

**VILLAGE PRESIDENT**  
Ray Danford

**VILLAGE CLERK**  
Jerry Menard

**VILLAGE TRUSTEES**  
Corby Valentine  
Steve Smith  
Tony Miller  
Rita Baker  
Seth Speiser  
Charlie Mattern

# VILLAGE OF FREEBURG

**FREEBURG MUNICIPAL CENTER**  
14 SOUTHGATE CENTER, FREEBURG, IL 62243  
PHONE: (618) 539-5545 • FAX: (618) 539-5590  
Web Site: www.freeburg.com

**VILLAGE ADMINISTRATOR**  
Dennis Herzing

**VILLAGE TREASURER**  
Bryan A. Vogel

**PUBLIC WORKS DIRECTOR**  
Ronald Dintelmann

**POLICE CHIEF**  
Melvin E. Woodruff, Jr.

**VILLAGE ATTORNEY**  
Stephen R. Wigginton

July 6, 2009

## NOTICE

### MEETING OF THE ELECTRIC COMMITTEE (Valentine/Smith/Miller)

An Electric Committee Meeting of the Village of Freeburg will be held at the Municipal Center, Executive Board Room, **Wednesday, July 8, 2009, at 5:30 p.m.**

### ELECTRIC COMMITTEE MEETING AGENDA

#### I. Items To Be Discussed

##### A. Old Business

1. Approval of May 13, 2009 minutes
2. Switchover of Ameren to Freeburg power
3. Village of Freeburg utility needs analysis
4. Replacement of old power plant doors
5. Arc flash study
6. Loss Control Inspection
7. Dusk to Dawn lighting
8. IMEA's Power Cost and Energy Efficiency Forum

##### B. New Business

1. National Emission Standards for Hazardous Air Pollutants for Reciprocal Internal Combustion Engines

##### C. General Concerns

##### D. Public Participation

##### E. Adjourn

At said Electric Committee Meeting, the Village Trustees may vote on whether or not to hold an Executive Session to discuss the selection of a person to fill a public office [5 ILCS, 120/2 - (c) (3)], litigation [5 ILCS, 120/2 - (c)(11)] personnel [5 ILCS, 120/2 - (c) (1) a.]; or real estate transactions [5 ILCS, 120/2 - (c)(5)].



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ELECTRIC COMMITTEE MEETING  
Wednesday, July 8, 2009 at 5:30 p.m.

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The meeting of the Electric Committee was called to order at 5:30 p.m. on Wednesday, July 8, 2009 by Chairman Corby Valentine. Committee members present were Chairman Corby Valentine, Trustee Steve Smith, Trustee Tony Miller, Mayor Ray Danford, Village Administrator Dennis Herzing, Public Works Director Ron Dintelmann, Assistant Public Works and Director John Tolan. Guest present: Janet Baechle.

## A. OLD BUSINESS:

1. Approval of July 8, 2009 minutes: *Trustee Steve Smith motioned to approve the minutes of July 8, 2009 and Trustee Tony Miller seconded the motion. All voting aye, the motion carried.*
2. Switchover of Ameren to Freeburg power: Dennis spoke to Helms on Rock Hill who said he is willing to switch over to Freeburg power. He also sent a letter to Hauks and will be speaking with them soon. Ameren wants to sell us the entire line and we would need everyone to agree to it. Ron said Metropolis has switched over and Corby said it is important to know how they settled it. Dennis and Ron will sit down and come up with a number that is the most we want to pay Ameren. Ron will find out how much the other communities paid Ameren.
3. Village Utility Needs Analysis: Ron said there is nothing new right now.
4. Replacement of old power plant doors: Ron will continue to work on this item.
5. Arc flash study: Ron hasn't done anything on this.
6. Loss Control Inspection: Ron sent the report on the switchgear repair and the analysis to Chubb. We are waiting to do the infrared testing when it's hot and the load is high--most likely August.
7. Dusk to Dawn Lighting: This was included in the packet to consider whether we wanted to change the ordinance or not. Ron said we have not followed it the way it is written. If you look at paragraph 2 where it states, "the Electric Department shall make a net monthly charge, in addition to the charge set forth of 1-1/4% of the additional cost to the Electrical Department of furnishing and installing such additional facilities," Ron said in the 25 years he has been with the Village, they have never followed this procedure. He said they do follow number 4 where the customer chooses a steel, concrete or decorative pole and the customer shall bear the total cost that is above a normal wood pole. Ron said the average energy cost for a dusk-to-dawn light is about \$4.00 per month. Corby thinks the intent of paragraph 2 is to address the situation where someone would want a dusk-to-dawn light put in and service to that light was not available to hook onto. Dennis said you would figure the cost of the project to provide the dusk-to-dawn service and then charge 1-1/4% of that project per month to that resident in addition to the monthly charge rate of either \$6, \$12 or \$30. Ron will try to clean up paragraph 2 to read more clearly. He will also clean up (1)(a) to correctly reflect the wattages available.



8. IMEA Power Cost and Energy Efficiency Forum: A copy of the presentation was included in the packet. Corby said the presentation was more of a state of the health of the organization. Corby said IMEA is going to push conservation, putting in more efficient lighting, etc. Ron said they approved \$750,000 in matching funds with the federal government stimulus money to put towards energy conservation, i.e. anywhere from light bulbs, more efficient lighting in the plant, figuring out ways to reduce our cost of energy. Ron said Freeburg would have its chance to get a part of that money and it is based on Freeburg's load. Ron said IMEA is also big on green energy.

**B. NEW BUSINESS:**

1. National Emission Standards for Hazardous Air Pollutants for Reciprocal Internal Combustion Engines: Dennis said he and Ron went to Springfield last week and heard LaDonna Driver's presentation. A copy of IMEA's comments about this that were sent to EPA are included in the packet. If it is enacted exactly as it stands now, it will probably cost us around \$500,000. Corby commented we have engines that hardly run at all. Dennis said we would have to put catalytic converters on them so they won't pollute the air if we fire them up. Ron said IMEA's approach for the cities in the non-attainment area (Waterloo, Freeburg, Mascoutah, Naperville, Winnetka) is rather than make us spend \$500,000 on catalytic converters and don't run, monitor us and limit our permit to only run 25 hours unless it's an emergency. Ron said there would also be an approximate \$25,000 - \$30,000 yearly maintenance cost with respect to the catalytic converters. Ron said if this passes in February, 2010, we have three years to comply with the new regulations. He also said we will probably retire the units which aren't dedicated to IMEA which are 1, 2, 3, 4 and 7. We are permitted to run them with IEPA right now. We would have to put a catalytic converter on them or retire them.

Tony brought up the 5% that we put into our general fund every year from the electric department. That was put into place to subsidize the general fund and asked if we charge Ameren the utility fee since they are in the Village limits. Ron said they were probably never notified of the tax. Tony asked why Ameren wouldn't have been notified at the time the ordinance was passed. Corby doesn't want to put a burden on the nursing home if Ameren passes the 5% onto them. Dennis said it makes sense to start researching the issue and may want to hold off on notifying Ameren about this because of the ongoing negotiations with regard to the annexed properties.

**C. GENERAL CONCERNS:** None.

**D. PUBLIC PARTICIPATION:** Janet asked how many generators are at the new power plant and Ron advised there are three. There are eight at the old power plant and we use four of them. The four not being used can be used in an emergency.

**E. ADJOURN:** *Trustee Tony Miller motioned to adjourn at 6:16 p.m. and Trustee Steve Smith seconded the motion. All voting aye, motion carried.*



Transcribed from tape by  
Julie Polson  
Office Manager



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## ELECTRIC COMMITTEE MEETING Wednesday, May 13, 2009 at 5:30 p.m.

The meeting of the Electric Committee was called to order at 5:30 p.m. on Wednesday, May 13, 2009 by Chairman Corby Valentine. Committee members present were Chairman Corby Valentine, Trustee Steve Smith, Trustee Tony Miller, Mayor Ray Danford, Village Clerk Jerry Menard, Village Administrator Dennis Herzing, Public Works Director Ron Dintelmann, Assistant Public Works and Director John Tolan. Guest present: Janet Baechle.

### A. OLD BUSINESS:

- Approval of April 8, 2009 minutes: Corby asked Ron if he heard anything back on the web deflection testing and Ron advised the committee he talked to someone from Altorfer who said it was their recommendation the new Catepillar units did not need to be tested. Ron sent a letter to John Osseck of Chubb Insurance advising him of this. We have not received a response back from him. Corby also asked about Eaton's visit on May 11th to repair the breakers and Ron advised that has been moved to May 26th. Corby asked about Tim's training and Ron advised he did go to one week of the schooling. He was scheduled for two weeks but the school made a mistake so he was only able to go to one. The class will be rescheduled. *Trustee Steve Smith motioned to approve the minutes of April 8, 2009 and Trustee Tony Miller seconded the motion.* All voting aye, the motion carried.
- Switchover of Ameren to Freeburg power: Dennis said Ameren sent an email stating they want our request in writing and thinks this is their latest stall tactic. Dennis will prepare the list of properties and letter. The committee wanted a date put in the letter of when we will start switching over customers if we don't hear from them. Ron thinks we should give them to the 1st of June and the committee agreed to May 29th. Ron said apparently they are working on it because he did receive a call from the engineering people with some questions.
- Village Utility Needs Analysis: Ron said there is nothing new right now. There will be some discussion on June 4th about this.
- Replacement of old power plant doors: Ron will continue to work on this item.
- Arc flash study: Ron received Corby's pamphlet. There was another company HD Supply had suggested we use and he will look into it.
- Loss Control Inspection: Ron sent a letter to them advising the tests will be done the last week in May.



**B. NEW BUSINESS:**

1. IMEA Power Cost and Energy Efficiency Forum: Ron said for anyone who wants to go to send their name to Julie and she will register everyone.
2. Voltage Regulations: Ron explained we had problems with some regulators on the south circuit and sent them to Solomon for repair. The evaluation came back and he talked to Dennis about them. Ron said we had one with a bad coil inside and it was non-repairable. We purchased one rebuilt unit for \$6350 and the spare unit will be repaired. We went ahead with the work because we are approaching the warm weather.
3. Regulation of carbon dioxide: Ron said the carbon tap and trade bill won't make it out of committee until this summer and further said it is probably dead for this year. He said they are going to give away carbon credits for 15 years but after that they will start charging utilities.
4. Dusk to Dawn Lighting: Dennis explained Kevin had put this on the Legal & Ordinance agenda. At the Legal & Ordinance meeting last week, it was decided it should be talked about in this committee. Dennis will provide a copy of the ordinance to the trustees before the next meeting.

**C. GENERAL CONCERNS:** Tony said a panel is hanging on the light pole by AnRus and Ron said he will take a look at it. The street lights are up on Cemetery Road and Willow Springs Road.

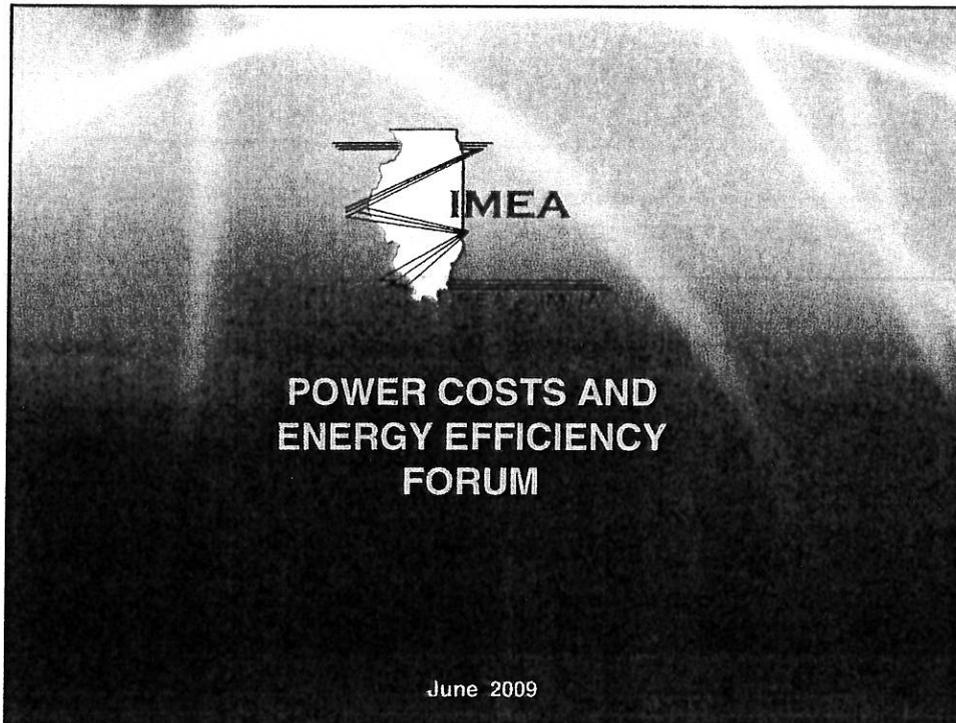
**D. PUBLIC PARTICIPATION:** None.

