibility study if conditions in the service area, or operations have changed significantly**
- **Public process to affirm goals and evaluation**
- **Bidding and negotiation process**
- **Formulation of new contract**
- **Service transition process, if needed**

Source: Community Franchise Study
Urban Consortium Energy Task Force of Public Technology, Inc.

Glossary

The vocabulary is important in electric restructuring; many terms emanate from the electric industry, while others describe new concepts, opportunities, and issues. [21] The meaning of terms may vary between states.

Access Charge: A charge levied on a customer, for access to a utility's transmission or distribution system.

Aggregator: An entity that groups together electric customers for purposes of facilitating retail sale of electricity. Also, an entity that combines customers into a buying group for the purchase of a commodity service.

Ancillary Services: Power supply functions that support uninterrupted supply and delivery of electricity consistent with quality and reliability standards. These functions include the following: (1) reactive power/voltage control; (2) loss compensation; (3) scheduling and dispatch; (4) load following; (5) system protection service; and (6) energy imbalance service. These services also include other generation and transmission services provided by generating units and some types of transmission equipment that are needed to ensure the reliable operation of the transmission system and facilitate power transfers.

Balancing: A requirement made of transmission systems that the energy sent or requested from energy producers or other suppliers be equal to the amount of energy delivered to customers. Balancing energy supply is the quantity of the total reserve energy available to be added into the system over and above any energy scheduled for use at a given time. It is a combination of all reserves ready to be pressed into use whenever an imbalance occurs between system load and customer demand. These reserves can include spinning and non-spinning reserves, replacement reserve, regulation, and any other energy from generators that can respond to a short-notice request for more energy.

Balancing Charge: The cost between actual and scheduled consumption

Baseload: The minimum amount of electric power delivered or required over a given period at a steady rate.

Baseload Capacity: The generating equipment normally operated to serve loads on an around-the-clock basis.

Baseload Generating Units: The minimum amount of power delivered or demanded over a given period at a constant rate. On an energy demand chart this will be the constant bottom line demand for a given customer or group of customers. (differentiated from Intermediate and Peak demand).

Bottleneck Facility (see also Congestion): A point on a power distribution system, usually a distribution line or a connection point through which all electricity destined for a given area has to pass, or a choke point in a system that has the potential to reduce the efficiency of the entire system

Broker: An individual or entity that brings buyers and sellers together to facilitate an electricity commodity supply arrangement.

Capacity: The amount of electric power required at any point in time, or the rate of consumption, usually measured across a fifteen-minute interval. (Not the amount of energy delivered during an interval – see Energy.)

Capacity Charge: An element in a multi-part pricing method (customer and energy charges may be among other elements in this method), sometimes called Demand Charge, assessed on the amount of capacity being purchased.

Cherry-picking: The practice of (in the energy industry) granting special treatment to large or desirable customers. The term can apply to any commercial activity in which product or service providers find it unprofitable to offer equal treatment for all customers. In the energy industry, small customers often combat cherry picking by aggregating themselves into a single large customer. An aggregated group of customers can often achieve similar treatment from energy suppliers to that enjoyed by large-scale customers.

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[21] Sources: DOER, DOE, DTE, and EnergyVortex

Cogeneration: Cogeneration is the simultaneous generation of electrical and thermal energy where both forms of energy are put to productive use.

Coincident Demand: The sum of two or more demands that occur during the same time interval.

Coincident Peak Load: The sum of two or more demands that occur during the peak demand time interval.

Commercial Sector: Moderate electric users such as non-manufacturing business establishments, including hotels, motels, restaurants, wholesale businesses, retail stores, and health, social, and educational institutions. A utility may classify commercial service in terms of a range of demand or of annual energy usage.

Congestion: Occurs when the local demand for energy supply approaches the limits of the transmission system's ability to supply it.

Conservation and Other Demand-Side Management (DSM): Consumer load reduction due to customer or utility sponsored programs that reduce consumer use during certain hours of the day or year. Examples include installation of energy efficient appliances, lighting and electrical machinery, and weatherization materials. This category also includes thermal storage, time-of-use rates, fuel substitutions, measurement and evaluation, and any activities designed to reduce demand and/or electricity use.

Control Area: An electric power system or combination of electric power systems, such as the area controlled by the New England Power Pool, now ISO New England, to which common system dispatch and control are applied in order to: (1) match, at all times, the power output of the generators within the system(s) and capacity and energy purchased from entities outside the system(s), with the load in the system(s); (2) maintain scheduled interchange with other Control Areas; (3) maintain the frequency within reasonable limits; and (4) provide sufficient generating capacity to maintain operating reserves.

Default Service: The electricity supply services provided to a retail customer upon the: (1) failure of a competitive supplier to provide electricity as required by contract, (2) the completion of the term of the standard offer service, or (3) upon the inability of a customer to receive standard offer service transition rates during the term of the standard offer.

Demand (Electric): The rate at which electric energy is delivered to or by a system or piece of equipment, at a given instant or averaged over any designated period of time, usually in fifteen minute intervals. Demand is measured in watts or multiples thereof, such as kilowatts. Customers' bills for demand on a monthly basis would be based on the highest 15-minute period of demand in the month. Customers may be charged a demand "ratchet" which extends the billing demand level over succeeding months' as a means of recouping the utility's investment in facilities used only for the highest point in time. Residential customers are generally not levied a separately stated demand charge.

Demand-Side Management (see Conservation)

Deregulation: The elimination of regulation from all or part of previously regulated industry.

Direct Access: The ability of a retail customer to purchase commodity electricity directly from the wholesale market rather than through a local distribution utility. (See also Retail Competition)

Distributed Generation: Smaller units of generation capacity located on a utility's distribution system for the purpose of meeting local peak loads and/or displacing the need to build or upgrade local distribution lines.

