Illinois CHP/BCHP Environmental Permitting Guidebook

VOLUME B:
PERMITTING ISSUES
(A SURVEY AND DIALOGUE)

Prepared For:
Illinois Department of Commerce and Community Affairs
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Executive Summary

The Illinois CHP/BCHP Environmental Permitting Guidebook is divided into two main volumes. "Volume A - Roadmapping the Permitting Process" details the current permitting process for CHP systems and provides tools in the form of an Emissions Calculator and a Step by Step Questionnaire to efficiently navigate the permitting process. "Volume B - Permitting Issues (A Survey and Dialogue)" identifies permitting issues as well as potential opportunities to streamline the permitting process based on a survey with 20 current CHP installations and feedback from CHP developers and the Illinois Environmental Protection Agency.

Chronologically, the survey with current CHP installations was conducted first and the results from the survey shaped the approach of the "roadmapping" section of the guidebook. For example, the survey showed that most CHP facilities use natural gas or diesel engines, hence, the roadmapping section of the guidebook encompasses these technologies. Furthermore, nearly half of all facilities knowingly responded that they had to obtain a Clean Air Act Title V permit (called CAAPP in Illinois) and that they had to use an outside consultant for permitting purposes. Therefore a substantial effort was devoted to address air permitting issues in the guidebook. On the other hand, local building code and fire code compliance was not perceived as a major cost or effort component during the permitting process. As a result local building code and fire code compliance is not discussed in detail but helpful contact information is provided.

Other key findings of the survey include the observation that time and cost estimates to permit facilities vary widely among the respondents. Wide variations were also observed with respect to the perceived ease/complexity of the permitting process.

The purpose of the roadmapping section of this guidebook is to reduce some of the perceived complexities identified in the survey. As discussed above, many CHP projects have to assess air permitting/ registration requirements and how to match operational flexibility of a facility with potential permitting flexibilities. To provide guidance with this effort, a simple Emissions Calculator was developed, which provides an estimation of the expected emissions from a CHP facility for various operating scenarios. The use of the Emissions Calculator and several hypothetical air permitting examples are shown. Besides hypothetical examples, the recent air permitting approach for the University of Illinois cogeneration facilities at Chicago and Urbana-Chamapaign are discussed.

Water permits, while not required for many CHP prime movers, are probably required for heat recovery and energy utilization equipment. The various types of water permits relevant for CHP systems are discussed in the guidebook.

Air and water permitting, especially for facilities classified as a major emissions source or a facility in need of a NPDES water discharge permit, may constitute the critical elements of the timeline during the development of a CHP project.[1] In some cases the air

[1] NPDES is an acronym for National Pollutant Discharge Elimination System

and water permitting process may take in excess of 6 months, so therefore should be started as soon as possible in the design process.

Besides air and water permits, a CHP facility has to comply with local code/zoning and OSHA requirements. Detailed contact information sources to address these requirements are provided in the guidebook. Larger CHP projects could also be confronted with the requirements set by the endangered species, wetlands and historic preservation programs. Again a brief overview and contact information for the appropriate program agencies is provided. Also, certain business sectors will require more specialized permits. For example hospitals are required to obtain an Illinois Department of Public Health license. Since hospitals constitute an important market for CHP systems, contact information for this type of license is provided.

Finally a questionnaire was developed to guide potential CHP candidates through the permitting process. This questionnaire, which is based on the above reviews of the various types of permits, helps CHP candidates to identify which permits are needed and where to get them.

DISCLAIMER

This guidebook is intended for guidance only and may be impacted by changes in legislation, rules and regulations. Although this guidebook makes every effort to explain to users how to meet applicable compliance obligations, use of this guidebook does not constitute the rendering of legal advice.

This document has been reviewed by outside reviewers. Diligent attention was given to assure that the information presented herein is accurate as of the date of publication; however, there is no guarantee, expressed or implied, that use of this guidebook will satisfy all regulatory requirements mandated by laws and their respective enforcement agencies. Reliance on information from this document is not usable as a defense in any enforcement action or litigation.

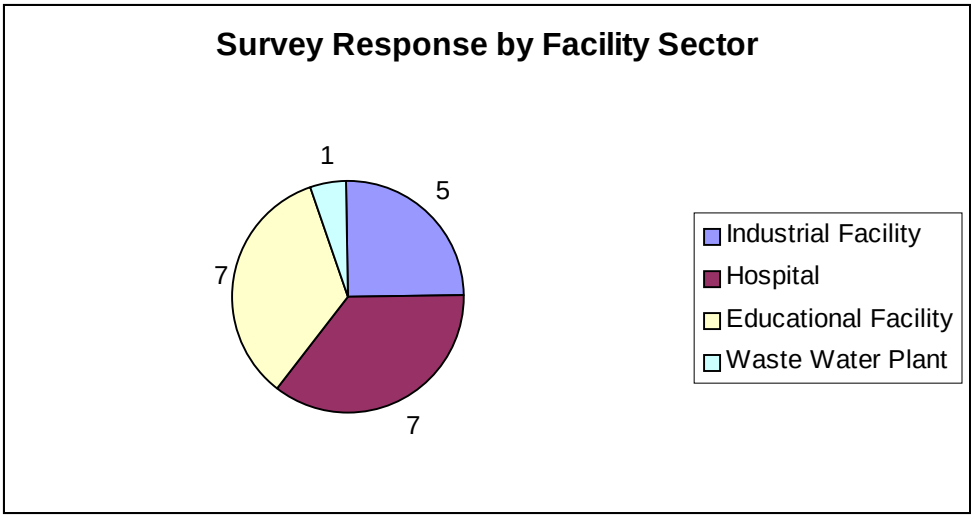
B.1) Introduction to Volume B

The intent of Guidebook Volume B is to assess the experience of CHP users/operators with the environmental permitting process in Illinois and determine whether this process is perceived as easy or complex relative to other regulatory requirements. This study does not set out to blame or criticize in general the environmental permitting process. Rather, this study aims to provide practical information for the regulators and parties interested in promoting CHP technologies with the hope to establish a dialogue between these groups. For this purpose a survey was administered to users/operators of CHP systems. The survey format and the results are detailed in the following.

B.2) Survey Format and Response

A mail survey was distributed to approximately 45 CHP facilities in Illinois. The names and locations of the CHP facilities were obtained from the Midwest CHP Cogeneration Association as well as from a study performed by the Midwest CHP Application Center[2]. Several surveys were also directly administered over the telephone as part of a follow up call to each of the facilities. As a result detailed permitting information was obtained from 24 facilities in Illinois of which 20 facilities utilize the waste heat (i.e. operate in the CHP mode). The other 4 facilities had no waste heat recovery capabilities and were excluded from the analysis.