**E. ADJOURN:** *Trustee Steve Smith motioned to adjourn at 5:52 p.m. and Trustee Tony Miller seconded the motion. All voting aye, motion carried.*



Julie Polson  
Office Manager





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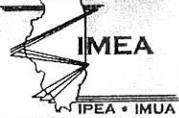
## Purpose of Our Presentation

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*Our purpose is to provide:*

- *An overview of IMEA's mission and history*
- *A review of IMEA's existing and planned resource portfolio*
- *A discussion of current power costs and projected cost trends*
- *A review of the method for IMEA collecting revenue from the Members*
- *A discussion of the factors that impact Member costs*
- *A discussion of managing power supply costs in the future*

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## IMEA Power Supply Costs

- *One of the most important benefits our members have received from IMEA has been power costs below market prices. One of their biggest concerns for the future is the continued ability to provide power costs below market prices.*
- *Given the state of the industry with increasing fuel prices, concern over carbon emissions, the effects of Regional Transmission Organizations and deregulated markets, concern as to the future cost of power is certainly warranted.*
- *Long-term trends in power costs are important to IMEA Members and power supply costs should be understood not only by our Board but our elected officials as well.*
- *To that end, it is important for all of us to understand how power costs are determined and what can effect them.*

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## OVERVIEW OF IMEA'S MISSION AND HISTORY

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## IPEA's Membership



Full Member  
 Special Gas Purchaser

- Provides natural gas service to 15 municipal gas utilities, 2 cooperative gas systems and the Village of Winnetka for electric generation.
- Annual budget of approximately \$50 million
- Provide for Hedging Programs
- Development of Prepay Programs

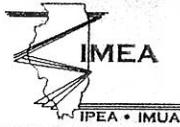


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## IMUA's Membership



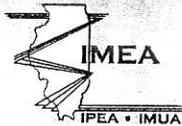
- Membership includes:
  - 67 Municipal Members
  - 62 Associate Members
  - 7 Affiliate Members
- Services include:
  - Government Representation
  - Safety and training for Municipal Members
  - Mutual Aid Program
- Annual budget of approximately \$516,000



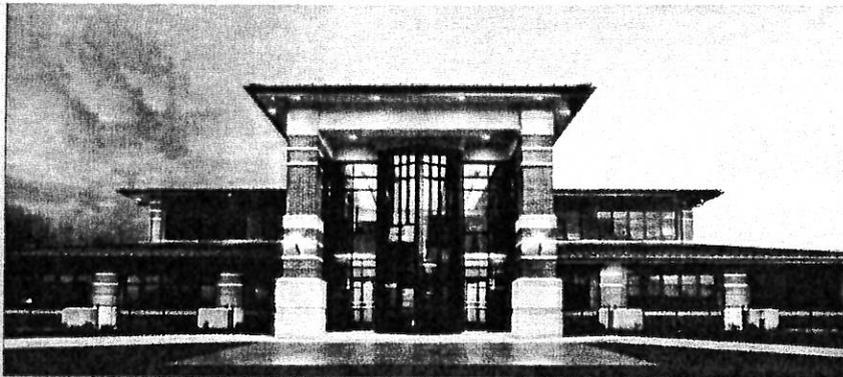
## IMEA's First 25 Years

- *Providing power supply, legislative and member services to Illinois municipal electric systems*
- *Executed 33 Full Requirements Power Supply Contracts (32 municipals and 1 cooperative)*
- *Trimble County 1 purchase in 1991 (62 MW coal)*
- *Trimble County 2 construction underway (91 MW coal)*
- *Prairie State Energy Campus under construction (240 MW coal)*
- *Ameren Electric Power Supply Agreement – firm cost-based capacity and energy up to 250 MW through 2035 valued at around \$2 billion.*
- *Peak demand projected to be around 1,100 MW, with a capacity requirement in excess of 1,250 MW by 2012*
- *Projected annual revenue of around \$300 million by 2012*
- *Assets under management projected to be around \$1.4 billion by 2012*
- *Upgraded credit ratings to A+ by all agencies based on IMEA's history, resource portfolio, operational strategies and risk profile*
- *24-hour control center operating in two RTOs and Reliability Councils*
- *IMEA headquarters uses geothermal heating and cooling system, high efficiency lighting, etc... and was recognized as the first LEED certified building in Springfield*

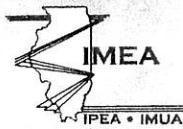
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## IMEA Headquarters



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## **IMEA'S EXISTING AND PLANNED RESOURCE PORTFOLIO**

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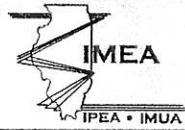


## **IMEA's Resource Diversity**

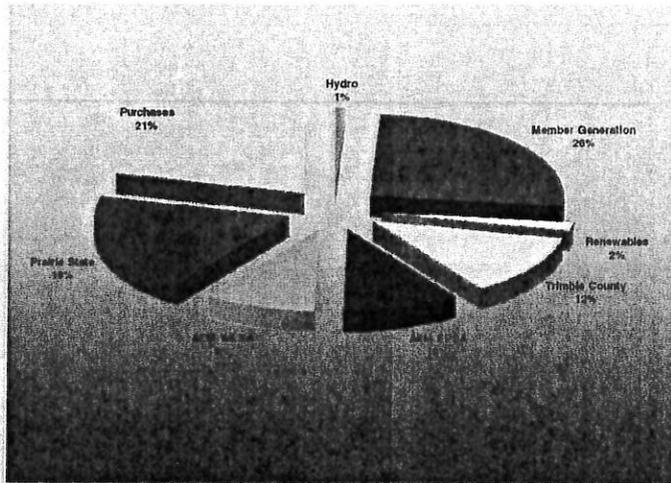
### ***IMEA's Resource Diversity is demonstrated by:***

- 392 MW Ownership in new, fully scrubbed coal-fired capacity
- 118 MW slice-of-system (cost-based) - mainly low-sulfur coal
- 125 MW firm capacity (cost-based) – coal and gas units
- 320 MW Member- and IMEA-owned peaking capacity
- 90 MW fixed cost intermediate and peaking purchase
- 350 MW fixed cost intermediate/peaking capacity under review
- Manageable levels of market purchases to supplement needs
- Renewable energy resources under review
  
- **Total of 19 coal-fired, 15-20 gas-fired and dozens of DG units**

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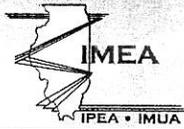


# IMEA Capacity Resource Diversity - 2013

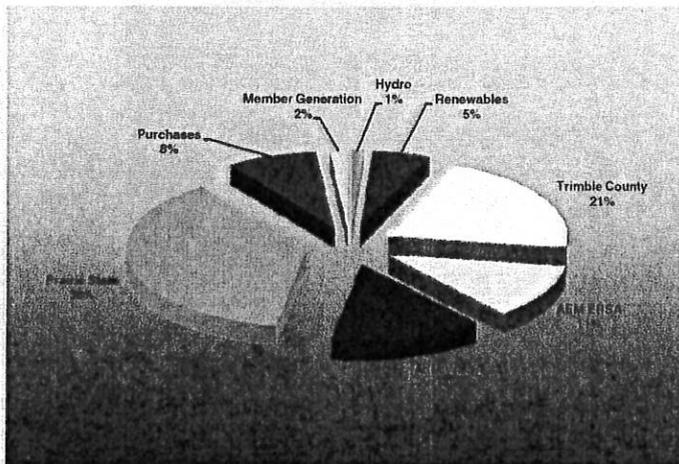


- **58% IMEA and Member Owned Resources**
- **19% Long-term Cost-based Contracts**
- **23% Short-term Market Purchases and Renewables (or IMEA-owned peaking)**

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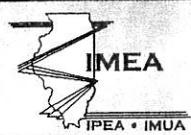


# IMEA Energy Sources - 2013

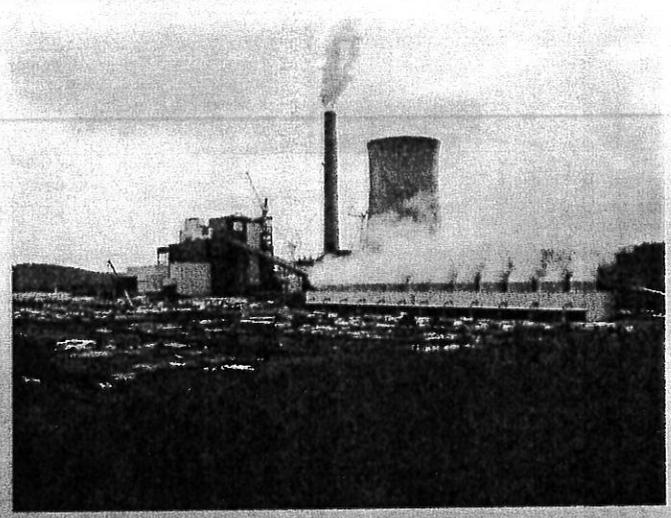


- **85% of Energy from Predominantly Coal-fired Resources and Hydro Capacity**
- **~15% of Energy from Member Capacity and Market Purchases**

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# Trimble County



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# Prairie State



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## **CURRENT POWER COSTS AND PROJECTED COST TRENDS**

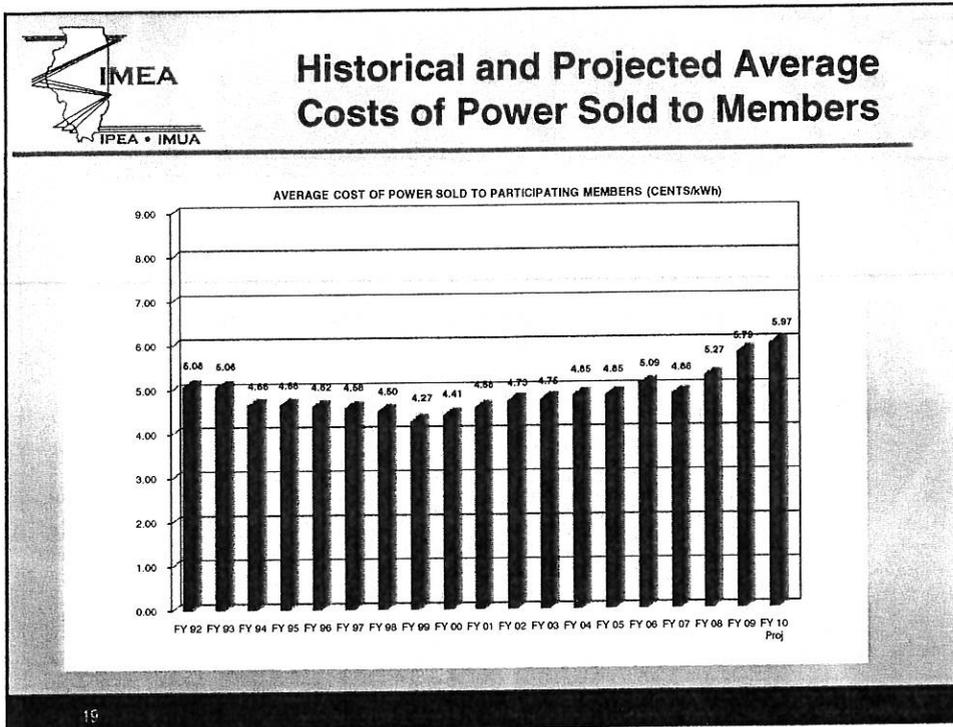
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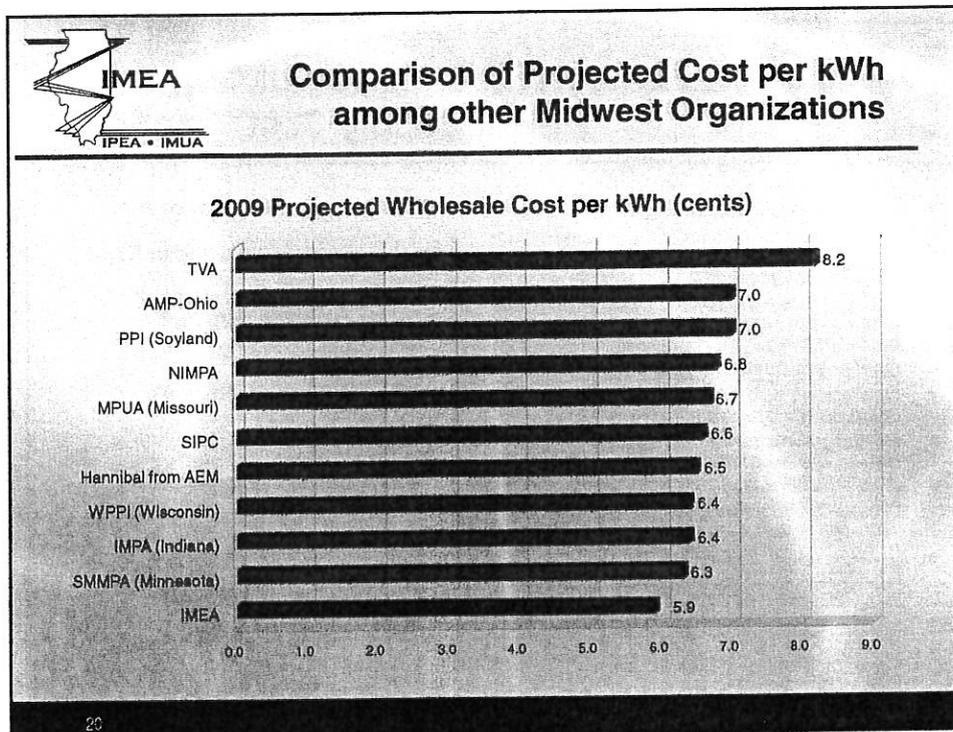
## **Summary of Current Power Supply Cost Trends**