Distribution: The delivery of electricity to retail customers through low voltage distribution lines typically operating at voltage levels greater than 220 volts and less than 69,000 volts.

Distribution Company or Local Distribution Company (LDC): The regulated electric utility entity that constructs and maintains the distribution wires connecting the transmission grid to the final customer. The LDC may also perform other services such as purchasing power supply and transmission services for customers, billing customers and reimbursing suppliers, and offering other regulated or non-regulated energy services to retail customers.

Distribution or Delivery Service: The delivery of electricity to the customer from points on the transmission system, or from a local generating plant, at distribution voltages.

Distribution System: The portion of an electric system designed and used to deliver electric energy to an end user.

Divestiture: The stripping off of one or more utility functions from the others by selling or in some other way changing the control of the function.

Electric Utility: An entity or instrumentality that owns and/or operates facilities for the generation, transmission, distribution, or sale of electric energy primarily for use by the public. Facilities that qualify as cogenerators or small power producers under the Public Utility Regulatory Policies Act (PURPA) are not considered electric utilities.

Energy: The capacity for doing work as measured by the capability of doing work (potential energy) or the conversion of this capability to motion (kinetic energy). Energy has several forms, some of which are easily convertible to another form useful for work. Most of the world's convertible energy comes from fossil fuels that are burned to produce heat that is then used as a transfer medium to mechanical or other means in order to accomplish tasks. Electrical energy is usually measured in kilowatt-hours, while heat energy is usually measured in British thermal units (Btu).

Energy Charge: That portion of billing for electric service based upon the electricity (kWh) consumed.

Energy Efficiency: Reduction in the energy used by specific end-use devices and systems, typically without affecting the services provided. Such savings are generally achieved by substituting technically more advanced equipment to produce the same level of end-use services (e.g. lighting, heating, motive drive) with less electricity. Examples include high-efficiency appliances, efficient lighting programs, high-efficiency heating, ventilating and air conditioning (HVAC) systems or control modifications, efficient building design, advanced electric motor drives, and heat recovery systems. Also, the implementation of an action, policy, or measure which entails the application of the least amount of energy required to produce a desired or given output.

Energy Source: The primary source of energy converted to electricity through chemical, mechanical, or other means. Energy sources include coal, petroleum and petroleum products, gas, gravity (e.g., column of water), uranium, wind, sunlight, and geothermal.

ESCO – Energy Service Company: A firm that offers products and services that manage or reduce a client's electricity consumption, often with the cost savings being split with the client as a means of financing the work.

FERC or Federal Energy Regulatory Commission: A quasi-independent Federal regulatory agency within the Department of Energy having jurisdiction over interstate electricity sales, wholesale electric rates, hydroelectric plant licensing, natural gas and oil pipeline rates, and pipeline certification.

Firm Power: Power or power producing capacity intended to be available at all times during the period covered by a guaranteed commitment to deliver, even under adverse conditions.

Firm Transmission Service: Point-to-point transmission service that is reserved and/or scheduled for a term of one year or more and that is of the same priority as that of the Transmission Provider's firm use of the transmission system.

Fuel Cost Adjustment Clause: A tariff provision that allows the utility to recover from (or credit) customers the variance between billed or expected and actual fuel costs of power generation.

Generating Unit: Any combination of physically connected, reactors, boilers, turbines and generators operated together to produce electric power.

Generation (Electricity): The process of producing electric energy by transforming other forms of energy; also, the amount of electric energy produced, expressed in kilowatt-hours (kWh).

Generation Dispatch and Control: Ordering the operation of plants, switches and other power supply facilities to manage the reliable and economic delivery of electricity, including providing backup and reliability services.

Generation Facility: A plant or equipment used to produce electricity.

Generation Service: The provision of generation and related services to a customer or to the grid.

Grid: A system of interconnected power lines, switching facilities, and generators that is managed so that the facilities are dispatched and controlled to meet the requirements of customers connected to the grid at various points.

Industrial sector: The industrial sector is generally defined as large and intensive users of electricity such as manufacturing, construction, mining, agriculture, fishing, and forestry establishments (SIC codes 01-39). A utility may classify industrial service using the SIC codes, or based on demand or annual usage parameters.

Investor owned utility- IOU: A utility company owned by stockholders for profit; differentiated from municipally owned and operated utilities and rural electric cooperatives.

Interruptible Load: Consumer load that can be curtailed under contractual or voluntary terms at times of adverse system, local or peak load requirements by direct request or control of the system operator. It usually involves commercial and industrial consumers

IPP – Independent Power Producer: A non-utility entity that operates a generation facility and sells power to electric utilities.

ISO – Independent System Operator: A system manager who operates and manages the grid and bulk power supply but is independent of the parties using the system.

Kilowatt (kW): A measure of electric capacity or demand; one thousand watts.

Kilowatt-hour (kWh): A measure of electricity consumption: one kilowatt for one hour. The amount of electricity used over a defined period of time, typically a one-month period for billing purposes, expressed in kilowatt-hours.

Load: The amount of electric power required at any specific point or points on a system. The requirement originates at the energy consuming equipment of the consumers. Load should not be confused with demand, which is the measure of power that a load receives or requires.

Load Centers: A geographical area where large amounts of power are drawn by end-users.

Load Control: The management of distribution demand during peak demand periods is referred to as load control. The primary function in load control is the reduction of load in one or more service areas to balance total system demand with the available supply.

Load Diversity: The condition that exists when the peak demands of a variety of electric customers occur at different times. This is the objective of "load molding" strategies, ultimately curbing the total capacity requirements of a utility.