The following chart shows the responding facilities grouped by industrial sector.



[2] "BCHP Baseline Analysis for the Illinois Market", Midwest CHP Application Center, August 2001.

B.3) Description of the Survey Instrument

A sample of the survey instrument can be found in Appendix A. The survey instrument consisted of 20 questions, requiring about 10 minutes to answer. The survey instrument was reviewed by the University of Illinois at Chicago Survey Research Laboratory and several members of the Review Committee[3] to assure quality and relevancy of the questions.

The questions fall into four basic categories:

1) Questions which seek to obtain facility characteristics such as employed CHP technology, CHP capacity, number of people responsible for energy procurement of the facility and type of waste heat utilization.

2) Questions regarding the permitting characteristics of the facility such as permit type, permitting cost, permitting duration, perceived straight forwardness of the permitting process and whether or not the permit was filled out by inside personnel or outside consultants.

3) Another set of questions asked the respondents to: a) rate the ease and complexity of several regulatory processes necessary for most CHP installation including environmental permitting, rezoning, electric interconnection and firecode/local code approval, b) rate the reasons for installing CHP systems, and c) rate the cost components of a CHP system including equipment cost, permitting costs and the estimated cost of other regulatory approval requirements.

4) Finally, an open ended question asked for additional comments regarding the ease and complexity of the permitting process.

While not all respondents were able to answer every question, the overall level of survey completion was satisfactory. This means that for most questions enough data was collected to allow descriptive statistical evaluation of the responses. In the following sections, the survey results are summarized.

B 4) Survey Results
B 4.1) Facility Characteristics

As stated above, as part of the survey, data for 20 CHP facilities in Illinois was collected. Table 1 shows the facility characteristics for each survey respondent. As can be seen the majority of the facilities surveyed have an installed capacity of 5 MW or less. Furthermore all facilities use natural gas with two facilities also utilizing diesel fuel. Eight of the 20 surveyed facilities utilize the waste heat for heating and cooling, the remaining facilities use the waste heat for either heating only, hot water preparation,

[3] The Review Committee consists of representatives from the Midwest CHP Application Center, The Delta Institute, The Environmental Law and Policy Center and the U.S. EPA.

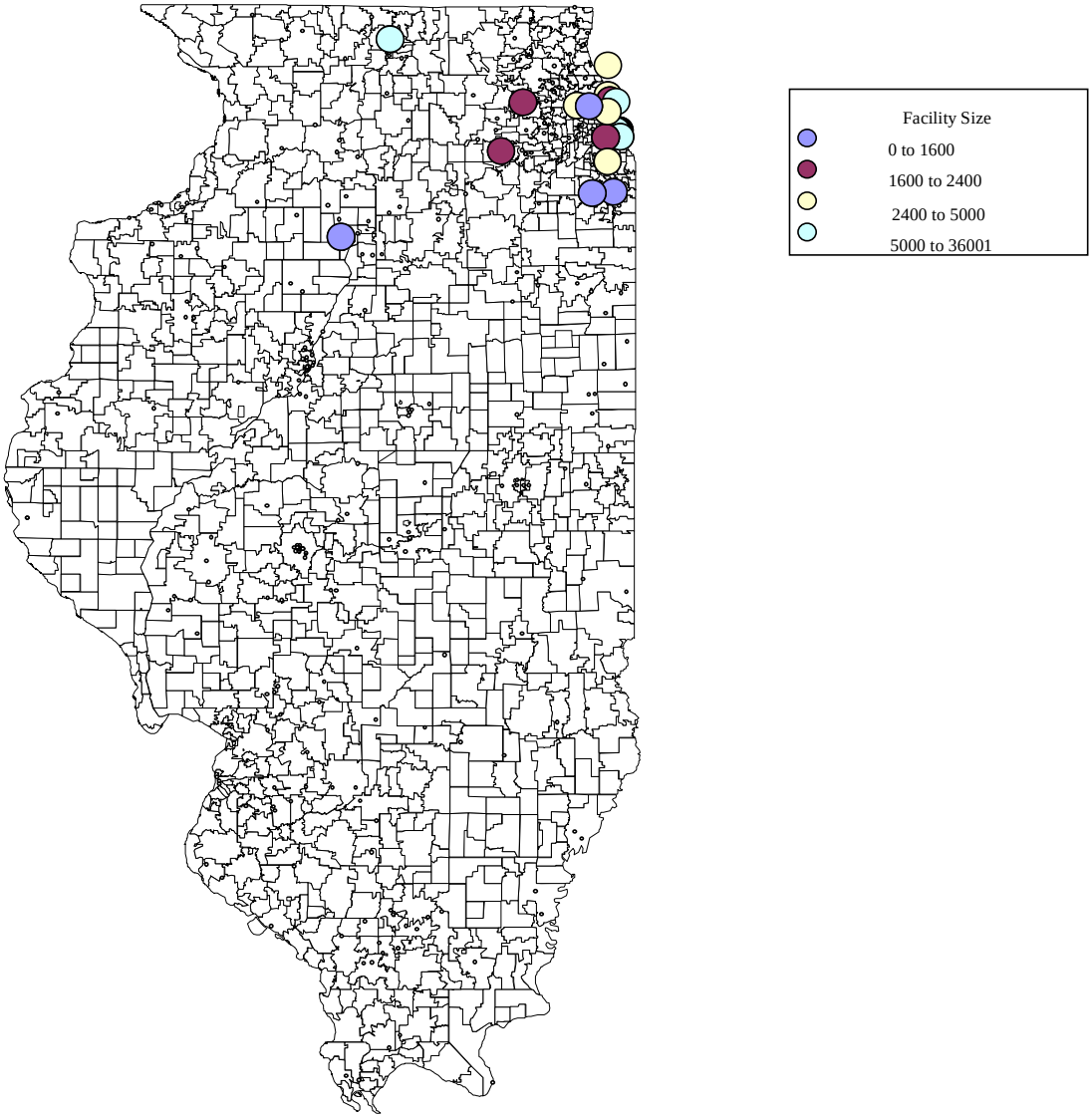
cooling only or cooking. The surveyed facilities employ between 3 and 50 people for energy procurement and power plant operation.

Geographically, Maps 1 and 2 indicate that all but 2 facilities are located within the Chicago Metro area; all of the facilities, however, are located in northern Illinois.