- *IMEA Average cost to Participating Members remained essentially flat over 17 years*
- *During FY 2009 IMEA power costs increased by an average of 9.9% and in FY 2010 are projected to increase by an average of 3.2%*
- *IMEA had two very low priced power supply contracts expire on 12/31/2007 which were replaced with contracts which were higher cost but remained below market.*
- *Coal costs have increased dramatically over the past year.*
- *Operations & Maintenance costs for Trimble County have increased as we ramp up for operations of Unit 2.*
- *Market power costs purchased for summer peaking energy increased by 38% during the summer of 2009.*
- *Overall kWh sales for FY 2009 were 9.7% lower than originally anticipated due to mild summer weather conditions and current economic conditions. Fewer kWh sales means higher average fixed costs.*
- *Despite these increases, IMEA's rates are still among the lowest in the Midwest.*
  - *Other systems have experienced 30% to 50% wholesale price increases in past several years.*
  - *Rates for other Midwest wholesale municipal and cooperative suppliers projected to average 6.3 cents/kWh to 8.2 cents/kWh in 2009.*

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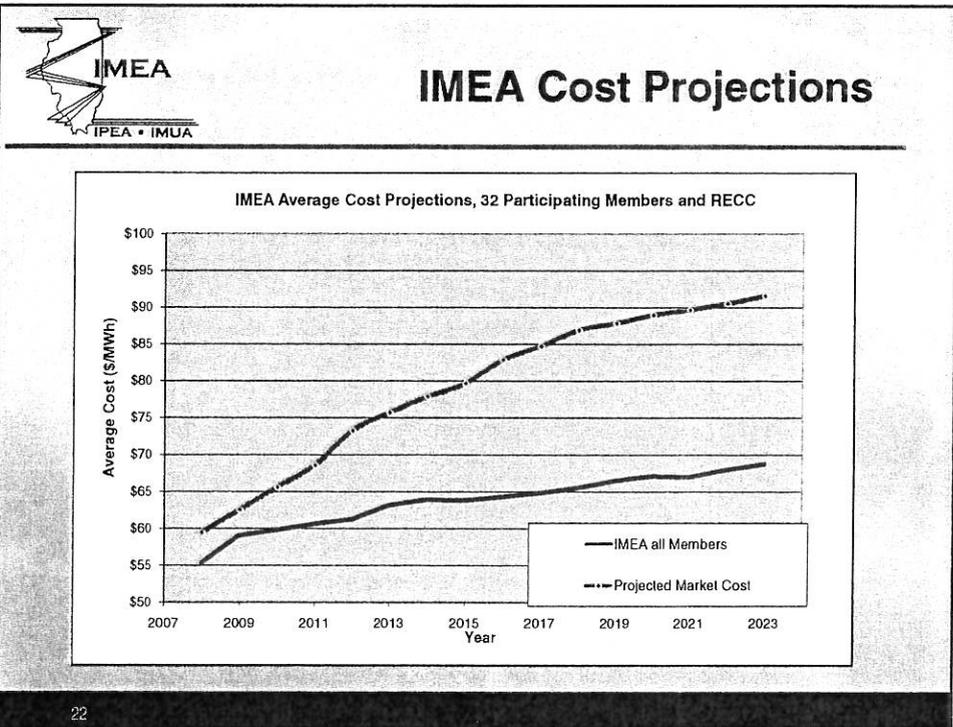
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***METHOD FOR IMEA COLLECTING  
REVENUE FROM THE MEMBERS***

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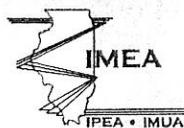
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**IMEA's Rate Structure**

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- ***There are two main components to IMEA's current rate structure under Rate Schedule B***
  - ***Demand Charges***
  - ***Energy Charges***

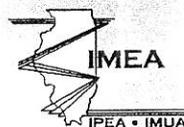
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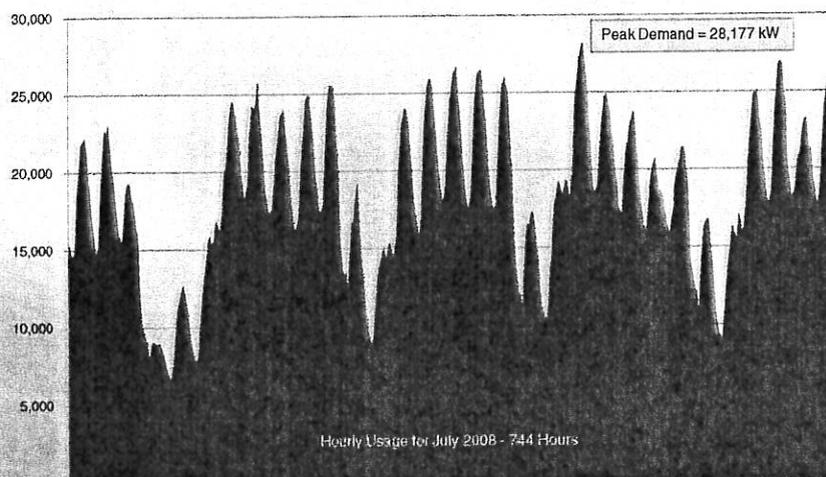
## IMEA's Rate Structure Demand Charges

- **Demand Charges are applied to each Member's non-coincident peak demand for the calendar month.**
  - *Non-Coincident peak demand is defined as the highest one hour kW usage for each individual Member's electric system during the period . It is non-coincident because it does not depend on when IMEA or any other system peaks at its highest kW usage for the period.*
- **Demand charges are used to collect the fixed costs associated with generation and transmission assets including:**
  - *Debt Service*
  - *Capacity charges associated with purchased power contracts*
  - *Transmission, distribution and ancillary services*
  - *Capacity Credits to Members*
- **Components of IMEA Demand Charges to Members**
  - *Power Supply Demand Charge*
  - *Delivery Service Demand Charge*
  - *1991 Project Demand Charge*
  - *Demand Cost Adjustment*
  - *Premium Credit Adjustment*

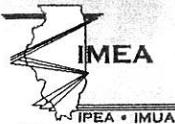
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## IMEA's Rate Structure Demand Charges



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## IMEA's Rate Structure Demand Charges

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*Components of Monthly Demand Charge for July 2008*

<i>Power Supply Demand Charge</i>	<i>\$ 7.00 per kW</i>
<i>Delivery Service Demand Charge</i>	<i>\$ 2.60 per kW</i>
<i>1991 Project Demand Charge</i>	<i>\$ 2.40 per kW</i>
<i>Demand Cost Adjustment</i>	<i>\$ (0.56) per kW</i>
<i>Total Monthly Demand Charge</i>	<i>\$11.44 per kW</i>

**Total Demand Charges = 28,177 kW X \$11.44 = \$322,344.88**

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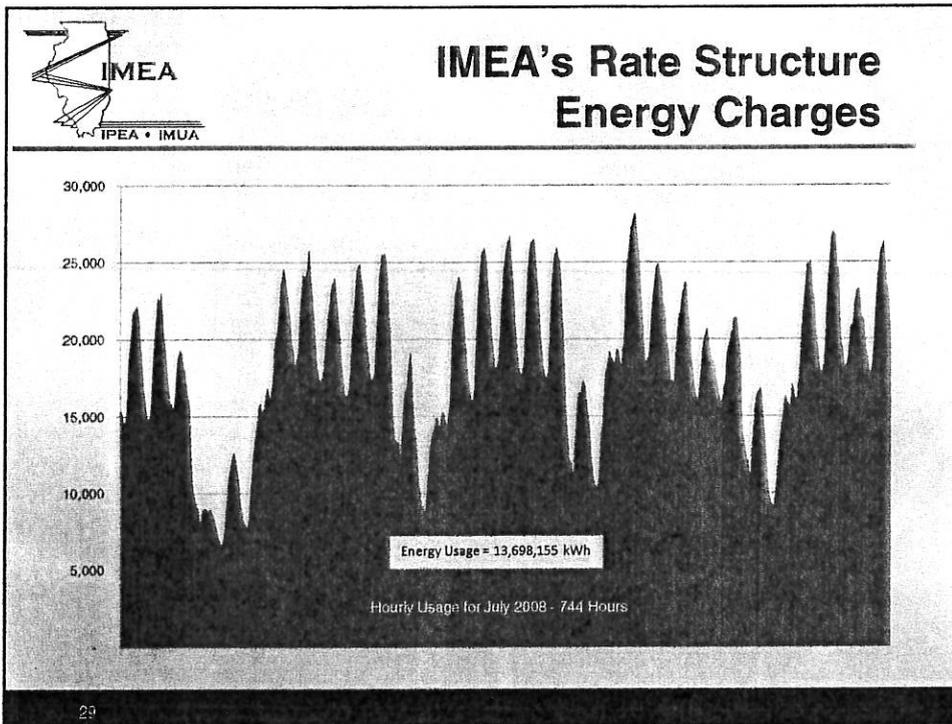


## IMEA's Rate Structure Energy Charges

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- *Energy charges are applied to the total energy used by the Member's electric system during the billing period. Energy (kWh) is the total of the hourly kW's consumed during the entire billing period.*
- *Energy charges are used to collect the variable cost associated with generating, purchasing and delivering energy to the Members including:*
  - *Fuel cost of generation assets (Trimble County and distributed generation)*
  - *Energy charges for purchased power contracts*
  - *Administrative & general*
- *Components of IMEA Energy Charges to Members*
  - *Base energy charge*
  - *Energy cost adjustment*

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## IMEA's Rate Structure Energy Charges

*Components of Monthly Energy Charge for July 2008*

<b>Base Energy Charge</b>	<b>\$ 0.02000</b>	<b>per kWh</b>
<b>Energy Cost Adjustment</b>	<b>\$ 0.01617</b>	<b>per kWh</b>
<b>Total Monthly Energy Charge</b>	<b>\$ 0.03617</b>	<b>per kWh</b>

**Total Energy Charges = 13,698,155 kWh X \$0.03617 = \$495,462.27**

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## IMEA's Rate Structure Other Charges

- **Reactive Demand Charge - \$0.25 per peak kVAR Demand**
  - Intended to give Member incentive to maintain a good power factor
  - Example of Member cost in July 2008 – peak kVAR usage was 4,084
    - Charge = 4,084 kVAR X \$0.25 = \$1,021.00
- **Other Miscellaneous Costs Billed to Certain Members**
  - Backup facilities charge
  - Premium charged to new Members
  - Wholesale distribution charges reimbursed by certain new Members
- **Total Charges to Member during July 2008**

▪ Demand Charges	\$322,344.88
▪ Energy Charges	\$495,462.27
▪ Reactive Demand Charge	<u>\$ 1,021.00</u>
▪ Total Charges	\$818,828.15
- **Average cost per kWh used**  

$$\$818,828.15 \div 13,698,155 \text{ kWh} = 5.97 \text{ ¢}$$

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## FACTORS THAT IMPACT MEMBER POWER COSTS

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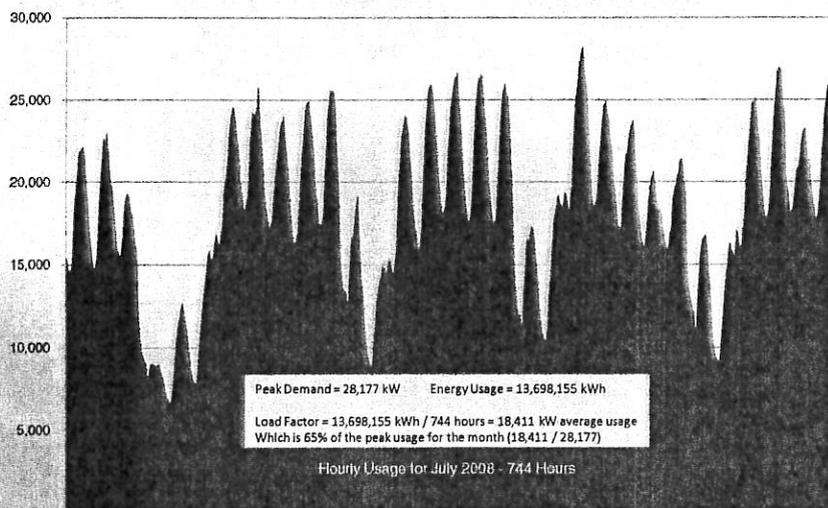
## Improving Load Factor can Decrease Average Cost per kWh

- *Load factor is a ratio of peak demand to total usage over a period of time (expressed as a percentage).*
- *A 65% load factor means that you used 65% of the maximum usage on average over the period.*
- *A good example of this would be a 100 watt light bulb. If the light bulb were turned on 100 percent of the time, it would have a 100% load factor. If it were turned on 50% percent of the time, it would have a 50% load factor.*
- *Capacity resources must be built in order to serve peak load plus reserves.*
- *The more energy that can be sold without increasing the peak load, the more kWh's we have to cover the fixed cost of building capacity resources.*
- *The higher the Load Factor - The lower the average cost per kWh.*

