

2005-00090



# Benton Electric System

436 Mayfield Road  
P.O. Box 10  
Benton, Kentucky 42025  
270-527-3666  
Fax 270-527-3062

RECEIVED

MAY - 9 2005

CHAIRMAN  
P.S.C.

May 5, 2005

Mr. Mark David Goss, Chairman  
Commonwealth of KY PSC  
Post Office Box 615  
Frankfort, KY 40602-0615

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MAY 20 2005

PUBLIC SERVICE  
COMMISSION

Dear Mr. Goss:

Benton Electric System will gladly assist the Commission in responding to the Governor's Executive Order 2005-121. We appreciate being included in this assessment of Kentucky's Electric Generation, Transmission, and Distribution needs. We are confident that you will find our power delivery system in Benton is well designed and has plenty of capacity for growth.

From your April 28<sup>th</sup> letter to Benton ES I find six questions listed. The following shows our response for each question.

1. Benton ES purchases all its power requirements from the TVA. The full-requirements contract has an indefinite term but has a 5-year termination notice by either party.
2. Benton ES peak load is projected to grow from 17.3 MW in 2006 to 22.7 MW in 2024 (see attached for year by year projection). We plan to use TVA to meet our load requirements.
3. Benton ES has 1791 residential customers, 633 commercial customers, and 1 industrial customer as of March 2005.
4. Benton ES is continuously looking for ways to increase the efficiency of operating the electric distribution company. Our resource planning is done on a case by case basis at each monthly board meeting. Because Benton ES has a "full-requirements" contract with TVA, it is TVA's responsibility to do the resource planning needed to provide the Generation and Transmission needs of our customers.
5. Benton presently takes delivery of power at 69-KV and immediately steps it down to distribution voltage. Benton does not own any transmission lines 69-KV or above.

Executive Order 2005-121  
Administrative Case Number 2005-00090  
May 5, 2005

6. Benton ES right-of-way maintenance program includes a 10-foot tree trimming width over a 3 to 4 year cycle. Vegetation control by spraying is performed in the substation area only. In residential areas where customers agree, trees are totally removed rather than trimmed.

TVA is preparing a response to the Generation and Transmission questions that are listed in the Commission Order.

Thank you again for including Benton ES in the "Strategic Blueprint" of Kentucky's power industry. If you have any questions please feel free to contact me at (270) 527-3666.

Sincerely,

Benton Electric System

A handwritten signature in cursive script that reads "Gray Cassity".

Gray Cassity  
General Manager

**NONCOINCIDENT MEDIUM NORMAL SUMMER PEAK FORECASTS NORTH AREA - MEGAWATTS  
(COMMERCIAL AND INDUSTRIAL LOADS ARE FORECAST AT CONTRACT DEMAND)**

DISTRIBUTOR/ DELIVERY POINT	CODE NUMBER	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Benton	19	17.1	17.3	17.6	17.8	18.1	18.3	18.6	18.8	19.0	19.3
Benton, KY City	372810	17.1	17.3	17.6	17.8	18.1	18.3	18.6	18.8	19.0	19.3

**NONCOINCIDENT MEDIUM NORMAL SUMMER PEAK FORECASTS NORTH AREA - MEGAWATTS  
(COMMERCIAL AND INDUSTRIAL LOADS ARE FORECAST AT CONTRACT DEMAND)**

DISTRIBUTOR/ DELIVERY POINT	CODE NUMBER	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Benton	19	19.6	19.9	20.3	20.6	20.9	21.3	21.7	22.0	22.3	22.7
Benton, KY City	372810	19.6	19.9	20.3	20.6	20.9	21.3	21.7	22.0	22.3	22.7

Allen Anderson  
Head Coach and CEO  
Phone (606) 678-4121



925-292 North Main St.  
P. O. Box 910  
Somerset KY 42501-910

May 10, 2005

*Wendy: Please  
send my  
regrets*

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MAY 16 2005

CHAIRMAN  
P.S.C.

Kentucky Public Service Commission  
Mr. Mark D. Goss  
Post Office Box 614  
Frankfort, Kentucky 40602

Dear Mr. Goss:

**SUBJECT: South Kentucky Rural Electric Cooperative Corporation Annual Meeting**

South Kentucky Rural Electric will be holding our 67<sup>th</sup> Annual Membership Meeting on Thursday evening June 9, 2005, with activities beginning at 5 p.m. and the Business Meeting at 7 p.m. Our featured entertainment for the evening will be Blake Shelton with the opening act being the very talented local gospel group, The Blakey Quartet. We would be honored if you would join us as our special guest for the evening.

We will be serving an early dinner at the Cooperative's main office Community Room at 925 - 929 North Main Street, Somerset, Kentucky between 4 and 5 p.m. This will allow you ample time to travel to the Annual Meeting site to visit with the 12,000 - 15,000 people expected to be in attendance. As well as visit the many exhibitors' booths, featuring health fairs, energy efficiency, civic organizations, local industry, and much more.