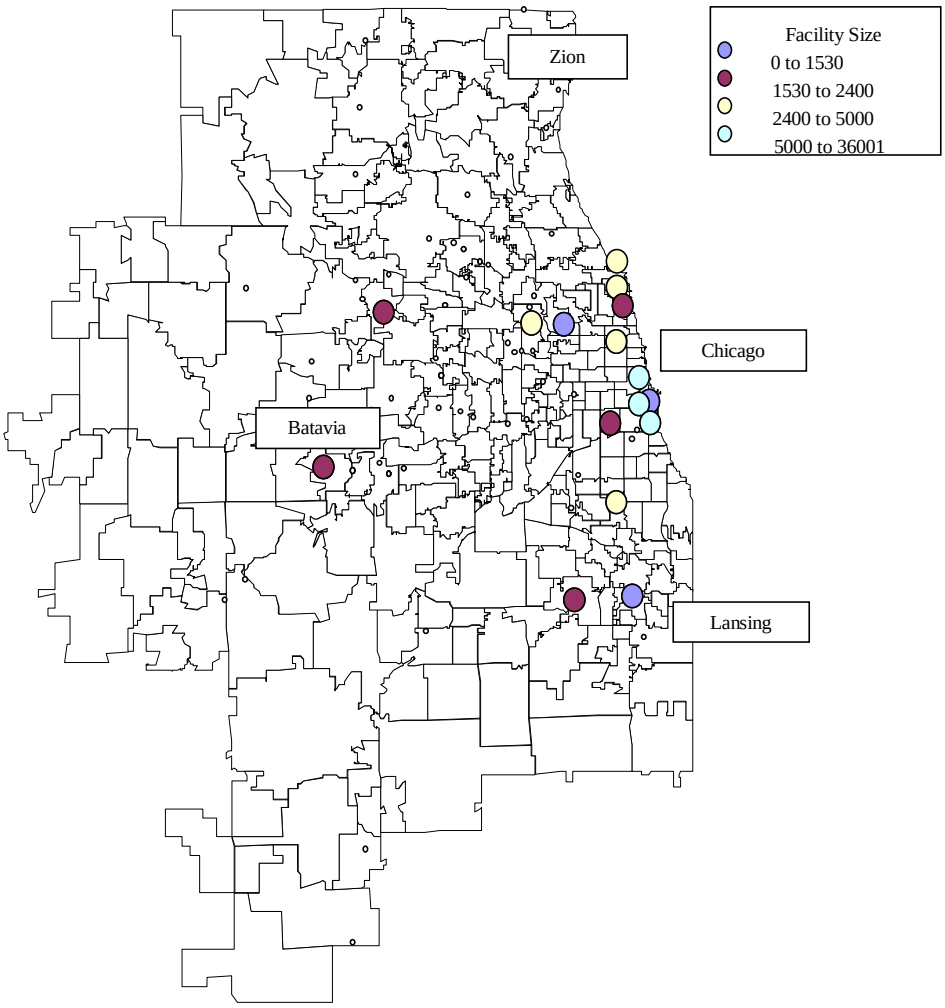
Table 1: Facility Characteristics

Facility Size (kW)	Start-Up Year	Technology	Fuel Type	Waste Heat Utilization for	Employees Energy Proc.
70	2002	natural gas fired microturbine	Natural Gas	Hot Water	6
375	1995		Natural Gas	Heating	No Data
1050	1972	Diesel generators, Natural gas generators	Natural Gas / Diesel	Cooling, Water Heating	19
1450	1989	Natural gas generators	Natural Gas	Heating	8
1500	1991	2 Gas Recip Engines at 725 kW each, 1 115 KW Gas Generator, 3 Diesel Genenrators	Natural Gas / Diesel	Heating and Cooling	50
1530	1994	2 765 KW Caterpillar natural gas fired internal combustion engines	Natural Gas	Designed for Heating	4
1600	1989	2 Natural gas fired Caterpillar Engines	Natural Gas	Designed for Heat. and Cool.	3
1600	1999	2 Natural gas fired Caterpillar Engines	Natural Gas	Heating and Cooling	4
2250	1992	3 Natural gas fired Caterpillar Engines	Natural Gas	Heating	3
2300	1990		Natural Gas / Digester Gas	Digestion Process	3
2400	1994	3 Natural gas fired Caterpillar Engines	Natural Gas	Hot Water	5
2400	2001	3 Natural gas fired Caterpillar Engines	Natural Gas	Heating and Cooling	4
2500	2002	2 natural gas fired Cummins/Caterpillar Engines	Natural Gas	Heating and Cooling	4
3100	1995		Natural Gas	Heating	22
3700	1988	Natural gas fired turbine	Natural Gas	Heating and Cooling	15
5000	1986	Natural gas fired engine, diesel engine	Natural Gas	Cooling, Cooking	4
5000	1988	7 Natural gas fired reciprocating engines	Natural Gas	Heating	4
7000	1990	2 Rolls Royce/Allison 501KB5 Gas Turbines	Natural Gas	Heating and Cooling	6
20000	1993	4 Natural gas fired recip engines	Natural Gas	Heating and Cooling	20
36000	2002	3 natura gas fired recip engines, 3 nat. gas fired combustion turbines	Natural Gas	Heating and Cooling	19

Map 1: Illinois Assessment Response



Map 2: Chicago Metro Area Assessment Response



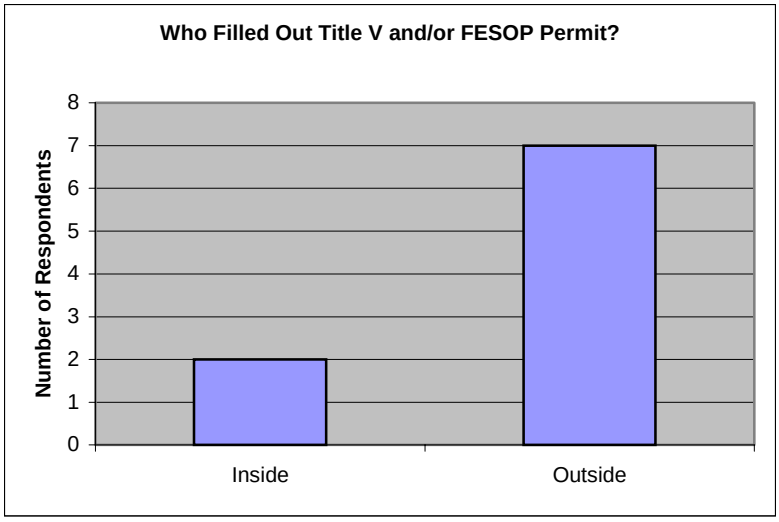
B 4.2) Permitting Characteristics

A set of survey questions was aimed at characterizing the permitting situation of each facility. The results of these questions are summarized in Table 2. Out of the 20 respondents 9 facilities stated that they obtained an EPA Title V Air Permit or a FESOP (Federally Enforceable State Operating Permit).