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## Load Factor Illustration



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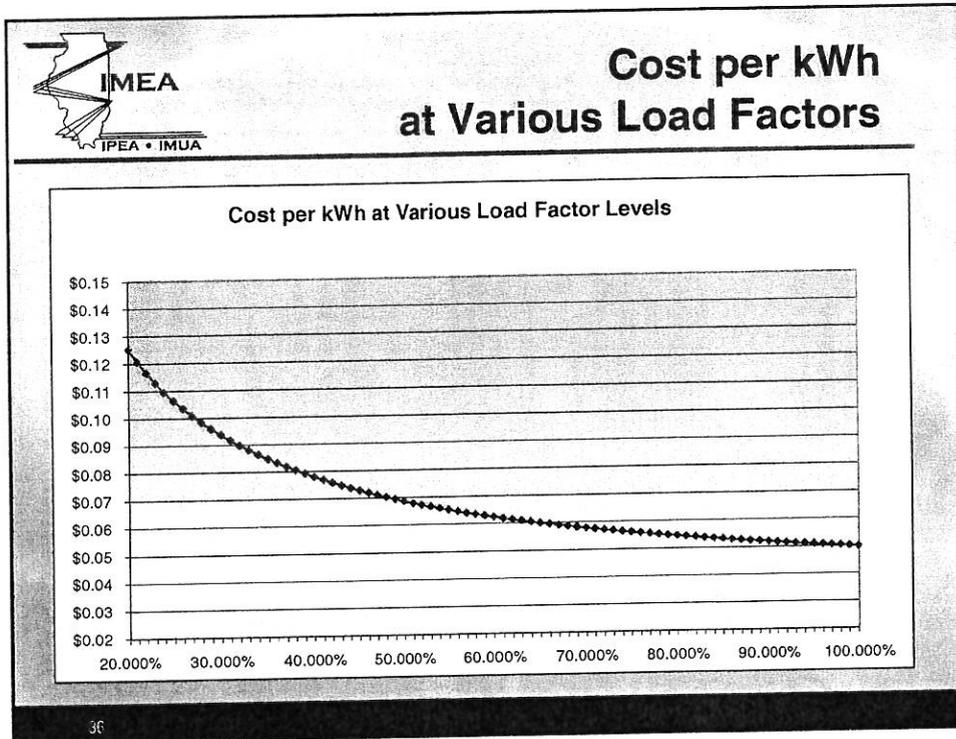


## Load Factor Impact on Average Cost per kWh

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kW Demand	kWh Energy	Demand Charge	Energy Charge	Total Cost	Average Cost per kWh	Load Factor
		\$14 per kW	\$0.03 per kWh			
1	1	\$14	\$0.03	\$14.03	\$14.03	0.14%
1	20	\$14	\$0.60	\$14.60	\$0.73	2.78%
1	100	\$14	\$3.00	\$17.00	\$0.17	13.89%
1	360	\$14	\$10.80	\$24.80	\$0.07	50.00%
1	500	\$14	\$15.00	\$29.00	\$0.06	69.44%
1	720	\$14	\$21.60	\$35.60	\$0.05	100.00%

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## Higher Load Factors = Lower Average Cost per kWh

- **The following Participating Members paid exactly the same demand and energy charge in October 2008**
  - Member 1 = \$.05735            59% Load Factor
  - Member 2 = \$.05601            66% Load Factor
  - Member 3 = \$.05122            78% Load Factor

Higher Load Factor = Lower Average Cost per kWh

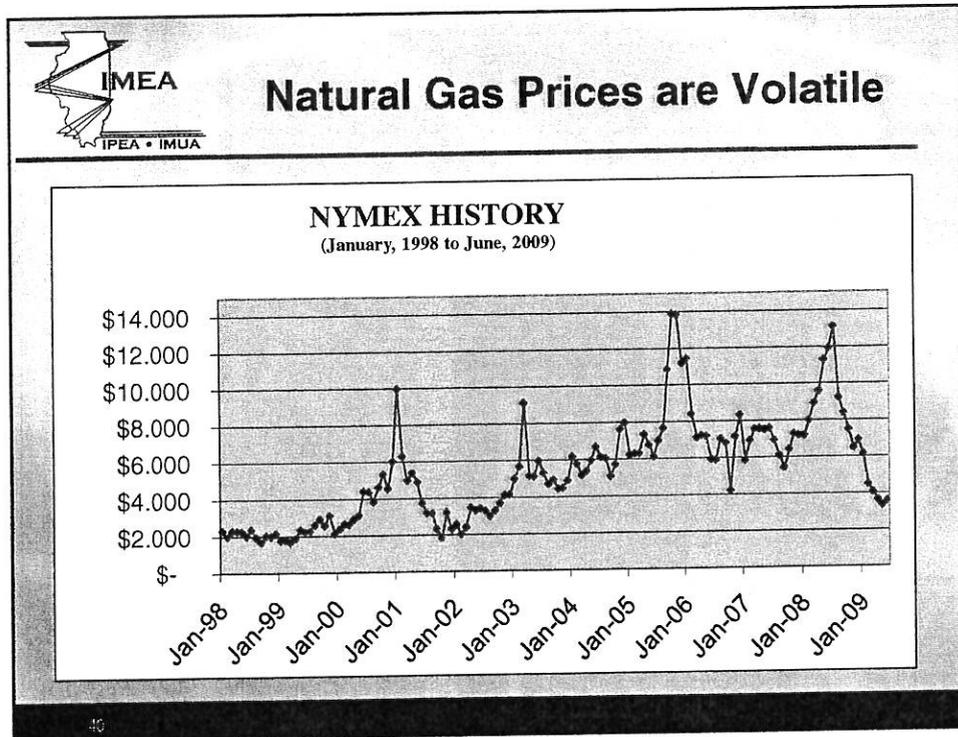
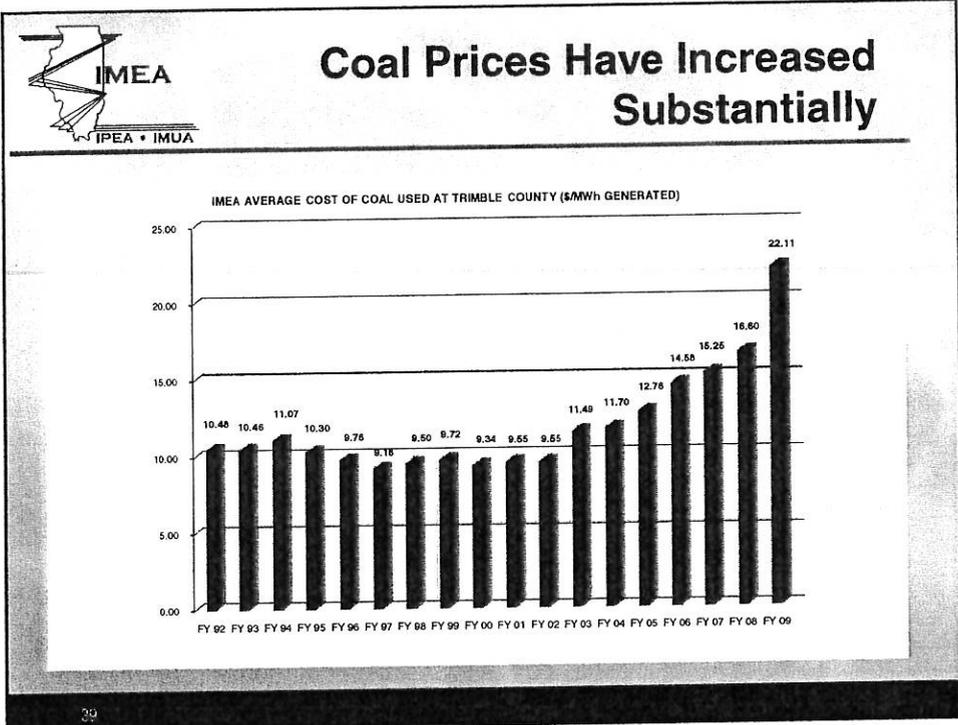
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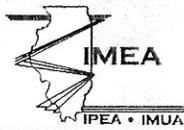


## Ways to Improve Load Factor

- **Ways to improve load factor**
  - Demand side management
    - Air conditioner controls or more efficient units
    - More efficient appliances
    - Water heater cycling
    - Other customer outreach – radio plea
  - Shift large loads to off peak hours if possible
    - Time-of-use rates
  - Replace old inefficient pumps and motors

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## WAYS TO MANAGE FUTURE POWER SUPPLY COSTS

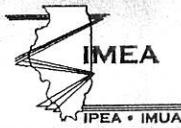
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## Economic Development Rates

- **IMEA Economic Development Rates**
  - **Schedule B-2 Rate**
    - Available to Members paying 30-year 1991 Project Demand Charge
    - Provides lower 1991 Project Demand Charge over 3 years
      - No additional charge for year 1
      - One third of full charge for year 2
      - Two-thirds of full charge for year 3
    - Customer must add 150 kW of new load to qualify
    - Other Members do not need this discount as their 1991 Project Demand Charge does not increase due to added load
  - **Schedule B-6 Rate**
    - Provides a discounted Power Supply and Delivery Service Demand Charge over 5 years
    - Customer must add 1,000 kW of new load to qualify

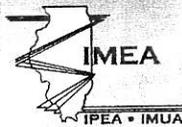
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## Energy/Purchased Power Cost Adjustment

- *All Members should consider adding a purchased power cost adjustment to their rate structure if they are not already included.*
- *Cost Adjustments will insure that Member revenues are maintained even if purchased power costs increase above those projected when the base rates were approved.*

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## Energy Efficiency Programs

- *Energy Efficiency Has Become A Focus*
  - *Concern over global warming has made load reduction an area of primary interest.*
  - *Long-term load reduction is less expensive than (and avoids the need for) new generation and resultant emissions.*
  - *Illinois General Assembly has mandated investor-owned systems operate Energy Efficiency programs*
    - *Both ComEd and Ameren distribution companies are authorized to charge through a special tariff to raise funds for programs*
  - *Congress is considering nationwide mandate*

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## Energy Efficiency Programs

- *Energy Efficiency Programs have many common elements*
  - *Incentives are paid to help install equipment that uses less electricity*
  - *Programs focus on “low-hanging fruit” – lights, HVAC, pumps and motors*
  - *Incentives are split among residential customers, commercial and industrial customers & government buildings*
  - *Evaluation confirms benefits*

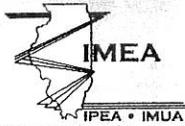
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## Energy Efficiency Programs

- *Agency created E2C2 Committee to advise on program creation*
  - *Committee has been meeting monthly to lay out program elements*
  - *Discussions have focused on a four element strategy:*
    - *Educational materials for purchasers' customers in print and on line*
    - *A program for residential customers*
    - *A program for commercial and industrial customers*
    - *A program for government/utilities/schools*
  - *Majority of elements to focus on peak reduction*
  - *Program available to all members/purchasers*

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## Energy Efficiency Programs

- *IMEA basic program elements will include:*
  - *Residential - Coupons or discounts on CFLs (or other lighting) and on-line home energy audits*
  - *Commercial and Industrial – Cost sharing on replacement of selected lighting, motors, pumps and HVAC*
  - *Government and Public – Cost sharing on replacement of selected lighting, motors, pumps (including water system equipment) and HVAC*
- *Budget set as percentage of operational revenues*
  - *Stimulus dollars may be available*
- *Preference is for a 3<sup>rd</sup> party program manager*

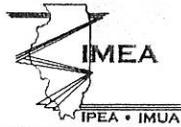
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## Energy Efficiency Programs

- *E2C2 program intended to complement renewable portfolio*
  - *Strategic Planning Committee recommended and Board adopted goal of 5% of energy from renewables by end of 2010*
  - *This will go hand in hand with E2C2 program*
  - *Each will offset carbon emissions*
  - *A number of potential renewable sources have been identified for recommendation to the Board in June*
  - *Both E2C2 program and renewables could be in place late this year or early next year*

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## Summary

- *IMEA maintains a diverse power supply portfolio with a combination of owned assets, long-term cost-based contracts with creditworthy suppliers and an appropriate fuel mixture*
- *IMEA's power supply portfolio is designed for long-term cost containment and stability*
- *IMEA's average power supply costs are below other comparable wholesale power providers in the Midwest*
- *Individual Member's power costs will vary due to individual system differences*
- *Higher load factors equate to lower power costs*
- *IMEA's future power supply will include renewable assets as well as an energy efficiency program*

*Diversity + Balance + Risk Mitigation + Managed Growth +  
Continuous Planning + Dedicated Staff =  
**Stable and Lower-Cost Power Supply***



Freeburg Village Code

§ 51.27 or a total permanent mobile home park as described in division (B) of this section. A mobile home park is permanent when the following improvements have been installed:

- (1) Village water supply;
- (2) Sewers connected to sewer mains; and
- (3) Paved streets.

(Former Code § 38-5-3(O))

**51.31**            **MOTORS AND APPARATUS.** Motors and apparatus shall be as follows:

(A)            The Department reserves the right to select the type of service to be supplied and shall be consulted before equipment is purchased or ordered by a customer. This shall be applicable to those customers having motors five HP and larger or where the aggregate load of smaller motors is more than seven and one-half HP.

(B)            All three-phase electric service shall be by demand metering.

(C)            Motors and motorized equipment will generally be approved for use on the electric system only if the total locked motor current does not exceed an acceptable level, as determined by the Public Works Director.

(D)            If starting currents are objectionable and will cause interference on the electric system, in the judgment of the Public Works Director, reduced voltage starting or such other methods as the Public Works Director determines feasible will be required to be furnished by the customer.