Load Factor: A measure of the average load, in kilowatts, supplied during a given period. It is used to determine the total amount of energy that would have been used if a given customer's maximum load were sustained over an extended period. This value offers a useful comparison to show what percentage of a customer's potential usage is actually used. Load factor is derived this way:

(kWH of energy used x 100) / (maximum kilowatt demand x hours in the measured period)

Load Management: The process of structuring and/or scheduling the use of energy among a group of customers to best match available supplies to available demand. Load management is standard practice for most large municipal utilities and considered essential for stable energy service in most industrial regions. It consists of three basic strategies: peak clipping (the reduction of peak energy use, or literally "clipping the peak" off of an energy use curve), peak shifting (assisting customers in changing their peak demand periods so that demand better matches available supplies) and valley filling (encouraging the shifting of energy use in peak periods to the same use in periods when energy use is typically lowest).

Load Profiling: The process of graphing a customer's electric demand or load over a period of time, typically one day, one season or one year.

Load Shape: Term used in planning and demand-side management that refers to the distribution of energy requirements over time. Derived from the practice of plotting energy requirements on a chart that produces a graph that usually has a distinctively shaped curve. When distribution of energy requirements is changed, the shape of the graph also changes, so the redistribution of demand or load is referred to as changing the load shape.

Load Shedding: Blocking of customer access to energy, usually due to temporary shortage of supply. Load is most commonly applied during times of emergency or severe shortage. In most cases, the first loads a utility will shed in these conditions are loads required by industrial and commercial customers. Institutional loads are typically the last to be shed (hospitals, schools, municipal lighting authorities, etc.).

Load Shifting: The practice of altering the pattern of energy use so that on-peak energy use is shifted to off-peak periods. Load shifting is a fundamental demand-side management objective

Losses (Electric utility): Electric energy or capacity that is wasted in the normal operation of a power system. Some kilowatt-hours are lost in the form of waste heat in electrical apparatus, such as substation conductors. **Line losses** are kilowatts or kilowatt-hours lost in transmission and distribution lines under certain conditions.

Marginal Cost: The cost of providing the next (marginal) kilowatt-hour of electricity, irrespective of sunk costs.

Market Barriers: Generally, non-price hurdles to selling power that can exclude certain suppliers or resources from competing effectively. One example would be a requirement that wind generators submit their power output ahead of schedule.

Market-Based Price: A price set by the mutual decisions of many buyers and sellers in a competitive market (not the Standard Offer price).

Marketer: An independent entity selling power at retail, having produced it, purchased it from specific generators, or acquired it from open market sources. The marketer may also arrange transmission or other ancillary services as needed. Though a marketer may perform many of the same functions as a broker or aggregator, a main difference is that a marketer takes title to the commodity.

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

Megawatthour (MWh): One million watt-hours or one thousand kilowatt-hours.

Mitigation: Actions which reduce the amount of money that a utility seeks to collect through the transition charge, including sales of aspects of generating facilities or power purchase agreements and financing of stranded assets.

Municipal Aggregation: The development of an electricity supply arrangement by an instrumentality on behalf of all of its interested residential and business accounts.

Municipal Utility: A provider of utility services owned and operated by a municipal government.

NARUC: The National Association of Regulatory Utility Commissioners is an advisory council comprising the governmental agencies of the fifty States, the District of Columbia, Puerto Rico and the Virgin Islands engaged in the regulation of utilities and carriers. A chief objective of NARUC to improve the quality and effectiveness of regulation.

Non-coincident Peak Load: The sum of the peaks of two or more loads on a utility system that do not occur in the same time interval, this is meaningful when considering the implications of combined loads.

Non-Firm Power: Power or power producing capacity supplied or available under a commitment having limited or no assured availability.

Non-Firm Transmission Service: Point-to-point transmission service that is reserved and/or scheduled on an as-available basis and is subject to interruption.

NUG or non-utility generator: see Independent Power Producer.

Operating Reserve: The North American Electric Reliability Council and regional grid management councils require that a specific level of reserve power (spinning and non-spinning) be available at all times to insure reliable grid operation. A grid's operating reserve consists of all reserves available to serve customers connected to that grid.

Opt-out: The option of not participating in an aggregation with automatic enrollment. In Massachusetts, customers may choose not to participate, without penalty, before either enrollment or 180 after enrollment.

Peaking Capacity: Generating equipment normally reserved for operation during the hours of highest daily or seasonal loads.

Peak Load or Peak Demand: The electric load or demand that represent the maximum level of electric demand in a specified period.

Performance-Based Regulation (PBR): Any rate-setting mechanism that attempts to link rewards (generally profits) to desired results or targets. PBR sets rates, or components of rates, for a period based on external indices rather than a utility's cost-of-service and may provide utilities with better incentives to reduce their costs.

Point(s) of Delivery: Point(s) of interconnection on the electric system where capacity and/or energy are transferred to the receiving party.

Point-to-Point: Refers to energy transactions made involving acquisition of energy at one point and delivery to another party at a second point. May also be referred to as wholesale wheeling. Point-to-point transactions can occur between two utilities, between a marketer and a utility, or in cases where a customer has direct access to the transmission system, between a marketer or utility and an end-use customer.

Power Pool: An entity established to coordinate electric system operations, maintain stability, and achieve least-cost dispatch.

Public Benefits Charge: A charge added to a customer billing which is intended to cover costs related to services that a utility provides in the public interest. In Massachusetts, municipal aggregators may access the funds.

PURPA - The Public Utility Regulatory Policy Act of 1978: Among other things, this federal legislation required utilities to buy electric power from private qualifying facilities, at an avoided cost rate. This avoided cost rate is equivalent to what it would have otherwise cost the utility to generate or purchase the power themselves.

Reliability: Electric system reliability has two components – "physical" and financial. Physical reliability is the ability of the electric system to supply the aggregate demand and energy requirements of customers at all times, taking into account scheduled and unscheduled outages of facilities. Financial security represents the guaranties provided by a supplier to a customer minimizing the customer's exposure to costs resulting from the supplier's failure to deliver sufficient commodity.