Thank you for the service you provide to the membership and the communities we serve.

Please call Connie Wilson at (606) 678-4121 or 1-800-264-5112 if you or any of your Staff plan to attend so that you can be properly recognized from the stage.

Sincerely,

SOUTH KENTUCKY RECC

*Allen Anderson*  
Allen Anderson  
Chief Executive Officer

AA:RKP:cgw

k:SpecialInvitationAnnualMtg.aa

# ELECTRIC PLANT BOARD OF THE CITY OF VANCEBURG

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611 Front Street - P.O. Box 489 - Vanceburg, Kentucky 41179  
Phone (606) 796-2641 - (606) 932-4488 - Fax (606) 796-6311

May 10, 2005

Mark David Goss, Chairman  
Public Service Commission  
PO Box 615  
Frankfort, KY 40602-0615

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MAY 11 2005

CHAIRMAN  
P.S.C.

Subject: Response to Assessment of Kentucky Electric  
Generation, Transmission and Distribution Needs  
Executive Order 2005-121, Administrative Case Number  
2005-00090

Dear Mr. Goss:

1. Do you generate or purchase the electricity you supply to your customers? If you generate, provide the capacity and a brief description of your generating facilities. If you purchase, provide the name of your supplier and the term (length) of your existing purchase power contract.

Response: Vanceburg does not generate any electric power. Vanceburg presently purchases its electric power requirements from American Electric Power (AEP) and the contract with AEP continues through December 31, 2005.

2. What is your projected annual peak system demand, stated in megawatts, for the years 2006 through 2025? How do you plan to meet this load? If the information is not available for this 20-year period, provide it for the number of years for which it is available.

Response: The projected system peak demand for 2006 is 15 megawatts. The demand is expected to grow annually by 2 percent and is projected to be 23 megawatts by 2025.

3. How many Residential, Commercial and Industrial customers do you serve?

Response: Vanceburg has 2395 Residential, 308 Commercial and 2 Industrial Customers.

4. Briefly describe your resource planning process.

Electric Plant Board of the City of Vanceburg  
is an Equal Opportunity Employer and Provider

Persons with Hearing and Speech Disabilities call 711.

Response: Vanceburg collects loading data each month on the substations and transmission lines. With this data, the projected loading of the facilities is calculated and compared to the rated capacity of the facilities.

5. Do you own any transmission lines 69 kV or greater? If yes, do you anticipate any major upgrades or that you will add new transmission facilities in the next 5 years? Briefly describe any planned upgrades or additions.

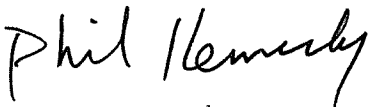
Response: Vanceburg owns approximately 1.5 miles of 138 kV transmission lines and 20 miles of 69 kV transmission lines. Vanceburg does not anticipate any major upgrades within the next five years.

6. Describe your right-of-way maintenance program. Include tree trimming widths and cycles, and other vegetation control practices.

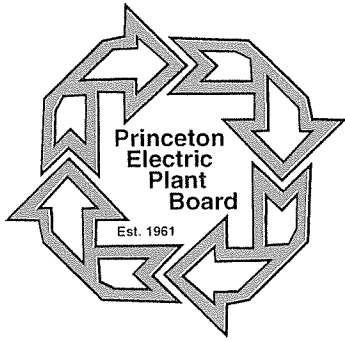
Response: Vanceburg maintains a 25 ft. width from the line on either side for tree trimming on an as needed basis. However tree trimming is an ongoing program that is performed every year. Transmission lines are sprayed for vegetation control utilizing helicopters in remote areas on a five year cycle.

If you have any questions, or need further information please call me at 606-796-2641.

Sincerely,



Phil Kennedy  
Superintendent



## Princeton Electric Plant Board

304 East Legion Drive  
P.O. Box 608  
Princeton, Kentucky 42445  
Phone (270) 365-2031  
Fax (270) 365-5427  
www.pepb.org

May 9, 2005

Mark David Goss, Chairman  
Commonwealth of Kentucky  
Public Service Commission  
211 Sower Blvd.  
P.O. Box 615  
Frankfort, Kentucky 40602-0615

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MAY 11 2005

CHAIRMAN  
P.S.C.

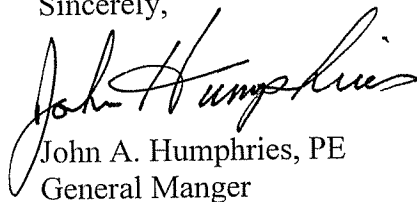
PRINCETON ELECTRIC PLANT BOARD RESPONSE TO EXECUTIVE ORDER  
2005-121, ADMINISTRATIVE CAST NUMBER 2005-00090

Dear Mr. Goss:

In response to your April 28, 2005 letter request for information about the Princeton Electric Plant Board as a part of an assessment of Kentucky's Electric Generation, Transmission, and Distribution needs.