(Former Code, § 38-5-6)

**51.32**            **DUSK-TO-DAWN LIGHTS.** Rented dusk-to-dawn lights shall be provided as follows:

(A)            Private lighting luminaries (dusk-to-dawn lighting services) for homes, schools, security, churches, commercial areas, and industry shall be provided where feasible and in keeping with good electrical practice, as per the following specifications:

- (1)    (a)    A self-contained automatic dusk-to-dawn 100-watt, 175-watt, 400-watt and 1,000-watt mercury vapor lighting fixture shall be furnished and installed by the Village Electric Department, such fixture to meet standards and specifications of the village, on existing wood pole structures for the customer's use at a monthly charge rate of \$6 per unit for a 100-watt unit, \$12 for a 400-watt unit, and \$30 for a 1,000-watt unit for a minimum two-year period. The charges per month shall be added to the customer's monthly utility bill and shall become an integral part of the bill.



- (b) The Electric Department shall be responsible for making the installation, furnishing the electricity for the operation of the lamp, provide all the necessary maintenance (including the replacement of lamps, but excluding malicious damage) for the two year period and all subsequent time additions to the length of service, as agreed to by the village.
- (Ord. 715, passed 4-20-87; Am. Ord. 998, passed 5-21-01)
- (2) Should the installation of a standard lighting unit require installation by the Electrical Department of additional facilities not required by the village for distribution purposes other than the private outdoor lighting to be installed, the Electrical Department shall furnish, install, own, and maintain the additional facilities (including wood poles), which may be necessary to provide such lighting from nearby distribution lines. The Electrical Department shall make a net monthly charge, in addition to the charge set forth of 1¼% of the additional cost to the Electrical Department of furnishing and installing such additional facilities.
- (3) A two year minimum contract shall be agreed to and signed by each customer desiring dusk-to-dawn lighting service, authorizing fixed monthly charges to be applied to the monthly municipal utilities bills. In the event that a customer desires the removal of the unit or discontinuance of the service, the remainder of the charges to complete a two year contract shall become due and payable by the customer.
- (4) Dusk-to-dawn lighting shall be installed on wood poles with a normal ground-to-lamp height of approximately 25 feet. Should a customer desire his or her lighting on steel, aluminum, concrete, decorative type poles and/or underground cable installation, the Village Electric Department may, at its discretion, install or cause the special service to be installed. The customer shall bear the total cost that is above that of a normal wood pole installation, and the additional charge shall be payable by the customer prior to installation.
- (5) The customer shall have the responsibility to notify the Village Electric Department of any interruption of service of the dusk-to-dawn lighting service. The Electric Department will restore service only during regularly scheduled working hours and shall, in any event, be under no obligation to do so before 72 hours from the time of notification. In the event the Electric Department is unable

to effect repairs not caused by the customer within this period, the Electric Department's only responsibility will be to abate the charges on a pro-rata basis for each day after 72 hours in which service is not available. The customer shall remove any obstruction to the installation of the village-owned facilities. Trimming of trees to improve the distribution of light shall be the customer's responsibility. The customer shall provide any permits or easements required for the installation or maintenance of the village-owned facilities and permit access to such facilities by the Electric Department vehicles and personnel. A lighting agreement shall be substantially in the form set forth in Appendix A.

(Former Code, § 38-5-7)

- (6) Dusk to Dawn lighting does not constitute nor fall within the parameters of Section 31.45(G) and is hereby exempt (as a rental service) from the provisions of the Section above referenced.

**51.33 CONSTRUCTION OF SERVICES.** All construction of services shall, in general, be in accordance with the drawings set forth in Appendix B, unless otherwise approved by the Public Works Director. (Former Code, § 38-5-8)

***RATES AND FEES; BILLING***

**51.45 ELECTRICAL RATES.** The following classification of electric service at the rates and on the qualifications, conditions and terms as respectively set forth are hereby established for the sale of electric energy by the Municipal Light Plant and Distribution System of the Village to customers adjacent to the distribution lines of the plant and system.

(A) **Single Phase Service (Rate 1).** Available for any residence, individual apartment, business or any other consumer located adjacent to the municipalities service lines, who utilizes single phase, 120/140 volt service, which shall not be available for resale.

- (1) The charge per month per meter installation shall be:
  - Facilities Charge - \$5.49 per monthly billing period per meter installation (Note: One customer to pay this charge once only in one billing month in event of change of location or meter change).
  - Plus
  - Energy Charge – (plus Fuel Adjustment Charges to be added).

June 3, 2009

Air and Radiation Docket and Information Center  
U.S. Environmental Protection Agency  
Attention: Docket ID No. EPA-HQ-QAR-2008-0708  
Mailcode 6102T  
1200 Pennsylvania Avenue NW  
Washington, D.C. 20460

RE: National Emission Standards for Hazardous Air Pollutants for  
Reciprocating Internal Combustion Engines; Proposed Rule

Dear Sir or Madam:

This letter is written to provide comments on the proposed amendments to 40 C.F.R. 63 Subpart ZZZZ. As explained more fully below, the Illinois Municipal Electric Agency ("IMEA") and its members have many emergency and non-emergency units that would be covered by the proposed amendments. IMEA believes that in the case of its units and its member units, the proposed requirements go beyond what is mandated by law and would provide little environmental benefit. Therefore, IMEA urges the United States Environmental Protection Agency ("USEPA") to reconsider this regulatory approach and revise the proposed amendments as set forth herein.

### Background

The IMEA was created in 1984 and its primary purpose is to provide for the wholesale electric power supply needs of its members, all of which are municipally-operated electric distribution systems within the State of Illinois. These systems are units of local government that own, operate and maintain the electric distribution system that serves their citizens. IMEA operates on a not-for-profit basis.

Prior to the creation of IMEA, the municipally-operated electric systems provided for their wholesale power needs primarily in one of two ways. They either purchased wholesale power for resale to their citizens from the investor-owned electric utility in the area in which they were located, or they generated their own electricity from power plants located within the community. The generation in the local power plants was, most generally, driven by large diesel, or dual-fueled natural gas and diesel, reciprocating internal combustion engines ("RICE").

*PARTNERS IN DELIVERING  
EXCELLENCE IN UTILITY SERVICES.*

ILLINOIS MUNICIPAL ELECTRIC AGENCY  
ILLINOIS PUBLIC ENERGY AGENCY  
ILLINOIS MUNICIPAL UTILITIES ASSOCIATION

WWW.IMEA.ORG

Economics related to fuel costs in the late 1970s and early 1980s prompted most of the communities operating these local plants to migrate to purchasing power from wholesale providers. The municipal power plants were then reserved generally for backup use in case of an interruption of wholesale power deliveries over the electric transmission system.

The majority of the generating members are of 10,000 population or fewer and are located throughout the state:

<u>Member</u>	<u>Population</u>
Altamont	2,283
Breese	4,048
Bushnell	3,221
Carlyle	3,406
Carmi	5,422
Casey	2,942
Fairfield	5,421
Farmer City	2,055
Flora	5,086
Freeburg	3,872
Highland	8,438
Mascoutah	5,659
Marshall	3,771
Peru	9,835
Princeton	7,501
Rantoul	12,857
Rock Falls	9,580
Sullivan	4,326
Winnetka	12,419
Waterloo	7,614

IMEA currently has long-term power supply contracts with 32 of the state's municipally-operated electric systems and one rural electric distribution cooperative. These systems vary greatly in size. To serve its communities, IMEA has assembled a power supply involving other parties that includes ownership of base load and peaking generation, long-term power supply contracts for capacity and energy and other such arrangements as are needed to fulfill IMEA's responsibilities. The members currently require over 700 MW of generating capacity to serve their combined population of approximately 180,000 citizens.

In addition to these resources, IMEA owns and operates ten (10) high speed, remotely-controlled diesel engine generators. Each of these peaking units has a nameplate rating of 1825 kilowatts. These units are located in the IMEA member communities of Highland, Waterloo and Flora, and are currently permitted with the respective member's local generation.

As noted above, a number of IMEA's members continue to maintain and operate locally-sited stationary reciprocating internal combustion generating units. As a part of its power supply arrangements, IMEA has entered into contractual agreements with these members for the use of their units as a part of the overall IMEA power portfolio. These units can be called on to operate by IMEA's operations staff and they are considered an integral part of IMEA's power supply. The vast majority of these units are permitted under Title V permits, due to their potential to emit of NOx. All IMEA member facilities are permitted as area sources of hazardous air pollutants ("HAP").

The member-owned units, along with the IMEA-owned diesels, are used in two ways. First, they are operated during periods of peak summer demand. Such operation provides an important cap on power costs for IMEA's members by allowing the group to avoid market power purchases during high cost periods. Since peak usage typically occurs less than 10% of the year, HAP emissions are minimal from operation of these units during periods of peak demand. Even when the member-owned units are not running, having them simply available to operate helps reduce the power supply cost for the members who would otherwise be at the mercy of the capacity market.

Secondly, the member units can be used for system reliability and support in the event of a critical transmission or sub-transmission system outage. An example of system support is when one of the transmission systems asks for our member units to operate to help reduce the loading of transmission grid facilities or to keep system voltage at acceptable levels. Unacceptably low voltage can damage customer equipment and lead to a collapse of the power delivery system.

These units are also particularly vital to members who are served radially by a single transmission line or transformer. Such members are subject to a total power outage in their communities as a result of weather-related or other types of damage to the radial facilities. In some circumstances, a weather-related transmission outage can stretch for days or weeks. If a transmission equipment failure involves a single substation transformer that supplies the member, the outage can sometimes extend several months. These lines and transformers must also be taken out of service periodically for routine maintenance. Under such circumstances, the local generation is the only means of providing power to the municipal system's customers. Similarly, members with limited capacity backup transmission lines may be required to run local generation for extended periods to prevent equipment overloads or low voltage during outages that affect their primary transmission feed.

As an example of the vital nature of these units in emergency circumstances, consider the recent experiences of one of our member communities. This municipality is located on a radial transmission line and is one of the IMEA communities that maintains a power generation facility comprised of stationary reciprocating internal combustion generating units. In calendar year

2007 alone, this member suffered six (6) transmission related outages that required the operation of their power generating units. The most serious event occurred on December 11, 2007, when an ice event took down a portion of the transmission system serving the city. The municipal system brought on their generation and was forced to operate the units for 48 hours, until ice damage to the transmission lines could be repaired and the lines put back into service.

As recently as March 5, 2008, the same community experienced an outage caused by an industrial accident on the transmission system. In this case, the city was forced to generate from 10:30 AM until 7:00 PM when transmission service was restored.

We provide this information to illustrate how vital these units are to our member municipalities. As stated previously, most of these towns are located in rural areas and have small populations. The budgets of these municipalities, particularly in these economic times, are already stretched. Therefore, this Proposed Rule will have drastic impacts, as set forth more fully below.

### **Proposed Rule**

For area sources, the USEPA has proposed emission limits, 90% emission reduction requirements, or operating and maintenance requirements for emergency and non-emergency units of varying sizes. All but two of the IMEA units and IMEA generating member units would be subject to the requirements to reduce carbon monoxide emissions by 90% or limit carbon monoxide emissions to 4 ppm. Many other units would be subject to the requirements for emergency engines, which vary depending on unit size.

The Clean Air Act ("CAA"), 42 U.S.C. §§ 7401, *et seq.*, provides the statutory mandate for the promulgation of National Emission Standards for Hazardous Air Pollutants ("NESHAPs") for major and area sources. 42 U.S.C. § 7412. Generally, Section 112(d)(2) governs the establishment of NESHAPs, taking into consideration "the cost of achieving...emission reduction, and any...energy requirements." 42 U.S.C. § 7412(d)(2).

With respect to area sources, Section 112(c)(3) specifically states, in part:

The Administrator shall list . . . sufficient categories or subcategories of area sources to ensure that area sources representing 90 percent of the area source

emissions of the 30 hazardous air pollutants that present the greatest threat to public health in the largest number of urban areas are subject to regulation under this section.

42 U.S.C. § 7412(c)(3). (Emphasis added.)

Notably, for area sources, Section 112(d)(5) grants authority to USEPA to:

elect to promulgate standards or requirements applicable to sources in such categories or subcategories which provide for the use of generally available control technologies or management practices by such sources to reduce emissions of hazardous air pollutants.

42 U.S.C. § 7412(d)(5). In regards to generally achievable control technology (“GACT”), USEPA explained in the Regulatory Impact Analysis (“RIA”) for the Proposed Rule:

For determining emission limitations, GACT standards can be more flexible requirements than MACT standards. . . . EPA is permitted to consider costs and other factors during each phase of the GACT analysis. Control technology options available to stationary RICE located at area sources are the same as those discussed for engines located at major sources.

RIA for Existing Stationary Reciprocating Internal Combustion Engines NESHAP at 4-27 (Feb. 2009).

Thus, USEPA has determined not to follow the GACT approach for area sources in this rulemaking, and has, in effect, determined to issue MACT for area sources. As set forth above, pursuant to the CAA, USEPA has the authority to promulgate GACT standards or management practices rather than MACT requirements on engines located at area sources. As discussed in more detail below, the Proposed Rule for area sources is over-inclusive as it regulates engines that have a minimal impact on urban areas and over-controls categories of engines.

In regards to the broad scope of the Proposed Rule for area sources, the RIA states that “[f]or stationary RICE, it would not be practical or appropriate to limit applicability to urban areas and EPA has determined that national standards are appropriate.” *Id.* USEPA further states that there are “high concentrations” of RICE in rural areas. *Id.* USEPA requested comment on its approach to “proposing national requirements without distinction between urban and non-urban areas.” *Id.* at 4-28.