Renewable energy: Either (1) electricity generating resources whose source of energy is nondepletable or naturally replenishable or (2) existing or emerging non-fossil fuel energy sources or technologies such as solar photovoltaic, wind, wave or tidal, fuel cells, landfill gas, waste-to-energy, and low-emission, advanced biomass power conversion technologies. The following are not usually considered renewable energy supplies: coal, oil, natural gas except when used in fuel cells, and nuclear power.

Reserve Margin: The unused amount of available capability of an electric power system, at peak load, as a percentage of total capability.

Residential sector: The residential sector is defined as private household establishments which consume energy primarily for space or water heating, air conditioning, lighting, refrigeration, cooking, and clothes drying.

Restructuring: The reorganization of the financial, regulatory and operating structure of the electric industry including possible severance of certain utility functions.

Retail: Sales of electricity for residential, commercial, and industrial end-use purposes.

Retail access: The option to procure electricity commodity supply competitively from entities other than traditional utilities. Use of transmission and distribution facilities owned by a utility deliver electricity from a competitive supplier to retail customers.

Retail Competition: A system under which more than one electric provider can sell commodity to retail customers, and retail customers are allowed to buy from more than one provider.

Retail Wheeling: See Retail Access. Use of the utility's facilities to transmit (wheel) power.

Securitization: The use of public commitments to provide surety (and tax exempt instruments) for refinancing utility costs associated with the transition to the restructured electric industry.

Self-Generation: Producing one's own electricity; a generation facility, usually located on the customer's premises either owned by the customer or by a third party under a contractual arrangement to meet the customer's load.

Service territory: The geographic area in which a utility has a franchise right to serve customers.

Slamming: The practice of switching one company's customers to another company providing the same service without the consent, and often without the knowledge, of the actual customer.

Standard Offer: Standard Offer Service is a transition generation service available to customers of record of each Distribution Company through February 2005.

Standby Service: Electric service that is available, as needed, to supplement a consumer, a utility system, or to another utility.

Stranded Costs/Stranded Assets: The costs of utility investments and operations incurred pursuant to a regulatory or contractual obligation under the former regime of regulation that in an open market environment would be rendered uneconomic, thereby probably not recoverable. Also "transition costs", stranded costs are charged to customers during a transition period through an Access Charge that cannot be avoided by disconnecting load from the system, e.g., through self-generation.

Substation: Equipment that switches, changes, or regulates electric voltage.

Supplier: a provider of generation service to retail customers, including power marketers, but not brokers or aggregators.

System Benefit Charge: A charge (stated in fractions of a cent per kWh) to all customer classes that is used for a public benefit for same.

Tariff: A document, approved by the responsible regulatory agency, listing the terms and conditions, including a schedule of prices, under which utility services will be provided.

Time-of-Use (TOU) Rates: The pricing of electricity based on consumption during a particular time block. Time-of-use rates are usually divided into two or three blocks per twenty-four hour period (on-peak, off-peak and sometimes shoulder) and by seasons of the year (summer and winter).

Transition Charge: The charge that provides the mechanism for recovery of an electric company's transition costs.

Transmission, Transmission Service: The movement or transfer of electric energy over an interconnected group of lines and associated equipment between points of supply and points of delivery over distribution facilities; typically conducted at 69,000 volts and greater.

Transmission Facility, System: Equipment used for the transmission of electricity.

Transmission Loss: Energy lost or wasted in the transmission of energy from the generator to the eventual customer.

Unbundling: Desegregating electric utility service into its basic components and stating each component separately or offering it for sale. For example, generation, transmission, and distribution services could be unbundled and offered as discrete services.

Unbundled rates: Rates separately stating the costs of generation, transmission and distribution service, and transition and general access charges.

Universal Service: Electric service sufficient for basic needs (an evolving bundle of basic services) available to virtually all members of the population regardless of income.

Utility: A regulated entity that exhibits the characteristics of a natural monopoly.

Valley Filling: The process of making an energy production and delivery system more efficient by encouraging additional energy use during periods of lowest system demand. Valley filling programs are usually accompanied by load shifting programs, often with the aim of shifting peak demand usage to low demand periods, but the term can refer to any program or strategy aimed at filling the valley. An essential component of nearly all demand-side management programs.

Vertical Market Power: When one or a few market participants, having joint ownership of facilities at differing levels of the chain of production (such as generation, transmission, and distribution) possess the ability to use joint ownership to influence price to the participants' own benefit.

Wheeling: The transmission of electricity by an entity that does not own or directly use the power it is transmitting.

Wires Charge: A broad term that refers to charges levied on customers for the use of transmission or distribution facilities.

Appendix A

Synopsis of Municipal Aggregation Provisions[22]

Municipal Aggregation, Section 134 (a)
Any municipality or group of municipalities may aggregate the electrical load of interested electricity consumers within its boundaries to solicit bids, broker, and contract for electric power and energy services for such customers. (This does not apply to customers served by an existing municipal lighting plant.)

The municipality, county, or group of municipalities or counties may enter into agreements for the sale and purchase of electric energy and other related services. The process is initiated with a majority vote of town or city council and the approval of the mayor in a city.
The municipality develops a plan which:

1) Details the process and consequences of aggregation
2) Provides for:
   a) Universal access
   b) Reliability
   c) Equitable treatment of all classes of customers
3) Meets any requirements established by law or the DTE concerning aggregated service
4) Achieves a price for energy that either will
   a) Not exceed the price of Standard Offer Service, or
   b) Exceeds the price for Standard Offer Service due to the purchase of renewable energy
5) Automatically enrolls all customers then currently on standard offer service, but allows them to opt-out without penalty within 180 days
6) Participation by any retail customer shall be voluntary
7) The aggregation plan incorporates
   a) An organizational structure of the program, its operations, and its funding
   b) Rate setting and other costs to participants
   c) The methods for entering and terminating agreements with other entities
   d) The rights and responsibilities of program participants and termination of the program
8) The aggregated entity must fully inform all ratepayer classes in advance of
   a) Their impending automatic enrollment
   b) All charges and fees
   c) Their right to opt-out without penalty within the first 180 days
   d) The Standard Offer rate and how to access it
9) Procedurally, the plan is:
   a) Developed in consultation with the Division of Energy Resources
   b) Reviewed by the municipalities' citizens
   c) Filed with the Department of Telecommunications and Energy
   d) Subject to public hearing held by DTE
   e) Approved by DTE