Table 2: Permitting Characteristics

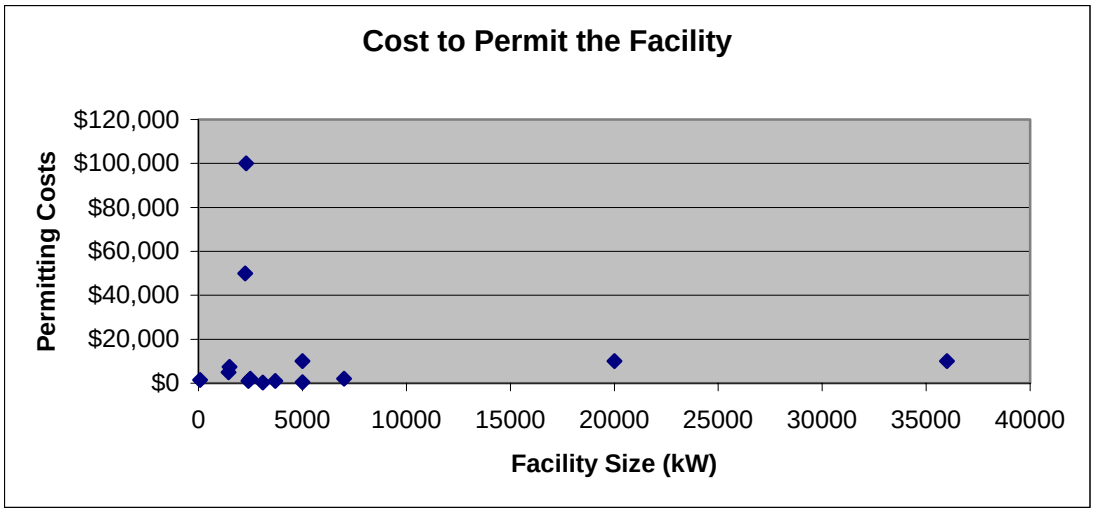
Facility Size (kW)	Type of Permit	Who filled out Permit ? Inside or Outside?	Time to Permit Facility. (Months)	Cost to Permit Facility. ($)
70		Inside	3.5	$1,500
375	No Knowledge	No Data		No Data
1050	FESOP	Outside		No Data
1450	EPA Title V, FESOP	Outside	4	$5,000
1500	EPA Title V, Operating & Construction	Outside	6	$7,500
1530	Operating Life Time	Inside	2	No Data
1600	Operating	No Data	No Knowledge	No Data
1600	No Knowledge	Outside	No Knowledge	No Data
2250	EPA Title V, Operating & Construction Permit	Outside	2	$50,000
2300	FESOP, Construction Permit	Outside	6	$100,000
2400	Operating	Outside	No Knowledge	No Data
2400	EPA Title V, Construction	Inside	7.5	$1,000
2500	Operating & Construction	Outside	2	$2,000
3100	Operating	Inside	1	$250
3700	EPA Title V, FESOP	Outside	6	$1,000
5000	EPA Title V, FESOP, Operating & Construction	Inside	0.17	$500
5000		Inside	3	$10,000
7000	EPA Title V	Outside	24	$2,000
20000	Construction	Outside	9	$10,000
36000	Construction	Outside	6	$10,000
Mean:			**5.5**	**$14,339**

The graph below indicates the use of outside help for facilities with Title V or FESOP permit.



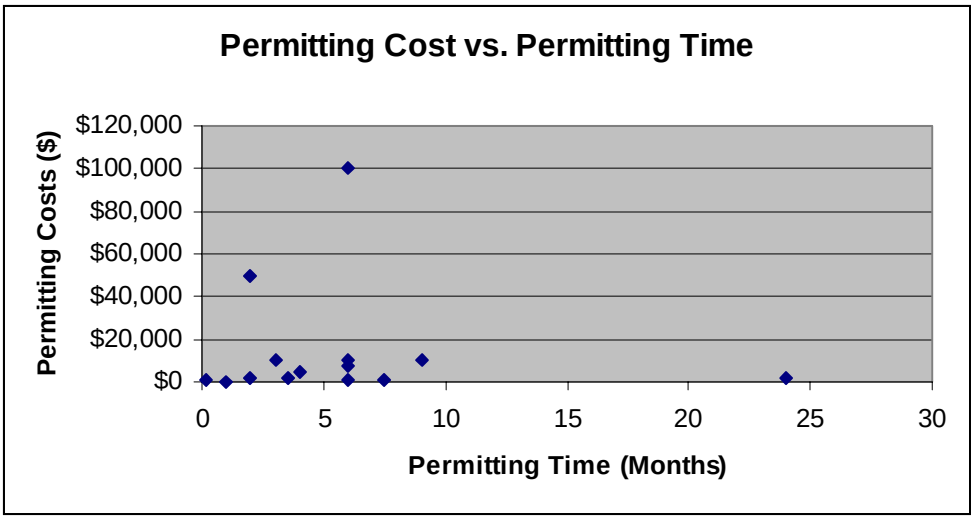
As can be seen out of a total of 9 facilities with a Title V or a FESOP permit 7 facilities used outside help to fill out the permit application.

Other permitting characteristics show that on average it took 5.5 months to permit each facility with a total cost (including estimated labor time) of $14,300. The graph below indicates that the estimated permitting costs do not seem to be related to facility capacity size as several smaller facilities reported also relatively high permitting cost.