Most of IMEA’s member engines impacted by the Proposed Rule are located at area sources in non-urban locales, where HAP emissions from the impacted engines, some of which

are emergency engines, are unlikely to impact urban areas. Thus, engines located at non-urban sources should be exempt from the requirements of the Proposed Rule.

Further, HAP emissions from IMEA's engines in urban or non-urban areas are not likely to have any meaningful impact in the areas in which the engines are located. Even a casual review of AP-42 factors for engines shows that HAP emissions from these units are miniscule. This is particularly so in IMEA's case, given that these engines operate only on an as-needed basis. Therefore, while short-term HAP emissions are low, USEPA has offered no evidence that long-term HAP emissions from these types of units are worthy of significant regulation.

USEPA seemingly appears to deal with this problem by discussing non-HAP emissions. USEPA addresses criteria pollutants, both in terms of the degree to which such pollutants are emitted, and the benefits that the proposed compliance requirements would have on criteria pollutants. However, Section 112 deals with HAPs, which do not include such things as NO<sub>x</sub>. It is inappropriate for USEPA to use a Section 112 rulemaking to target non-HAP pollutants. Such an endeavor is more appropriate for Section 111 New Source Performance Standards, which have already been promulgated for stationary engines.

In addition, not only has USEPA proposed to regulate engines located at area sources that have minimal impact on urban areas, but USEPA has also proposed compliance requirements that are more stringent than GACT requirements or management practices. USEPA has decided to institute MACT. Yet, even under the MACT provision at Section 112(d), USEPA can consider cost and energy impacts. In regards to the Section 112(d)(2) consideration of energy requirements, USEPA concluded in the RIA for the Proposed Rule that the rule "is not likely to have a significant impact on the supply, distribution, or use of energy." RIA at 5-9. USEPA explained that in terms of energy supply, its industry level analysis determined that "annualized costs represent a very small fraction of revenue (less than 0.7%)", and "[a]s a result, we can conclude supply and price impacts should be small." *Id.* Engines are placed because of concerns as to the reliability of power for the source, particularly in rural areas. These proposed standards could have a very detrimental impact on energy reliability and many units may have to be shut down due to cost of compliance, as discussed in more detail below.

### Compliance Costs

The cost of compliance with the Proposed Rule will have a significant impact on IMEA and its members should the rule be adopted as proposed. In this rulemaking, USEPA incorporates the data from previous rulemakings establishing requirements for stationary RICE and uses the data as the basis for establishing its Proposed Rule. The previous RICE MACT rulemaking was adopted in 2004 and was based on cost information dating as far back as 1999. Although USEPA may consider cost while developing NESHAP requirements, the cost data

considered by USEPA in developing the Proposed Rule is outdated and underestimates the costs to install, operate, and maintain the controls that will be necessary in order for owners and operators of RICE to comply with the Proposed Rule.

The capital and annualized control cost formulas developed by USEPA for oxidation catalysts are based on data collected for a previous rulemaking and consider only a small universe of engines. *See* Memorandum from Bradley Nelson and Tanya Parise to Jaime Pagan, Impacts Associated with NESHAP for Existing RICE at 3 (Feb 25, 2009)(citing Memorandum from Bradley Nelson to Jaime Pagan, Control Costs for Reciprocating Internal Combustion Engines at Major and Area Sources (April 28, 2006)("2006 Cost Memo")). In developing the oxidation catalyst formulas, information was obtained from a manufacturer that "provided equipment cost estimates for six generic sized [spark ignition] engines ranging from 500 to 8000 horsepower" 2006 Cost Memo at 4. USEPA assumed, based on vendor information, that the installation costs of the controls would be the same for both existing and new engines. *Id.* at 4-5. As evidenced by the vendor information IMEA acquired, as set forth above, this assumption is in error. Installation costs for older units are expected to be greater than those for newer units.

In IMEA's discussions with vendors, it is clear that USEPA's cost estimates are strikingly too low. One vendor told IMEA that the cost to install an oxidation catalyst on newer engines would be approximately 40% higher than USEPA's estimates. Further, the same vendor stated that costs to retrofit older engines would be even higher.

Facilities impacted by the proposed rule will discover these cost difficulties as they evaluate the cost to comply with the Proposed Rule and begin to plan budgets for upcoming years. Utilizing USEPA's cost formula, the average capital cost at each generating IMEA municipality for oxidation catalyst control of units included in the IMEA power portfolio is \$223,756. Assessing the 40% correction factor suggested by our vendor, this average cost escalates to \$313,258. However, as set forth above, this average capital cost is likely still low, given that the true costs to retrofit older units have not been addressed. In addition, the annual operating costs for the oxidation catalyst control of these units would average about \$31,000 per year at each generating IMEA municipality.

Because the cost difference between the vendor estimate and USEPA's cost estimate is so glaring, IMEA urges USEPA to re-evaluate its use of the data from previous RICE rulemakings and gather current data on which to better base its cost equations. Further, IMEA requests USEPA provide a specific basis for assuming the cost to install controls on existing and new sources would be the same.

Due to drastic under-estimation of the cost of control, USEPA has also missed the mark on its characterization of the cost per ton of emission reduction. Since IMEA's engines and IMEA's members' engines do not operate for lengthy periods of time, the cost per ton of reduction is high. In a typical year, the IMEA and IMEA member-owned diesels emit a total of

about 45 tons of CO. Assuming a total capital cost of about \$4.5M (based on the USEPA's cost formula) for oxidation catalysts to cover all of the affected IMEA and IMEA member diesels, achieving a 90% reduction in CO emissions to comply with the proposed rule would cost IMEA and its member municipalities approximately \$111,000 per ton. Considering that USEPA has under-estimated the cost of controls, the ratio of the cost of installing, operating, and maintaining controls to the tons of emission reduction resulting from the controls is certain to be even higher. This level of cost is too high to justify the Proposed Rule's stringent requirements. Operation of engines in urban areas in accordance with acceptable management practices is sufficient to protect public health and the environment.

Because of the high costs to comply with the Proposed Rule, many municipalities may have to shut down units, impacting the viability of backup power supplies. This creates a significant health and safety concern for our members' citizenry. Members' units provide a vital source of power in emergency circumstances to homes, businesses, hospitals, fire and police stations, etc. As these same units may be used in limited peaking circumstances, they do not qualify for emergency unit status and are subject to stringent retrofit controls. In addition, members use engines in sewer systems and along sewer lines to continue sewer operations during power outages. Such units would likely be subject to the prescriptive maintenance requirements in the proposed rule. Other true emergency type units may be large enough to implicate emission reduction requirements for larger emergency units.

### Management Practices

The Proposed Rule essentially requires MACT controls for stationary engines at area sources. Instead of this approach, USEPA should consider allowing owners or operators of engines to utilize management or operating practices in accordance with Sections 112(d)(5) and 112(h) of the CAA. For emergency engines, USEPA should also consider allowing manufacturer or operator defined management practices as an alternative to the prescriptive maintenance requirements in the Proposed Rule. This is consistent with Part 60 monitoring requirements for spark and compression ignition engines.

While USEPA allows compliance by implementation of management practices, USEPA should consider expanding such requirements to all emergency engines. At this time, the Proposed Rule includes requirements for emergency engines which are inconsistent. Under the Proposed Rule, existing emergency engines greater than 500 horsepower at area sources have emission limits, as well as operating limits. *See* Proposed Table 2d to 40 C.F.R. Part 63 Subpart ZZZZ. For existing emergency engines greater than 500 horsepower at major sources, Subpart ZZZZ requires no emission reduction or limitation, even though such units are subject to MACT. Proposed 40 C.F.R. § 63.6590(b)(3). Thus, USEPA has proposed requirements for existing engines at area sources that are more stringent than the proposed requirements for similar engines at major sources. Existing emergency units at area sources should also not be subject to emission reductions or limitations.

As for non-emergency units, IMEA has participated in a NOx rulemaking in Illinois for the Chicago and Metro-East nonattainment areas. In the Matter of: Section 27 Proposed Rules for Nitrogen Oxide (NOx) Emissions from Stationary Reciprocating Internal Combustion Engines and Turbines: Amendments to 35 Ill. Adm. Code Parts 211 and 217, R07-19 (Ill. Pol. Control Bd.). That rulemaking will affect the member municipalities of Highland, Waterloo, Mascoutah, Freeburg and Winnetka. In that rulemaking, sources may elect to comply by designating their units as "low-use." Such designation avoids the obligation to apply retrofit controls. Low-use units may only collectively operate up to 8 million horsepower-hours per year. Alternatively, low-use units at a source are collectively limited to NOx emissions of 100 tons per year. Utilizing AP-42 factors, the latter low-use option translates to an effective cap on HAP emissions of approximately 94 pounds per year, per municipality.

USEPA should consider such an approach for existing non-emergency units in the Proposed Rule. For those units that do not operate frequently, retrofit controls are beyond what is required and are not cost effective, with respect to the level of emissions that would be reduced by such retrofit controls. Providing an alternative means of compliance, such as a usage limitation or site-wide emissions cap, is a much more reasonable method of regulation that what is currently in the Proposed Rule.

### Testing Requirements

In regards to testing requirements for existing emergency engines at area sources, the preamble of the Proposed Rule provides that such engines are not subject to any performance testing requirements. 74 Fed. Reg. at 9704. In addition, the preamble does not reference periodic testing requirements for emergency engines. However, the Proposed Rule appears to include such testing requirements. Proposed Tables 3, 4 and 6 to 40 C.F.R. Part 63 Subpart ZZZZ.

Because the IMEA engines and IMEA member engines operate on a limited basis, performance and periodic testing requirements are not necessary. Operation in accordance with manufacturers' guidelines and/or management practices is sufficient to determine that engines are properly operating. IMEA recommends that USEPA remove the testing requirements for these types of engines from the Proposed Rule.

### Monitoring

In regards to the Proposed Rule's monitoring requirements, the preamble discussion and the text of the rule are inconsistent as to whether USEPA is requiring parameter monitoring for existing sources. The preamble to the Proposed Rule provides that certain non-emergency engines greater than 500 horsepower at area and major sources are required to monitor pressure drop across the catalyst, as well as monitor and maintain the temperature of the exhaust to keep

the inlet temperature within a certain temperature range. 74 Fed. Reg. at 9704. The text of the Proposed Rule does not reference these requirements. Proposed 40 C.F.R. Part 63 Subpart ZZZZ.

In addition, USEPA should not impose these requirements where there is minimal engine operation. Our members only operate their engines for limited periods of time, which does not warrant the resources, in terms of cost and personnel, that will be necessary to comply with the proposed monitoring requirements.

### Conclusion

IMEA is very concerned about the ramifications that the proposed amendments would have on its members and their citizens. Such small municipalities will have tremendous difficulty amassing the up-front capital needed to comply with the retrofit control requirements. Further these small towns do not have personnel with the expertise required to deal with such retrofit controls or the requirements that go with them, such as monitoring.

IMEA urges USEPA to amend its proposal to do away with emission controls for existing emergency units, no matter their location. Operation according to manufacturer or manufacturer-approved maintenance plans are sufficient requirements for these types of units. As for existing non-emergency units, USEPA has not made a case for such stringent regulation of such units in non-urban areas, particularly where, as here, operation of such units is minimal. USEPA should only impose requirements for non-emergency units in urban areas. In those circumstances, where operation of such units is limited, annual run-time or emission caps would be a reasonable and cost-effective restriction. Finally, testing and monitoring should not be required for existing emergency units or existing non-emergency units with limited operation. Recordkeeping of maintenance activities and run times/emissions under such caps would be an acceptable demonstration of compliance.

Thank you for consideration of these concerns.