Energy Plan, Section 134 (b)
A municipality or group of municipalities establishing a load aggregation program pursuant to subsection (a) ***may*** adopt an energy plan that defines the manner in which it will implement demand side management programs and/or renewable energy programs. Upon adoption, the municipality shall submit the energy plan to the DTE for certification that it is consistent with state energy conservation goals developed pursuant to chapter 25A or chapter 164.

1) If the plan is certified, the aggregating entity may:
   a) Apply to the Massachusetts Technology Park Corporation for monies from the Massachusetts Renewable Energy Trust Fund, pursuant to chapter 40J, and
   b) Receive money from the demand side management system benefit charges or line charges in an amount not to exceed that contributed by retail customers within said municipality.
   c) The municipality or group of municipalities adopts an energy plan in the same manner as an aggregation plan.
2) Within two years of approval of its plan, the aggregation shall provide written notice to the DTE that it has implemented the plan. Otherwise, the DTE may revoke certification of its energy plan.

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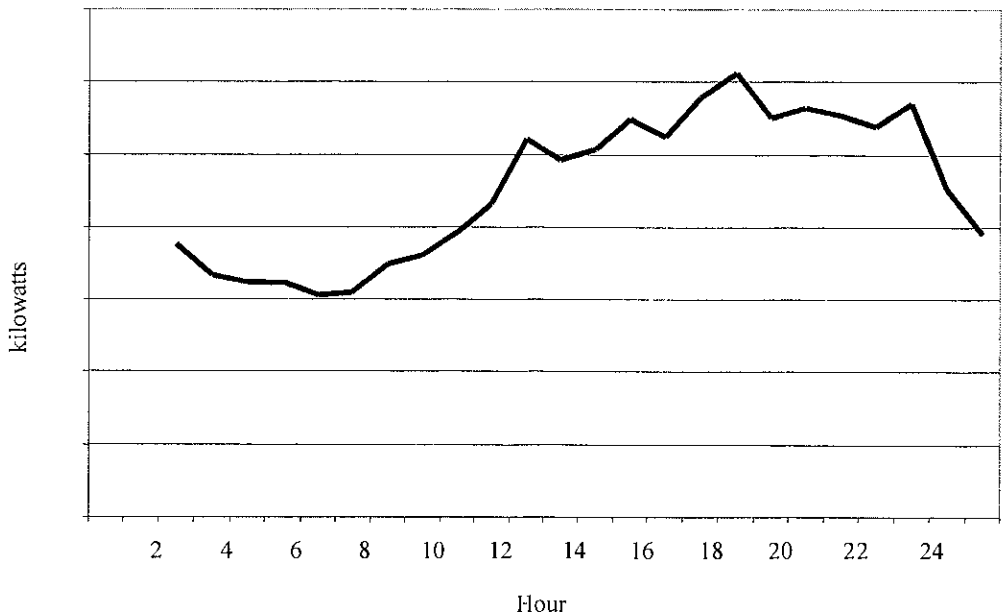
[22] Source: DOER. (See Appendix C for full text of Chapter 164, § 134 (a), (b))