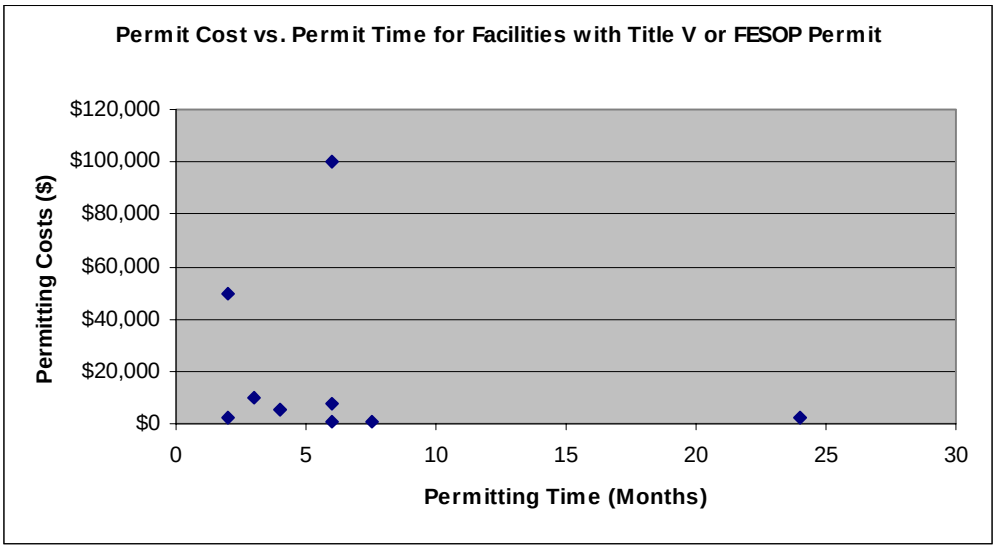


As can be seen two of the smaller facilities with around 2.3 MW installed capacity reported relatively high permitting costs of $50,000 and $100,000 respectively.

The estimated costs to permit a CHP facility does also seem not to be related to the respondents' estimated time to permit the facility. Some of the higher permitting costs were incurred for smaller as well as larger facilities.



While the above graph looks at all surveyed facilities the permitting cost vs. permitting time relationship was further explored for the subgroup of facilities with Title V or FESOP permits. Within this subgroup of Title V or FESOP permit holders the permitting costs likewise do not seem to be related to permitting time.



B 4.3) Rating of Regulatory Approval Processes

A set of questions asked the respondents to rate the ease or complexity of the regulatory approval process on a scale from 1 to 10 with 1 representing “not complicated” and 10 representing “very complicated.” The results for the four main regulatory approval

processes necessary to install a CHP system, environmental permitting, rezoning, interconnection and firecode/local code approval, are shown in the table below.

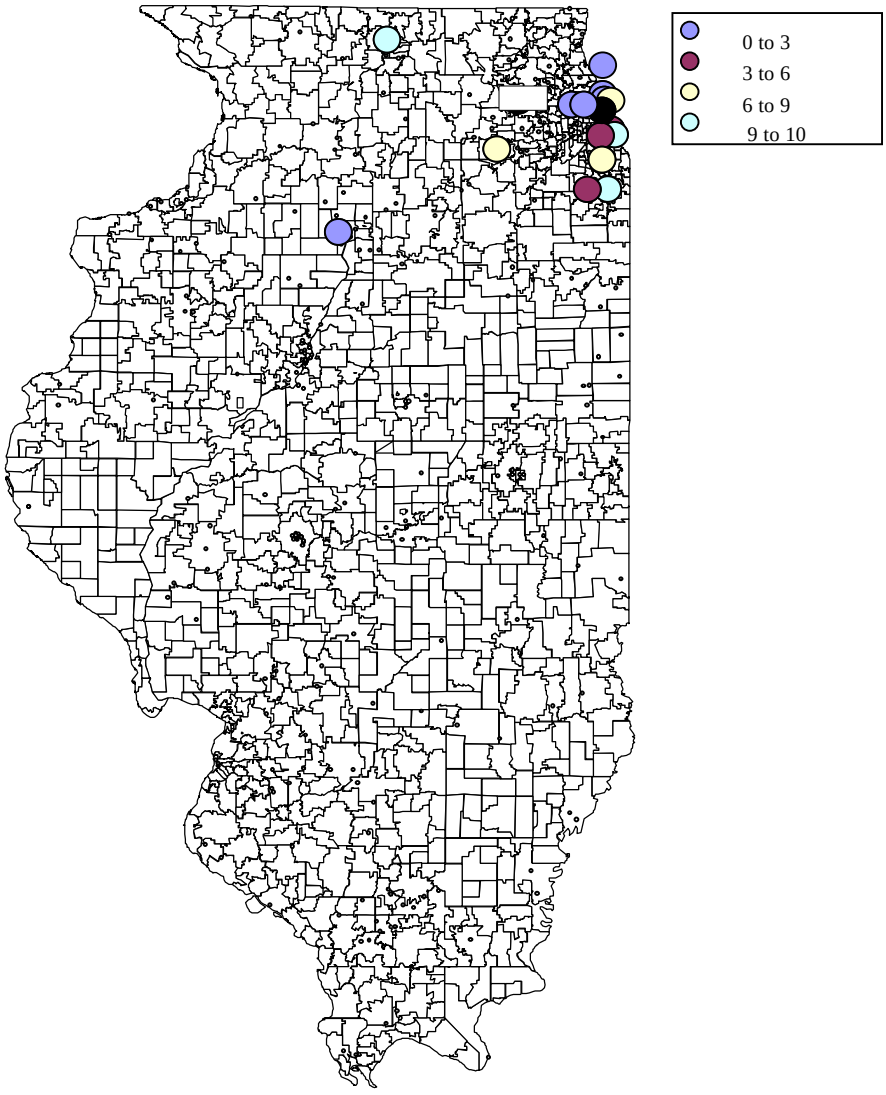
Table 3: Ease Complexity of Regulatory Process to Install CHP System

Size (kW)	Ease/Complexity of Regulatory Approvals Ratings			
	Environmental Permitting	Rezoning	Inter-Connection	Firecode Local Code
70	1	N/A	2	1
375	0	0	0	0
1050	10	0	0	5
1450	0	0	8	2
1500	No Data	No Data	9	No Data
1530	4.5	N/A	6.5	4
1600	No Data	No Data	No Data	No Data
1600	2	N/A	2	N/A
2250	5	N/A	5	N/A
2300	8	N/A	10	2
2400	2	0	8	2
2400	2	7	9	2
2500	2	N/A	4	3
3100	No Data	No Data	No Data	No Data
3700	8	0	10	3
5000	6	No Data	No Data	8
5000	10	0	0	0
7000	10	10	10	10
20000	8	N/A	8	0
36000	5	N/A	1	0
Mean:	**4.9**	**2.1**	**5.4**	**2.8**
STD:	**3.6**	**4.0**	**3.9**	**3.0**