Very truly yours,

ILLINOIS MUNICIPAL ELECTRIC AGENCY

  
Ronald D. Earl  
CEO

pc: Melanie King (via U.S. Mail)  
N. LaDonna Driver (via U.S. Mail)

PROPOSED FEDERAL RULES FOR EXISTING NON-EMERGENCY UNITS

Alfamont Plant			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
ALTA01	2,448	\$27,492.40	\$4,113.96
ALTA02	2,448	\$27,492.40	\$4,113.96
ALTA03	2,448	\$27,492.40	\$4,113.96
ALTA04	2,448	\$27,492.40	\$4,113.96
<b>Total</b>	<b>9,792</b>	<b>\$109,969.60</b>	<b>\$16,455.84</b>

Breese Plant			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
BRES02	4,023	\$45,289.90	\$6,507.96
BRES03	4,023	\$45,289.90	\$6,507.96
BRES04	1,207	\$13,469.10	\$2,227.64
BRES05	3,353	\$37,718.90	\$5,489.56
BRES06	3,353	\$37,718.90	\$5,489.56
BRES07	3,353	\$37,718.90	\$5,489.56
<b>Total</b>	<b>19,312</b>	<b>\$217,205.60</b>	<b>\$31,712.24</b>

Bushnell Plant			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
BUSH03	2,749	\$30,893.70	\$4,571.48
BUSH04	335	\$3,615.50	\$902.20
BUSH05	1,438	\$16,079.40	\$2,578.76
BUSH06	3,420	\$38,476.00	\$5,591.40
BUSH07	3,420	\$38,476.00	\$5,591.40
<b>Total</b>	<b>11,362</b>	<b>\$127,540.60</b>	<b>\$19,235.24</b>

Carlyle Plant			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
CARL01	4,225	\$47,572.50	\$6,815.00
CARL07	2,749	\$30,893.70	\$4,571.48
CARL08	3,353	\$37,718.90	\$5,489.56
CARL09	3,353	\$37,718.90	\$5,489.56
CARL10	3,353	\$37,718.90	\$5,489.56
<b>Total</b>	<b>17,033</b>	<b>\$191,622.90</b>	<b>\$27,855.16</b>

Carmi Plant			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
CARM05	925	\$10,282.50	\$1,799.00
CARM06	980	\$10,904.00	\$1,882.60
CARM07	1,509	\$16,881.70	\$2,686.68
CARM08	1,878	\$21,051.40	\$3,247.56
CARM09	2,347	\$26,351.10	\$3,960.44
CARM10	2,347	\$26,351.10	\$3,960.44
CARM11	3,755	\$42,261.50	\$6,100.60
CARM12	2,749	\$30,893.70	\$4,571.48
CARM13	5,921	\$66,737.30	\$9,392.92
<b>Total</b>	<b>22,411</b>	<b>\$251,714.30</b>	<b>\$37,601.72</b>

Casey Plant			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
CASY01	2,448	\$27,492.40	\$4,113.96
CASY02	2,448	\$27,492.40	\$4,113.96
CASY-3	2,448	\$27,492.40	\$4,113.96
<b>Total</b>	<b>7,344</b>	<b>\$82,477.20</b>	<b>\$12,341.88</b>

Fairfield Plant			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
FAIR05	3,018	\$33,933.40	\$4,980.36
FAIR06	3,018	\$33,933.40	\$4,980.36
FAIR07	3,688	\$41,504.40	\$5,998.76
<b>Total</b>	<b>9,724</b>	<b>\$109,371.20</b>	<b>\$15,959.48</b>

Farmer City Plant			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
FARM01	2,065	\$23,164.50	\$3,531.80
FARM02	1,524	\$17,051.20	\$2,709.48
FARM04	1,169	\$13,039.70	\$2,169.88
FARM05	4,694	\$52,872.20	\$7,527.88
<b>Total</b>	<b>9,452</b>	<b>\$106,127.60</b>	<b>\$15,939.04</b>

Flora Plant			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
FLOR01	2,448	\$27,492.40	\$4,113.96
FLOR02	2,448	\$27,492.40	\$4,113.96
FLOR03	2,448	\$27,492.40	\$4,113.96
FLOR04	2,448	\$27,492.40	\$4,113.96
FLOR05	2,448	\$27,492.40	\$4,113.96
IMEA06	2,448	\$27,492.40	\$4,113.96
IMEA07	2,448	\$27,492.40	\$4,113.96
IMEA08	2,448	\$27,492.40	\$4,113.96
IMEA09	2,448	\$27,492.40	\$4,113.96
IMEA10	2,448	\$27,492.40	\$4,113.96
<b>Total</b>	<b>24,480</b>	<b>\$274,924.00</b>	<b>\$41,139.60</b>

Freeburg Plant			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
FREE06	3,500	\$39,380.00	\$5,713.00
FREE08	2,448	\$27,492.40	\$4,113.96
FREE09	2,448	\$27,492.40	\$4,113.96
FREE10	2,448	\$27,492.40	\$4,113.96
FREE11	2,448	\$27,492.40	\$4,113.96
FREE12	2,448	\$27,492.40	\$4,113.96
<b>Total</b>	<b>15,740</b>	<b>\$176,842.00</b>	<b>\$26,282.80</b>

*these are USEPA cost estimates. some think actual cost may be double those shown*

*\$500,000*

Cost estimates are in 2007 dollars.

**PROPOSED FEDERAL RULES FOR EXISTING NON-EMERGENCY UNITS**

<b>Highland Plant</b>			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
HIGH01	2,146	\$24,079.80	\$3,654.92
HIGH02	2,146	\$24,079.80	\$3,654.92
HIGH03	2,146	\$24,079.80	\$3,654.92
HIGH05	2,878	\$32,351.40	\$4,767.56
HIGH06	2,878	\$32,351.40	\$4,767.56
HIGH07	6,125	\$69,042.50	\$9,703.00
HIGH08	6,125	\$69,042.50	\$9,703.00
IMEA01	2,448	\$27,492.40	\$4,113.96
IMEA02	2,448	\$27,492.40	\$4,113.96
<b>Total</b>	<b>29,340</b>	<b>\$330,012.00</b>	<b>\$48,133.80</b>

<b>Mascoutah Plant</b>			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
MASC01	719	\$7,954.70	\$1,485.88
MASC02	719	\$7,954.70	\$1,485.88
MASC03	1,524	\$17,051.20	\$2,709.48
MASC04	2,776	\$31,198.80	\$4,612.52
MASC05	3,054	\$34,340.20	\$5,035.08
<b>Total</b>	<b>8,792</b>	<b>\$98,499.60</b>	<b>\$15,328.84</b>

<b>Marshall Plant</b>			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
MRSH05	3,353	\$37,718.90	\$5,489.56
MRSH06	2,448	\$27,492.40	\$4,113.96
MRSH07	2,448	\$27,492.40	\$4,113.96
MRSH08	2,448	\$27,492.40	\$4,113.96
MRSH09	2,448	\$27,492.40	\$4,113.96
MRSH10	2,448	\$27,492.40	\$4,113.96
MRSH11	2,448	\$27,492.40	\$4,113.96
MRSH12	2,448	\$27,492.40	\$4,113.96
MRSH13	2,448	\$27,492.40	\$4,113.96
<b>Total</b>	<b>22,937</b>	<b>\$257,658.10</b>	<b>\$38,401.24</b>

<b>Peru Plant</b>			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
PERU01	2,682	\$30,136.60	\$4,469.64
PERU02	2,682	\$30,136.60	\$4,469.64
PERU03	2,448	\$27,492.40	\$4,113.96
PERU06	8,396	\$94,704.80	\$13,154.92
PERU07	2,448	\$27,492.40	\$4,113.96
PERU08	2,682	\$30,136.60	\$4,469.64
PERU09	2,682	\$30,136.60	\$4,469.64
PERU10	2,682	\$30,136.60	\$4,469.64
<b>Total</b>	<b>26,702</b>	<b>\$300,372.60</b>	<b>\$43,731.04</b>

<b>Princeton Plant</b>			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
PRIN01	3,353	\$37,718.90	\$5,489.56
PRIN02	4,023	\$45,289.90	\$6,507.96
PRIN03	4,694	\$52,872.20	\$7,527.88
PRIN04	4,694	\$52,872.20	\$7,527.88
PRIN05	6,706	\$75,607.80	\$10,586.12
PRIN06	7,510	\$84,693.00	\$11,808.20
PRIN07	9,388	\$105,914.40	\$14,662.76
PRIN08	11,802	\$133,192.60	\$18,332.04
<b>Total</b>	<b>52,170</b>	<b>\$588,161.00</b>	<b>\$82,442.40</b>

<b>Rantoul Plant</b>			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
RANT01	1,073	\$11,954.90	\$2,023.96
RANT02	1,073	\$11,954.90	\$2,023.96
RANT03	1,073	\$11,954.90	\$2,023.96
RANT04	1,073	\$11,954.90	\$2,023.96
RANT05	1,073	\$11,954.90	\$2,023.96
RANT07	7,108	\$80,150.40	\$11,197.16
RANT08	5,365	\$60,454.50	\$8,547.80
RANT09	2,448	\$27,492.40	\$4,113.96
RANT10	2,448	\$27,492.40	\$4,113.96
RANT11	2,448	\$27,492.40	\$4,113.96
RANT12	2,448	\$27,492.40	\$4,113.96
RANT13	2,448	\$27,492.40	\$4,113.96
RANT14	2,448	\$27,492.40	\$4,113.96
RANT15	2,448	\$27,492.40	\$4,113.96
RANT16	2,448	\$27,492.40	\$4,113.96
<b>Total</b>	<b>37,422</b>	<b>\$420,318.60</b>	<b>\$62,776.44</b>

<b>Rock Falls Plant</b>			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
RKFL01	2,448	\$27,492.40	\$4,113.96
RKFL02	2,448	\$27,492.40	\$4,113.96
RKFL03	2,448	\$27,492.40	\$4,113.96
RKFL04	2,448	\$27,492.40	\$4,113.96
RKFL05	2,448	\$27,492.40	\$4,113.96
RKFL06	2,448	\$27,492.40	\$4,113.96
RKFL07	2,448	\$27,492.40	\$4,113.96
<b>Total</b>	<b>17,136</b>	<b>\$192,446.80</b>	<b>\$28,797.72</b>

<b>Sullivan Plant</b>			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
SULV01	5,767	\$64,997.10	\$9,158.84
SULV03	2,012	\$22,565.60	\$3,451.24
SULV04	1,509	\$16,881.70	\$2,686.68
SULV06	1,524	\$17,051.20	\$2,709.48
SULV09	7,108	\$80,150.40	\$11,197.16
SULV10	5,365	\$60,454.50	\$8,547.80
SULV11	2,448	\$27,492.40	\$4,113.96
SULV12	2,448	\$27,492.40	\$4,113.96
<b>Total</b>	<b>28,181</b>	<b>\$317,085.30</b>	<b>\$45,979.12</b>

Cost estimates are in 2007 dollars.

**PROPOSED FEDERAL RULES FOR EXISTING NON-EMERGENCY UNITS**

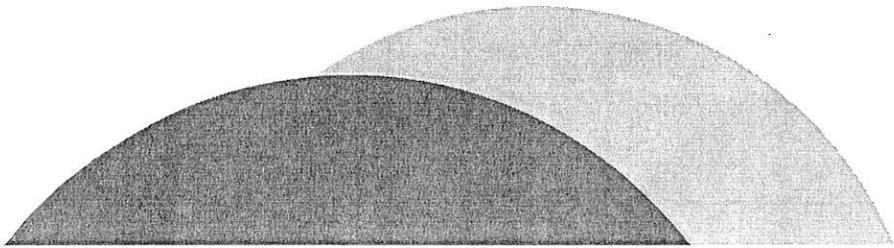
<b>Waterloo Plant</b>			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
WLOO01	4,158	\$46,815.40	\$6,713.16
WLOO02	384	\$4,169.20	\$976.68
WLOO03	268	\$2,858.40	\$800.36
WLOO04	2,749	\$30,893.70	\$4,571.48
WLOO05	746	\$8,259.80	\$1,526.92
WL0006	746	\$8,259.80	\$1,526.92
WLOO07	2,280	\$25,594.00	\$3,858.60
WLOO08	4,023	\$45,289.90	\$6,507.96
IMEA03	2,448	\$27,492.40	\$4,113.96
IMEA04	2,448	\$27,492.40	\$4,113.96
IMEA05	2,448	\$27,492.40	\$4,113.96
<b>Total</b>	<b>22,698</b>	<b>\$254,617.40</b>	<b>\$38,823.96</b>

<b>Winnetka Plant</b>			
	hp	Capital Cost	Annual Cost
		11.3*hp-170	1.52*hp+393
WINN08	3,353	\$37,718.90	\$5,489.56
WINN09	3,353	\$37,718.90	\$5,489.56
<b>Total</b>	<b>6,706</b>	<b>\$75,437.80</b>	<b>\$10,979.12</b>

<b>TOTAL CAPITAL COST</b>	<b>\$4,482,404.20</b>
<b>TOTAL ANNUAL COST</b>	<b>\$659,916.68</b>
<b>AVERAGE ANNUAL COST</b>	<b>\$32,995.83</b>

Cost estimates are in 2007 dollars.