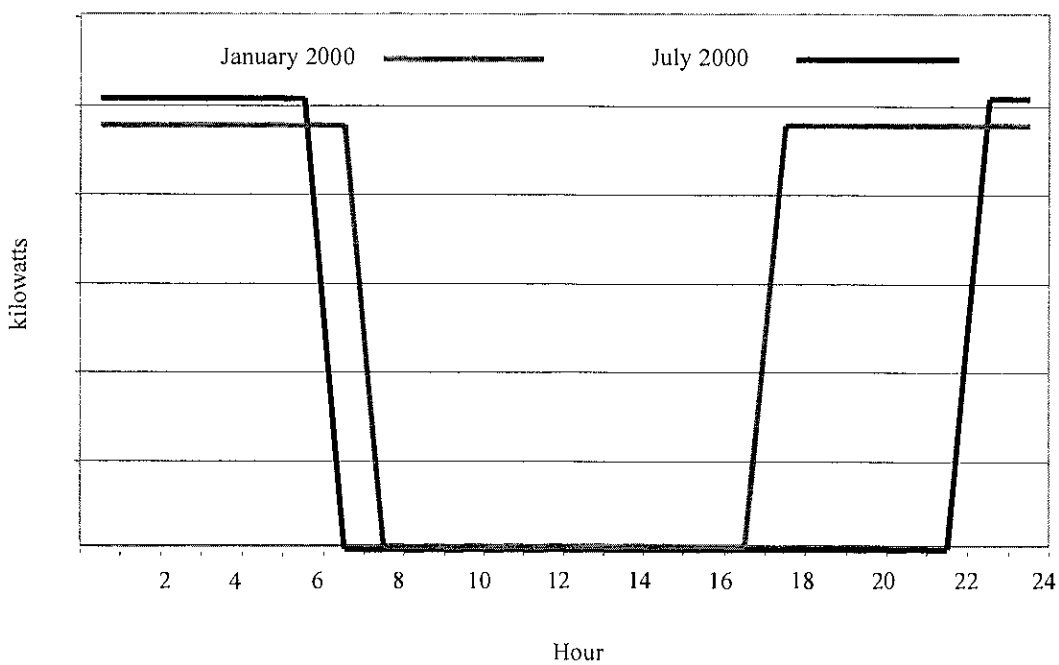
Appendix B

Hypothetical Load Profiles

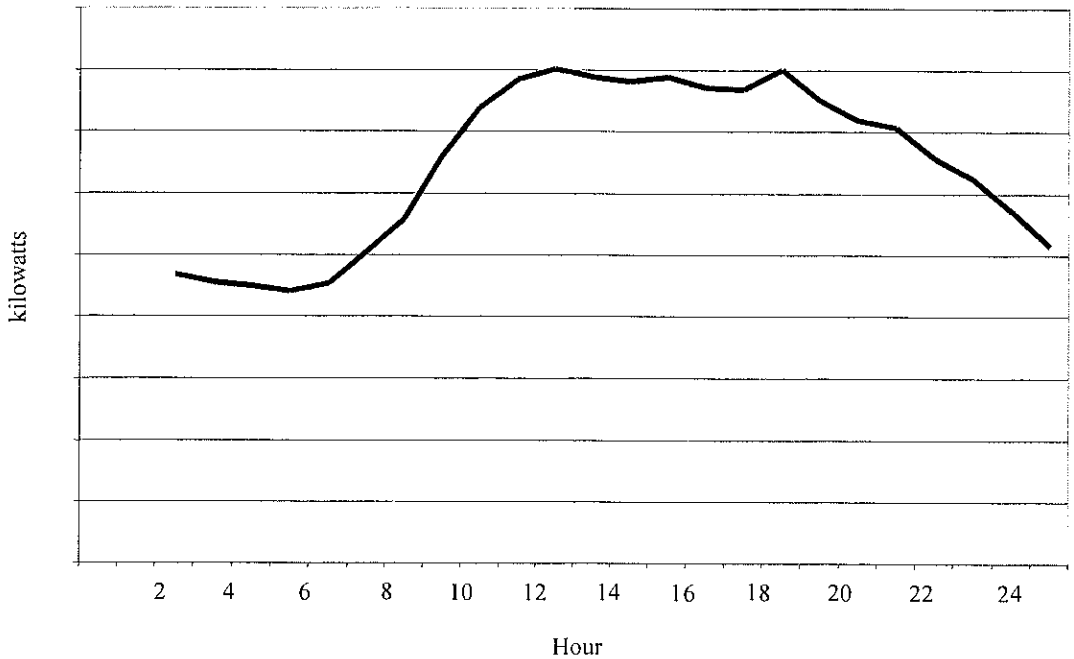
Residential Electric Demand Load



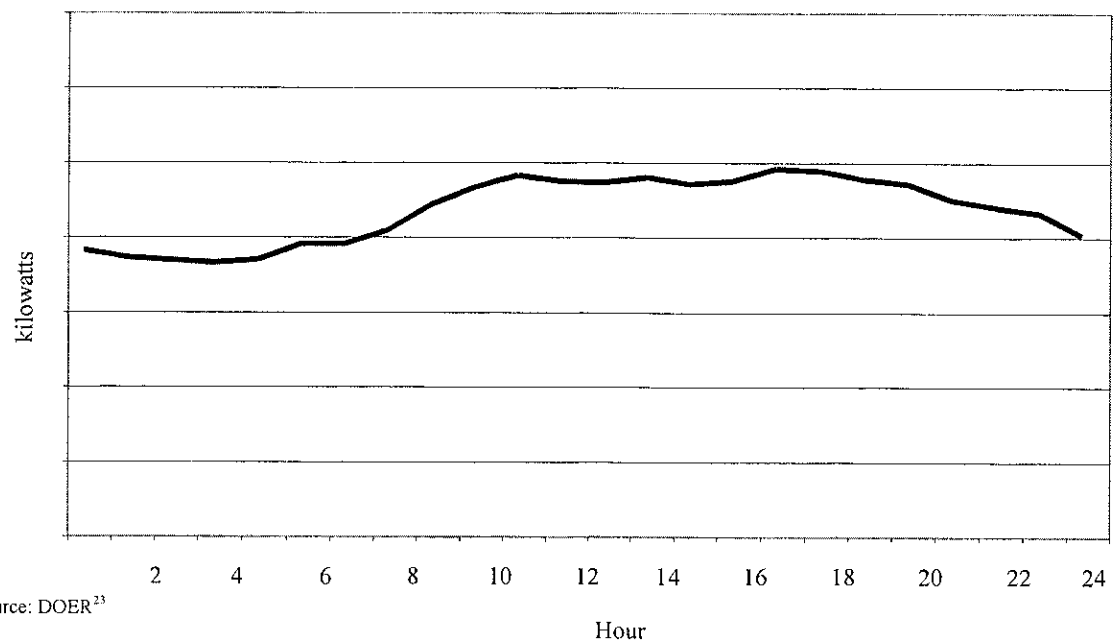
Streetlight Electric Demand Load



Commercial Electric Demand Load



Overall Electric Demand Load



Source: DOER[23]

[23] Although these graphs derived from actual load data, the data has been manipulated to demonstrate the typical behavior of various load profiles.

Appendix C

CHAPTER 164. MANUFACTURE AND SALE OF GAS AND ELECTRICITY. [24]

Chapter 164: Section 134. Aggregation of electrical load by municipality or group of municipalities; adoption of energy plan.

Section 134. (a) Any municipality or any group of municipalities acting together within the commonwealth is hereby authorized to aggregate the electrical load of interested electricity consumers within its boundaries; provided, however, that such municipality or group of municipalities shall not aggregate electrical load if such are served by an existing municipal lighting plant. Such municipality or group of municipalities may group retail electricity customers to solicit bids, broker, and contract for electric power and energy services for such customers. Such municipality or group of municipalities may enter into agreements for services to facilitate the sale and purchase of electric energy and other related services. Such service agreements may be entered into by a single city, town, county, or by a group of cities, towns, or counties.