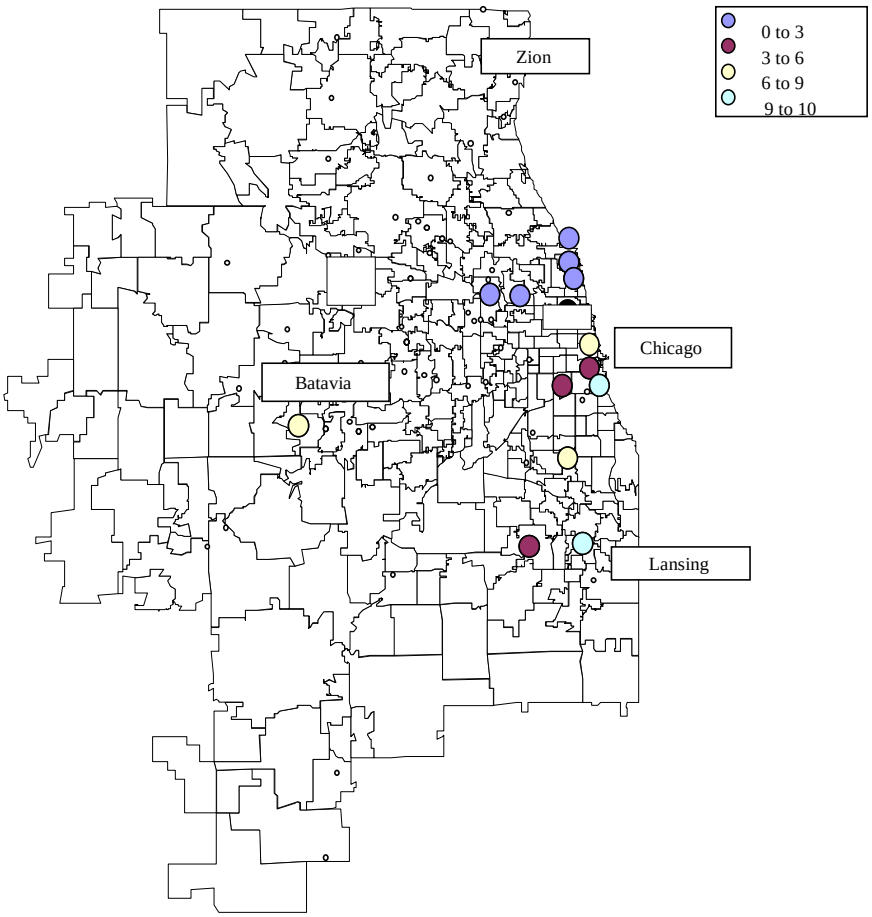
The calculated mean which rates the ease/complexity of each regulatory approval process indicates that across all surveyed facilities the electric interconnection process (mean rating of 5.4) is viewed as most complicated closely followed by the environmental permitting process (mean rating of 4.9). The complexity of firecode/local code approval and rezoning are rated significantly lower. All regulatory approval ratings show significant variations around the mean (as expressed by the calculated standard deviation "STD").

Map 3 and Map 4 show the ease and complexity rating of the environmental approval process in geographic form. As can be seen several facilities with EPA Title V permit located in the Chicago non-attainment area view the environmental permitting process as not complicated. Map 4 also indicates that several facilities who reported "not complicated" ratings for the environmental permitting process seem to be clustered in the northern Chicago area. While this may not be statistically significant it may prompt further investigation.

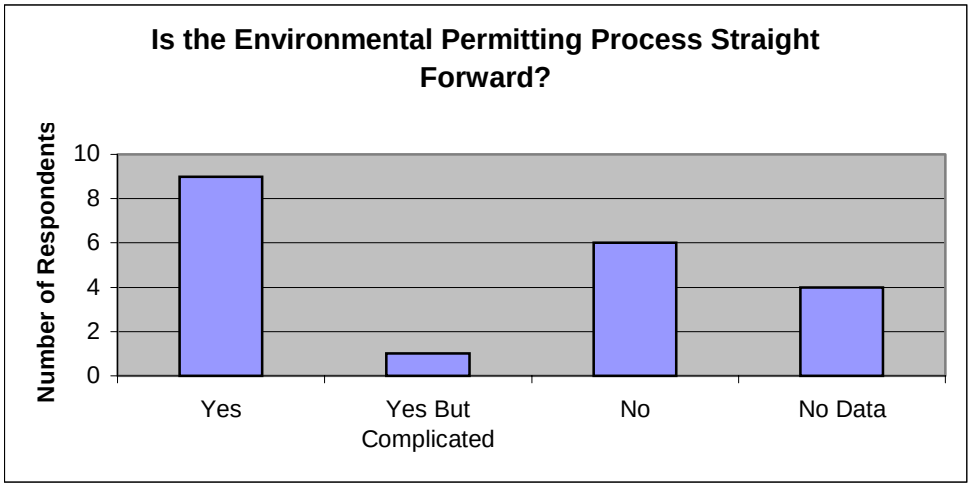
Map 3: Illinois Ease/Complexity Rating of Permitting Process



Map 4: Chicago Metro Area Ease/Complexity Rating of Environmental Permitting Process



When asked whether respondents think that the environmental permitting process is straight forward, the following results were obtained.



As can be seen out of 16 facilities for which information on this question was provided, 9 facilities perceive the environmental permitting process to be straight forward, 6 facilities as not straight forward and 1 facility described the permitting process as straight forward but complicated.

B 4.4) Rating of Reasons to Install CHP Systems

The respondents were also asked to rate the reasons why the facility installed a CHP system, whether environmental friendliness, reliable power source, cost savings or political reasons played an important role in the CHP decision process. The ratings are based on a scale from 1 to 10 with 1 indicating “not important” and 10 indicating “important.” The table below indicates the results.

Table 4: Reasons to Install CHP System

Size (kW)	Rating of Reasons to Install DG System			
	Environmental Friendliness	Reliable Power Source	Overall Cost Savings	Political Reasons
70	8	10	10	3
375	0	5	10	0
1050	10	10	10	5
1450	7	8	8	5
1500	7	8	10	1
1530	3	7.5	4	0
1600	8	10	8	0
1600	0	9	9	0
2250	4	8	8	0
2300	7	1	10	1
2400	5	4	9	0
2400	0	9	9	0
2500	2	5	5	3
3100	10	10	10	1
3700	1	10	10	0
5000	0	8	10	0
5000	6	7	9	1
7000	5	10	10	5
20000	5	8	10	5
36000	0	10	10	0
Mean:	**4.4**	**7.9**	**9.0**	**1.5**

As can be seen the facilities clearly cited economic reasons such as cost savings (mean score of 9.0) and reliable power source (mean score of 7.9) for installing a CHP system. Environmental friendliness and political reasons are rated lower. The goal of this question was to see whether facilities who installed CHP systems for political reasons or environmental friendliness would rate the environmental permitting process differently. No such indication exists.