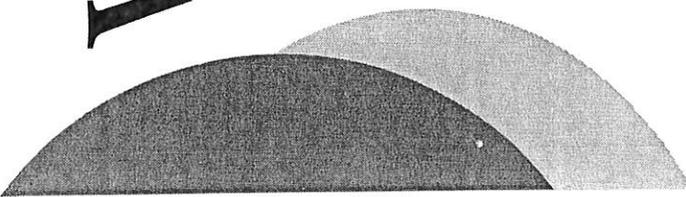




# **Proposed Federal Regulations for Existing Engines**

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**N. LaDonna Driver  
Hodge Dwyer & Driver  
June 30, 2009**



# What we will cover

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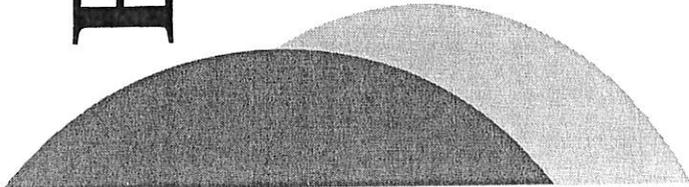
- Basic requirements of the proposed rule
- Technical/economic feasibility concerns with proposed rule
- Response by IMEA and others
- Future steps

# Recap of Other Engine Rules

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- State NOx rule
- Federal rule for new, modified or reconstructed engines

*NOx, Partic., CO*



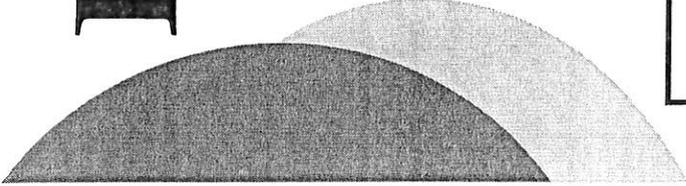
# Existing Engines

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*Site*  
*to*  
*be*  
*re-*  
*constructed*

Construction or  
reconstruction — *50% of cost of new unit*

commenced before  
June 12, 2006



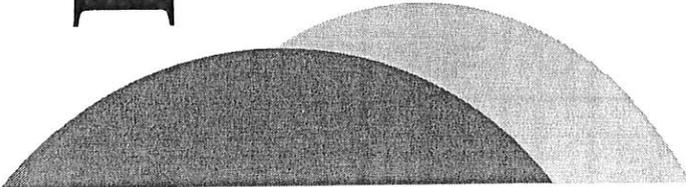
# Emergency Engine

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Operation limited to emergencies and required testing and maintenance

Includes providing electricity to critical equipment when normal power supply is interrupted

Includes fire or flood pump engines



# Emergency Engine

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Does not include peak shaving

Does not include power supply to grid

Does not include power supply as part of a financial arrangement with another entity

# Non-Emergency Unit Requirements

CI > 300 Horsepower

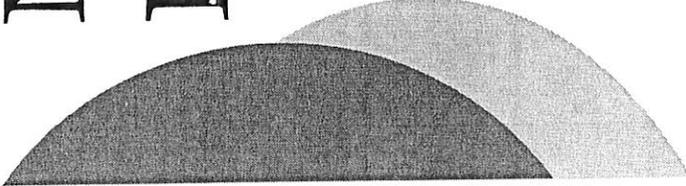
Carbon Monoxide emissions limited to 4 ppm

or

90% reduction in carbon monoxide emissions

emission  
limitation  
(over)

current req's are tons  
no + noise restrictions  
@ 400-500 ppm  
add 200-300 ppm  
30-40 ppm



# Non-Emergency Unit Requirements

---

**CI > 300 Horsepower**

Proposed emission  
standard based on  
retrofit with an  
oxidation catalyst

See handout for cost estimates

# Non-Emergency Unit Requirements

---

**CI > 300 Horsepower**

Carbon Monoxide  
emissions limited  
to 40 ppm during  
startup, shutdown  
or malfunction

# 8 MW engine ramp up (cold start)

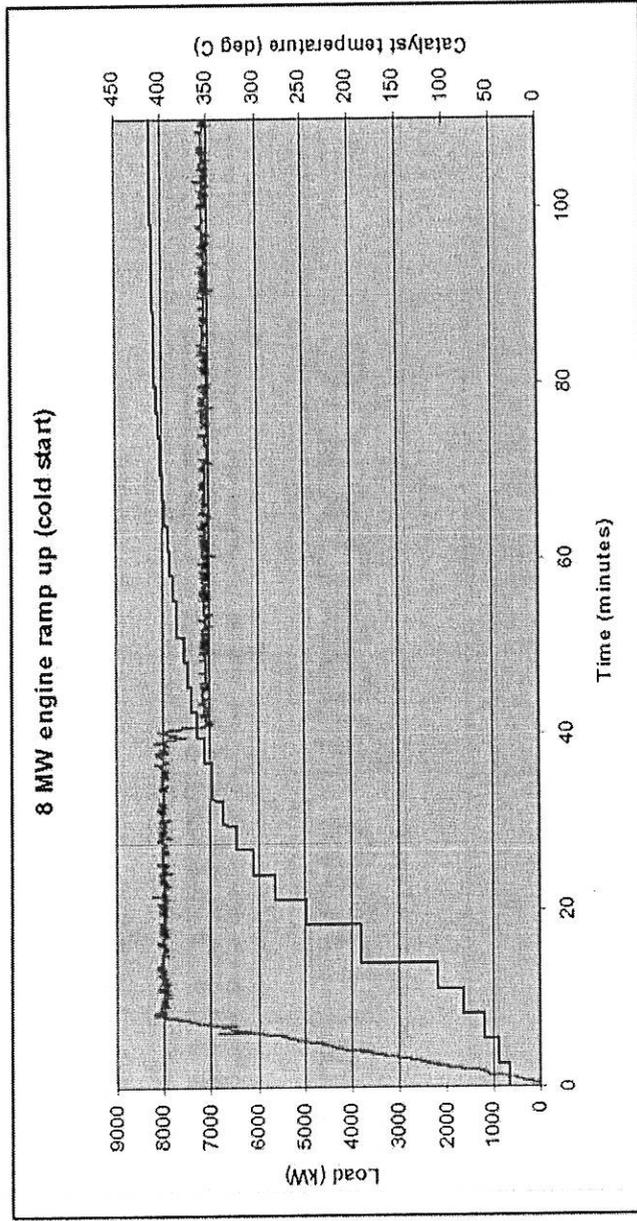


Figure 1. Load/Temperature Start-Up Profile

Temperature —  
Load —

# 8 MW Engine shutdown

*no problem*

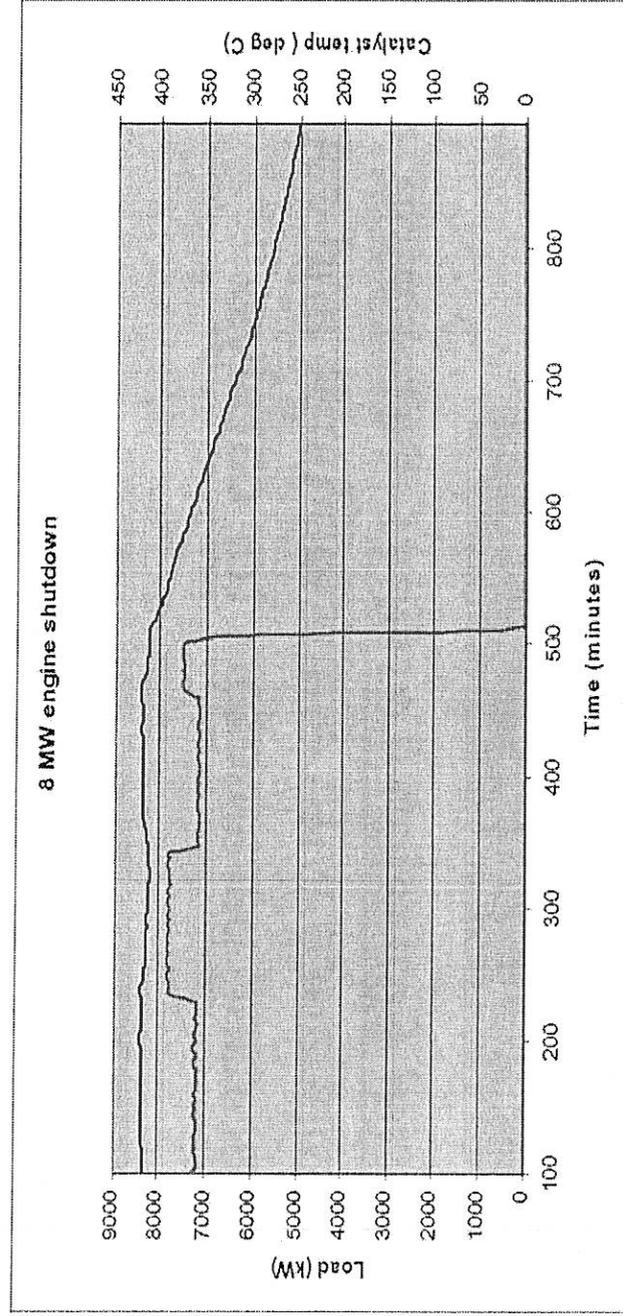


Figure 2. Load/Temperature Shut-Down Profile

# Non-Emergency Unit Requirements

Manufacturing  
Per Manufacturer

Per Manufacturer  
portable manifold  
\$1000  
\$25K  
\$1000  
\$25K  
\$1000  
\$25K  
\$1000  
\$25K

CI > 300 Horsepower

Initial Emission Testing: Determine compliance with emission limit and establish operating parameters for catalyst

CI > 500 Horsepower

Periodic Emission Testing: Every 8760 operating hours or 3 years, whichever occurs first

$$25K / 3 = 8K / yr.$$

# Non-Emergency Unit Requirements

CI > 300 Horsepower

Monitoring pressure drop across the catalyst and the catalyst inlet temperature

- ◆ Pressure drop across catalyst must not change more than two inches of water at 100% load +/- 10% from the pressure drop measured during initial test
- ◆ Temperature of exhaust must be  $\geq 450^{\circ}\text{F}$  and  $\leq 1350^{\circ}\text{F}$

*Continuous monitoring  
Per 1012.1  
Equip cost \$1K - \$2K  
Per unit.*



# Non-Emergency Unit Requirements

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**CI 50 ≤ Horsepower ≤ 300**

- No emission reduction or limitation
- No testing
- No monitoring
- No fuel requirements

# Non-Emergency Unit Requirements

---

**CI 50 ≤ Horsepower ≤ 300**

## Maintenance Requirements

- ◆ Change oil and filter every 500 hours
- ◆ Inspect air cleaner every 1000 hours and replace as necessary
- ◆ Inspect all hoses and belts every 500 hours and replace as necessary

*may be without coolant  
if necessary*

# Emergency Unit Requirements

CI Horsepower > 500

- ◆ Carbon monoxide emissions limited to 40 ppm (includes startup, shutdown and malfunction)
- ◆ Operation for maintenance checks and readiness testing limited to 100 hours per year
- ◆ Install non-resettable hour meter
- ◆ Testing? *EPA said no testing Required But the Actual rule Requires testing.*

*will require the presence of a person at all times*

*will require the presence of a person at all times*

*CHRYSLER*

*1950*

# Emergency Unit Requirements

**CI 50 ≤ Horsepower ≤ 500**

- ◆ No emission reduction or limitation
- ◆ Operation for maintenance checks and readiness testing limited to 100 hours per year
- ◆ Install non-resettable hours meter
- ◆ No testing
- ◆ No fuel requirements
- ◆ No monitoring

*Metric units*

# Emergency Unit Requirements

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**CI 50 ≤ Horsepower ≤ 500**

## Maintenance Requirements

- ◆ Change oil and filter every 500 hours
- ◆ Inspect air cleaner every 1000 hours and replace as necessary
- ◆ Inspect all hoses and belts every 500 hours and replace as necessary

*P. 10/15*

# Emergency and Non-Emergency Units

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## CI Horsepower < 50

- ◆ No emission reduction or limitation
- ◆ Operation for maintenance checks and readiness testing limited to 100 hours per year for emergency engines
- ◆ No testing
- ◆ Install non-resettable hour meter for emergency units
- ◆ No fuel requirements
- ◆ No monitoring

# Emergency and Non-Emergency Units

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**CI Horsepower < 50**

## Maintenance Requirements

- ◆ Change oil and filter every 200 hours
- ◆ Inspect all hoses and belts every 500 hours and replace as necessary

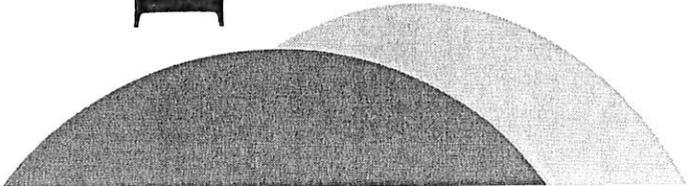
# IMEA Comments

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## Urban vs. Non-Urban

### Advocated exempting all non-urban units

- ◆ USEPA does not have to regulate non-urban units
- ◆ HAP emissions from non-urban units would not impact urban areas

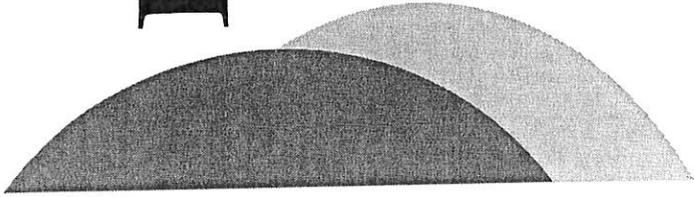


# IMEA Comments

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## Energy Impacts

- ◆ USEPA stated proposed rule is not likely to significantly impact supply, distribution or use of energy
- ◆ IMEA pointed out detrimental impact of proposed rule on energy reliability due to likely shutdowns



# IMEA Comments

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## Costs

- ◆ USEPA's data is outdated
- ◆ USEPA's cost estimates are too low, based on discussions with vendors
- ◆ Cost of emission reduction > \$100,000 per ton

# IMEA Comments

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## Emergency vs. Non-Emergency

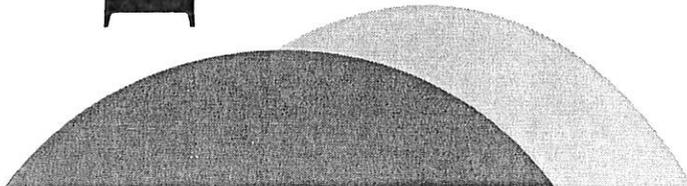
- ◆ Advocated management practices only for emergency units
- ◆ Advocated annual operating or emissions caps for non-emergency units (urban only) that are used infrequently

# IMEA Comments

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## Testing and Monitoring

- ◆ Advocated no testing or monitoring for emergency units
- ◆ Advocated no testing or monitoring for non-emergency units (urban only) that operate infrequently



# Future Steps

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- ◆ Members should begin evaluating potential costs of compliance
- ◆ Members should begin evaluating compliance strategies while waiting for final rule