A municipality or group of municipalities which aggregates its electrical load and operates pursuant to the provisions of this section shall not be considered a utility engaging in the wholesale purchase and resale of electric power. Providing electric power or energy services to aggregated customers within a municipality or group of municipalities shall not be considered a wholesale utility transaction. The provision of aggregated electric power and energy services as authorized by this section shall be regulated by any applicable laws or regulations which govern aggregated electric power and energy services in competitive markets.

A town may initiate a process to aggregate electrical load upon authorization by a majority vote of town meeting or town council. A city may initiate a process to authorize aggregation by a majority vote of the city council, with the approval of the mayor, or the city manager in a Plan D or Plan E city. Two or more municipalities may as a group initiate a process jointly to authorize aggregation by a majority vote of each particular municipality as herein required.

Upon an affirmative vote to initiate said process, a municipality or group of municipalities establishing load aggregation pursuant to this section shall, in consultation with the division of energy resources, pursuant to section 6 of chapter 25A, develop a plan, for review by its citizens, detailing the process and consequences of aggregation. Any municipal load aggregation plan established pursuant to this section shall provide for universal access, reliability, and equitable treatment of all classes of customers and shall meet any requirements established by law or the department concerning aggregated service. Said plan shall be filed with the department, for its final review and approval, and shall include, without limitation, an organizational structure of the program, its operations, and its funding; rate setting and other costs to participants; the methods for entering and terminating agreements with other entities; the rights and responsibilities of program participants; and termination of the program. Prior to its decision, the department shall conduct a public hearing. The department shall not approve any such plan if the price for energy would initially exceed the price of the standard offer, as established pursuant to section 1B of this chapter, for such citizens in the municipality or group of municipalities, unless the applicant can demonstrate that the price for energy under the aggregation plan will be lower than the standard offer in the subsequent years or the applicant can demonstrate that such excess price is due to the purchase of renewable energy as described by the division of energy resources pursuant to chapter 25A.

Participation by any retail customer in a municipal or group aggregation program shall be voluntary. If such aggregated entity is not fully operational on the retail access date, any ratepayer to be automatically enrolled therein shall receive standard offer service unless affirmatively electing not to do so. Within 30 days of the date the aggregated entity is fully operational, such ratepayers shall be transferred to the aggregated entity according to an opt-out provision herein.

Following adoption of aggregation through the votes specified above, such program shall allow any retail customer to opt-out and choose any supplier or provider such retail customer wishes. Once enrolled in the aggregated entity, any ratepayer choosing to opt-out within 180 days shall do so without penalty and shall be entitled to receive standard offer service as if he was originally enrolled therein. Nothing in this section shall be construed as authorizing any city or town or any municipal retail load aggregator to restrict the ability of retail electric customers to obtain or receive service from any authorized provider thereof.

It shall be the duty of the aggregated entity to fully inform participating ratepayers in advance of automatic enrollment that they are to be automatically enrolled and that they have the right to opt-out of the aggregated entity without penalty. In addition, such disclosure shall prominently state all charges to be made and shall include full disclosure of the standard offer rate, how to access it, and the fact that it is available to them without penalty. The division of energy resources shall furnish, without charge, to any citizen a list of all other supply options available to them in a meaningful format that shall enable comparison of price and product.

(b) A municipality or group of municipalities establishing a load aggregation program pursuant to subsection (a) may, by a vote of its town meeting or legislative body, whichever is applicable, adopt an energy plan which shall define the manner in

[24] See Appendix A for a synopsis of Chapter 134, § 134 (a), (b)

which the municipality or municipalities may implement demand side management programs and renewable energy programs that are consistent with any state energy conservation goals developed pursuant to chapter 25A or chapter 164. After adoption of the energy plan by such town meeting or other legislative body, the city or town clerk shall submit the plan to the department to certify that it is consistent with any such state energy conservation goals. If the plan is certified by the department, the municipality or group of municipalities may apply to the Massachusetts Technology Park Corporation for monies from the Massachusetts Renewable Energy Trust Fund, established pursuant to subsection (a) of chapter 40J, and receive, and if approved, expend moneys from the demand side management system benefit charges or line charges in an amount not to exceed that contributed by retail customers within said municipality or group municipalities. This will not prevent said municipality or municipalities from applying to the Massachusetts Technology Park Corporation for additional funds. If the department determines that the energy plan is not consistent with any such state-wide goals, it shall inform the municipality or group of municipalities within six months by written notice the reasons why it is not consistent with any such state-wide goals. The municipality or group of municipalities may re-apply at anytime with an amended version of the energy plan.

The municipality or group of municipalities shall not be prohibited from proposing for certification an energy plan which is more specific, detailed, or comprehensive or which covers additional subject areas than any such statewide conservation goals. This subsection shall not prohibit a municipality or group of municipalities from considering, adopting, enforcing, or in any other way administering an energy plan which does not comply with any such state-wide conservation goals so long as it does not violate the laws of the commonwealth.

The municipality or group of municipalities shall, within two years of approval of its plan or such further time as the department may allow, provide written notice to the department that its plan is implemented. The department may revoke certification of the energy plan if the municipality or group of municipalities fails to substantially implement the plan or if it is determined by independent audit that the funds were misspent within the time allowed under this subsection.

Information Resources

Buying Electricity and Natural Gas in Today's Restructured Market, (September 2000) California Energy Commission, http://www.energy.ca.gov

This guide on buying both gas and electricity contains example documents.

Community Aggregation in Greater Minnesota Under a Restructured Electric System, (November, 2000) Steven M. Hoffman, Ph.D., James W. Vincent, Ph.D., Lola Scroenrich, Carl Nelson for the Center for Rural Policy and Development, http://www.mnproject.org/pdf/Aggregation.pdf

This report describes public policies regarding aggregation of consumers.