B 4.5) Cost Ratings of the Regulatory Approval Processes

In order to determine the perceived costs of the environmental permitting process relative to other costs incurred when installing a CHP system each facility was asked to rate the costs of equipment installation, environmental permitting, rezoning, interconnection and firecode/local code approval. Again a scale from 1 to 10 was used with 1 representing "inexpensive" and 10 representing "very expensive." The results are detailed in the table below.

Table 5: Cost Components of CHP System

Size (kW)	Cost Ratings				
	Equipment Installation	Environmental Permitting	Rezoning	Inter-Connection	Firecode Local Code
70	3	1	1	5	5
375	9	No Data	No Data	No Data	No Data
1050	10	5	5	5	5
1450	8	6	N/A	8	6
1500	7	3	N/A	10	N/A
1530	7	4	N/A	7	2
1600	Payback 2.2	No Data	No Data	No Data	No Data
1600	Payback 2	2	2	2	2
2250	10	0	0	7	6
2300	10	10	2	10	2
2400	3	1	0	7	1
2400	2	1	2	6.5	0
2500	5	4	N/A	6.5	2
3100	No Data	No Data	No Data	No Data	No Data
3700	8	4	0	4	2
5000	10	8	6	5	7
5000	8	3	1	3	1
7000	10	10	5	10	10
20000	10	1	N/A	3	0
36000	10	2	N/A	7	0
Mean:	**7.6**	**3.8**	**2.2**	**6.2**	**3.2**
STD:	**2.8**	**3.1**	**2.2**	**2.5**	**2.9**

*Facilities reported equipment cost in terms of simple payback. These numbers were excluded from the statistics.

The results indicate that equipment costs (mean rating of 7.6) are perceived as the most expensive costs component when installing a CHP system, followed by the electrical interconnection process (mean rating of 6.2), environmental permitting (mean rating of 3.8) and firecode/local code approval (mean rating of 3.2). Rezoning (mean rating of 2.2) was generally not perceived as a major cost component (many facilities did also not require rezoning, which means that the rezoning statistic is based on a much smaller sample and may not be representative). However the cost ratings of the environmental

permitting process vary widely around the mean (as expressed by the standard deviation of 3.1) when compared to rezoning (standard deviation of 2.2), interconnection (standard deviation of 2.5) and firecode/local code approvals (standard deviation of 2.9).

B 4.6) Summary of Respondent's Permitting Comments

The last question of the survey asked people in an open ended format for additional comments on the ease/complexity and other issues with the permitting process. In the following the respondents' comments are summarized:

- Two facilities in the one to two megawatt range of installed capacity reported that the yearly reporting requirements to the EPA are "not straight forward" and "difficult to fill out."

- A respondent representing a one megawatt facility commented that the environmental permitting application is "too technically written if you do not have an environmental background."

- A facility in the 1.5 MW range reported that the environmental permitting process "seemed easy."

- One respondent who permitted two facilities as a single source owned by the same entity reported that this process was "not straight forward."

- Yet another facility described the permitting process as "straight forward but complicated."

Besides comments on the environmental permitting process, respondents also commented on other regulatory requirements for the installation of a CHP system. These comments help to establish a perspective of the ease/complexity of the environmental permitting process relative to other requirements.

- Three facilities are currently shut down under ComEd Rider 27 with the incumbent investor owned utility actively discouraging the utilization of the cogeneration system by offering lower electric rates.

- One facility in the 2.5 MW range described the interconnection procedure to the incumbent investor owned utility as "horrible."

- Another facility reported "problems with the [incumbent investor owned] utility's engineers.

- Yet another facility trying to interconnect to the incumbent investor owned utility had to file a complaint with the Illinois Commerce Commission for contract interference.

- However, one facility described the incumbent investor owned utility as "helpful" during the electric interconnection process.

- On the same note, a facility connecting to a small municipal electric system described the electric interconnection process as “very easy.”

- One facility mentioned particular problems with the rezoning process of the local municipality.

These comments show that several facilities incurred problems with the permitting process. When compared to problems incurred by facilities during the interconnection process, however, the interconnection process seemed even more problematic.

B 5) Findings and Conclusions from the Survey

The intent of this study was to summarize the experience of CHP users/operators with the environmental permitting process in Illinois. The study methodology is based on a survey, which was distributed to CHP facilities in the state. The responding 20 CHP facilities do not allow for a detailed statistical analysis, nor was it the intent to do so. Rather, the goal was to gain insight into the permitting process from a CHP user/operator perspective as a starting point for discussions between regulators and parties with vested interests in CHP technologies. This section will summarize the findings of the study and provide recommendations for future discussions.

One such finding is that a significant number of CHP facilities use outside help to complete the permitting process. Furthermore there is a significant variation in the estimated permitting costs and time requirements for similarly sized facilities in a similar geographic area. Based on these findings, this study poses the following questions for discussion:

- Is it in the interest of an environmental permitting process and in the interest of CHP deployment that a significant amount of small CHP facilities experience a need for outside help during this process?

- Why are the cost and time estimates to permit a facility of similar size so different? Are these cost differences real or the result of individual estimating errors? However, if these cost differences are real, the question arises whether these costs differences are in the interest of an environmental permitting process or whether they create a higher level of uncertainty with the process?

The survey also found that CHP users/operators vary widely in their rating of the ease/complexity of the environmental permitting process. Overall, the environmental permitting process seems to be rated slightly less complex than the electric interconnection process but significantly more complex than local code approvals. This poses the following questions:

- Why is there such a wide variation in the ease/complexity ratings? Is this the result of individual estimation errors or does the permitting process indeed vary widely on a case-by-case basis for similar sized facilities in the same geographic area?
- On a geographic basis several of the facilities who view the environmental permitting process as less complicated, are clustered in the northern Chicago area. Is this a survey sampling issue or are there other possible explanations?

On a comparative basis, the environmental permitting cost component rating seems to exhibit a wider variation in comparison to other regulatory approval requirements such as rezoning, interconnection and firecode/local code approvals. The question arises:

- Is there a justification for why the environmental permitting process varies more on a case by case basis than other regulatory processes?