Community Franchise Study: An Option for Local Governments Facing the Challenge of Electric Utility Industry Restructuring, (December 1996), Public Technology Inc., Margaret Downey, Project Manager, http://www.capelightcompact.org/about.htm

The purpose of the study is the examination of how traditional franchise powers of local government for aggregation of consumers is utilized in a competitive marketplace. It also includes model documents for various agreements.

Competition and Consumer Protection Perspectives on Electric Power Regulatory Reform (September, 2001), Report by the Federal Trade Commission, http://www.ftc.gov/reports/elec/electricityreport.pdf

This report examines which features of various state retail electricity programs appear to have resulted in consumer benefits and which have not.

Customer Aggregation: An Opportunity for Green Power? (February 2001), Edward Holt and Lori Bird, National Renewable Energy Laboratory, http://www.eren.doe.gov/greenpower/lb29408.pdf

This report examines the possibility of whether customer aggregation offers an opportunity to bring green power choices to more customers

Demand Responsiveness in Electricity Markets, (January 15, 2001), Ronald Lafferty, David Hunger, James Ballard, Gary Mahrenholz, David Mead, and Derek Bandera, Office of Markets, Tariffs and Rates, Federal Energy Regulatory Commission, http://www.ferc.fed.us

This paper provides an overview of the issues relating to demand responsiveness in electricity markets.

Electric Consumer Aggregation Options: An Introductory Guide for Non-Profits, Local Governments, and Community Leaders (May 2001), Caroline Sahley, Green Energy Ohio, http://www.greenenergyohio.org

To date, Ohio is the only other state, besides Massachusetts, that has provisions for municipal aggregation. The guide contains sections on low-income and green power.

Feasibility of Small Customer Aggregation for the Delivery of Comprehensive Energy Services in a Competitive Utility Environment, (July 31, 1998), U.S. Department of Energy. Prepared by Environmental Futures, Inc., Tellus Institute, EUA Citizens Conservation, http://www.tellus.org/energy/publications/chicago.pdf

This study examines whether it is technically and economically feasible to aggregate small residential customers in a way that they will enjoy access to a full range of energy services.

Group Buying Power: Meaningful Choices for Energy Consumers, (May 1997), American Public Power Association on behalf of Kay Guinane and Environmental Action, http://www.appanet.org/pdfreq.cfm?PATH_INFO=/about/why/aggregation/f_buyingpower.pdf&VARACTION=GO

This report examines over two dozen potential forms for consumer buying groups in a restructured electricity market.

Keeping the Lights On: Aggregation Guide, (November 1998), Public Technology, Inc., http://www.pti.org

This is a guide for local governments interested in the development of group purchasing for electricity services in the restructured electric utility environment.

Promoting Competitive Electricity Markets through Community Purchasing: The Role of Municipal Aggregation (January 2000), Nancy Rader, and Scott Hempling. Prepared for the American Public Power Association, http://www.appanet.org/pdfreq.cfm?PATH_INFO=/about/why/aggregation/RaderHemplingAggregRpt.pdf&VARACTION=GO

This report describes advantages and costs of aggregation.

Purchasing Energy and Related Services in a Restructured Electricity Industry, (August, 1998), William Golove, Charles Goldman, and Steven Pickle, Berkeley National Laboratory, http://eetd.lbl.gov/EA/EMP/reports/pslx7/41817.pdf

This paper presents an analysis of approximately thirty Requests for Qualifications/Proposals for electricity and related energy services.

State and Local Government Purchasing Model Program Plan: A Guide for Energy Efficiency Program Administrators, Consortium for Energy Efficiency, http://www.cee1.org/resrc/facts/purch-fx.php3

Agencies and Organizations

Division of Energy Resources (DOER)
70 Franklin Street
Boston, MA 02110-1313
http://www.mass.gov/doer

Department of Telecommunications and Energy (DTE)
One South Station
Boston, MA 02110
http://www.mass.gov/dtc

Massachusetts Attorney General Office (AG)
One Ashburton Place
Boston, MA 02108-1698
(617) 727-2200
http://www.ago.state.ma.us

Massachusetts Technology Collaborative (MTC)
http://www.mtpc.org/

New England Independent System Operator (ISO)
and information about NEPOOL
http://www.iso-ne.com

Cape Light Compact
http://www.capelightcompact.org

Massachusetts Municipal Association
http://www.mma.org

Department of Energy Office of Scientific and Technical Information
http://www.osti.gov/html/osti/ostipg.html

Federal Energy Regulatory Commission (FERC)
http://www.ferc.fed.us

Federal Trade Commission
http://www.ftc.gov

National Association of Regulatory Utility Commissioners
http://www.naruc.org

Northeast Energy Efficiency Council (NEEC)
http://www.neec.org

Northeast Energy Efficiency Partnerships (NEEP)
http://www.neep.org

Public Technology, Inc.
http://www.pti.org

Urban Consortium Energy Task Force
http://www.pti.nw.dc.us/task_forces/energy/index.html

California Energy Commission
http://www.energy.ca.gov

American Public Power Association
http://www.appanet.org

National Renewable Energy Laboratory (NREL)
http://www.nrel.gov

Ernest Orlando Lawrence Berkley National Laboratory
http://www.lbl.gov

Consortium for Energy Efficiency (CEE)
http://www.cee1.org

The Energy Foundation
http://www.ef.org

Green Energy Ohio
http://www.greenenergyohio.org

Utilities

NSTAR (Boston Edison, Commonwealth Electric)
http://www.nstaronline.com

Massachusetts Electric (NGRID)
http://www.masselectric.com

Nantucket Electric (NGRID)
http://www.nantucketelectric.com

Western Massachusetts Electric (Northeast Utilities)
http://www.nu.com/

Fitchburg Gas & Electric (Unitil)
http://services.unitil.com/fge/