Furthermore two facilities expressed problems with the yearly reporting requirements to the EPA and one facility expressed that the permit application was "too technically" written. Again, a potential point of discussion should be:

- Can the yearly reporting requirements be streamlined and what is the required "technical expertise" to fill out a permit application?

In conclusion, this study found wide variations in the perception of the environmental permitting process from a CHP user/operator point of view. Compared to other regulatory approval processes the electric interconnection process seems to be viewed as more complicated than the environmental permitting process. Nevertheless, certain problems with the environmental permitting process from a CHP user/operator perspective seem to exist. This study identified key questions regarding the environmental permitting process which address these problems. This should help to open a dialogue between regulators and parties interested in CHP technology.

B.7) Streamlining Potential

Streamlining the permitting process for CHP systems can be approached in two different ways, a) by directly changing the complex process or b) by providing help to CHP users to more efficiently navigate through the permitting process. As part of this guidebook both streamlining approaches are being addressed.

On the one hand as part of this guidebook help is being provided to CHP users in the form of a permitting roadmap, which allows CHP users to assess more efficiently the permitting requirements. Results from the CHP user survey were used to shape the content of the roadmapping section of the guidebook (see Volume A).

On the other hand, the results from the survey were used to open a dialogue between regulators and CHP users/developers in order to address the potential to reduce permitting complexity. On December 5, 2002 a meeting was held at the University of Illinois at Chicago Campus, which brought together representatives from IEPA, D.O.E. Chicago Regional Office, Illinois DCCA, Region V EPA, and several CHP developers and users. During this meeting two suggestions were made that would recognize quantifiable emissions reductions credits for CHP systems, potentially resulting in the qualification of the CHP system for simpler, less costly permit classifications.

- Due to the operation of CHP systems emissions from large centralized power plants are reduced. The present permitting process for CHP systems does not recognize the emissions reduction or avoided emissions from the large centralized power plants. Can the permitting process be modified to recognize or provide credit to the CHP system for these emission reductions?

- The fuel utilization efficiency of a CHP system is substantially higher than the combined efficiency of the electric and thermal systems it replaces. This increase in efficiency can be as much as 15 to 25 percentage points. The higher efficiency results in lower emissions. Again, the present permitting process for CHP systems does not recognize the emissions reduction realized as a result of the higher CHP system efficiency. Can the permitting process be modified to recognize or provide a credit for these reduced emissions?

Emissions credits for cleaner technology utilization or efficiency advantages may reduce the permitting requirements for many CHP systems from “major source” to “minor source.” The Environmental Protection Agency is in the process of developing a “calculator” which will allow the quantification of the avoided emissions from the CHP system by geographic region.

During the meeting it was concluded, that in order to provide CHP systems with emissions credits, legislative changes will be required. Therefore these issues need to be addressed in front of the Illinois Pollution Control Board.

Appendix A: Survey Instrument

Distributed Generation Permitting Assessment

Facility Name: _____

Facility Location: _____

[The above information will not be released for any data analysis. Provision is administratively helpful but optional]

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1) What is the electric generating capacity of your facility in MW (approximately)?

_____ MW

2) Please list the generating technology installed at your facility (i.e. diesel generator, nat. gas fired microturbine etc.):

_____

_____

_____

3) What year did your electric generating facility start up operation (approximately)?

_____

Please circle one code number for each of the following questions unless otherwise specified.

4) Please characterize the type of your facility:

Hospital……. 1
Educational Facility…….. 2
Industrial Facility…….. 3
Other……. 4 (please specify _____)

5) Please characterize the ownership of your facility:

Public…… 1
Private ……. 2

6) Do you currently have electric generation equipment installed at your facility?

Yes……. 1
No…….. 2

7) Is the waste heat from your generation equipment being utilized?

Yes…… 1
No…..…… 2 (specify application _____)

8) If the waste heat is utilized, what is the waste heat used for?

Heating……. 1
Cooling……. 2
Other …….. 3 (specify_____)

9) To your knowledge, what type(s) of permit(s) does your facility currently have? More than 1 possible answer.

EPA Title V (known in Illinois. as CAAPP, Clean Air Act Permit Progr.).. 1
FESOP (Federally Enforceable State Operating Permit)…….. 2
Operating Permit…….…….. 3
Construction Permit…..……. 4
Major New Source…..……... 5
Minor New Source…...…….. 6

10) To your knowledge, is the facility located in a non-attainment area for any pollutant?

Yes……. 1
No…….. 2
Don't know… 3

11) Who filled out the permit application for your facility?

Inside /Self…. 1
Outside……... 2 (please specify _____)

12) Approximately, how much time did it take to obtain the permit?

0 to 2 Month…….. 1
3 to 4 Month…….. 2
5 to 6 Month……. 3
7 to 12 Month…… 4
More……. 5 (please specify _____)

13) Best guess approximately how much it cost to permit your facility (please include all of your time requirements and, if applicable, cost of outside support).

$_____

14) Besides Permitting, what other institutional approvals did you have to obtain?

Rezoning…… 1
Interconnection…….…… 2
Firecode/Local Code Approvals…… 3
Other……..…… 4 (please specify_____)

15) On a scale from 1 to 10, where 1 is "not complicated", 10 is "very complicated" and the other numbers representing something in between, please rate the following regulatory approval requirements:

Environmental Permitting	____
Rezoning	____
Interconnection	____
Firecode/Local Code Approvals	____
Other	____ (pls. specify _____)

16) In your opinion, is the environmental permitting process straight forward?
Yes…. 1
No….. 2

17) What is your professional background?
Business……. 1
Engineering… 2
Other…..……. 3 (specify_____)

18) How many people in your facility are responsible for electricity/heating and air conditioning operations and procurement?

___ People

19) On a scale from 1 to 10, where 1 is “not important”, 10 is “very important” and the other numbers representing something in between, please rate your reasons for installing a distributed generation system:

Environmental Friendliness ____
Reliable Power Source ____
Overall Cost Savings ____
Political Reasons ____ (specify _____)

20) On a scale from 1 to 10, where 1 is “inexpensive”, 10 is “very expensive” and the other numbers representing something in between please rate the following cost components of your electric generation facility:

Cost and Installation of Generation Equipment _____
Cost of Environmental Permitting (including required time and fees) _____
Cost of rezoning (including required time and fees) _____
Cost of interconnection (including required time and fees) _____
Cost of Firecode/Local Code Approvals (including required time and fees) _____
Other Costs (please specify _____) _____

Additional Comments on the Ease, Complexity, other Issues with the Permitting Process would be greatly appreciated.