Enclosed is a brief report in response to your request. Should you have questions or need additional information, please let me know.

Sincerely,

  
John A. Humphries, PE  
General Manger

Enclosures



**Princeton Electric Plant Board Response to  
Kentucky Public Service Commission  
Executive Order 2005-121**

**Princeton Electric Plant Board (PEPB)  
304 East Legion Drive  
Princeton, Kentucky 42445  
May 6, 2005**

**PEPB Purchases Wholesale Power from TVA**

The PEPB purchases power from Tennessee Valley Authority (TVA) under an all requirement five-year contract. PEPB takes delivery at 161-kV to serve two 161/13-KV, 30 MVA substations. The contract has a 5 year cancellation notice provision. PEPB gave TVA notice of intent to terminate the wholesale contract on January 24, 2005.

PEPB is considering alternative wholesale power supply arrangements with other providers. Some of the alternatives under active consideration include base load generation, peaking power generation, intermediate market power supply, and all requirements arrangements with other Kentucky wholesale energy providers in the area. KU/LGE and Big Rivers RECC operate high voltage transmission lines in the Princeton area and may be a source for any new wholesale power supply arrangement.

**PEPB Load Forecast**

PEPB has an ongoing arrangement with RW Beck Consulting Engineers to perform certain engineering functions. PEPB's system load peaks in the summer due to the heavy air conditioning loads. RW Beck has prepared a forecast of PEPB expected load that includes extreme summer, normal summer, and low summer conditions through 2025. Attached in a separate document is a copy of the load forecast for PEPB.

**PEPB Serves 3,964 Customers**

PEPB's FY2004 financial reports indicates that there were 3,248 residential, 621 general power (50-kW and under), 72 general power (over 50 kw), 14 street and athletic, one street light, and 583 outdoor lighting customers for the fiscal year ending June 30, 2004.

**PEPB uses RW Beck for System Planning**

PEPB uses a 5-year planning window based on load flow analysis utilizing RW Beck. Plans are reviewed annually and progress is reported annually.

**PEPB owns 161-KV Transmission Lines**

PEPB owns about 3 miles of 161-KV transmission facilities used to take service from TVA. PEPB uses contractors to operate and maintain these facilities.

Under PEPB's plans to consider alternative wholesale energy providers, there are several alternative transmission arrangements under consideration. PEPB is considering requesting a transmission to MISO via KU/LGE transmission facilities in the area.

**Princeton Electric Plant Board Response to  
Kentucky Public Service Commission  
Executive Order 2005-121**

**Pole/Conductor Replacement Program**

**Pole Replacement**

The PEPB uses various criteria to determine if a pole requires replacement. The physical condition of the pole is the most important factor to consider when considering replacing a pole regardless of its age. Ground level deterioration is the most common cause of pole failure, followed by splitting, cracking, and other above-ground deterioration. The age of a pole is always taken into consideration because some relatively new poles have needed replacement, in contrast with some forty year old poles that are still in good physical condition. However, with a few exceptions, the age of the pole is usually in direct correlation with the condition of the pole.

For maintenance purposes, the GIS/GPS system database information is used to sort the age of the poles to allow the PEPB to replace older poles as age and condition dictate. Poles are sometimes replaced with taller or higher class poles to satisfy National Electric Safety Code clearance requirements. Increased loading requirements due to larger conductor sizes will usually call for an upgrade to a higher class pole.

**Conductor Replacement**

Conductor loading is the main criteria for determining if a line or circuit needs to be reconducted. A circuit that exceeds approximately 80% capacity in operation will be considered a potential candidate for upgrading. Some circuits will never approach 80% loading in normal operation, but will approach their maximum capacity when they are fed from another substation or off of another circuit.

**Right-of-Way Management Program**

The Princeton Electric Plant Board (PEPB) currently uses a contract tree trimming service to manage the right-of-way. A two year trimming cycle is presently used, which means that all the major primary lines are trimmed out at least every other year. The tree trimmers primarily use “rounding off” and “topping” techniques to provide adequate clearance for both primary and neutral conductors. In some circumstances, trees are “through cut” or side trimmed where other trimming methods are not possible or feasible.

PEPB also utilizes a highly successful tree replacement program that gives property owners an ornamental tree in exchange for allowing the utility to cut down a tree that is growing under the primary electric lines. A local nursery supplies the ornamental tree and plants it in a location chosen by the customer. The only stipulation on the location of the ornamental tree is the requirement that it be placed where the plant will never require trimming for electrical line clearance. After performing cost comparisons, it was determined that it is less expensive and more efficient to remove a tree completely than to trim it every other year for the life of the tree. In all cases of right-of-way management, a representative of the PEPB will make contact with the customer/property owner before the tree trimmers are allowed to begin work.

**Princeton Electric Plant Board Response to  
Kentucky Public Service Commission  
Executive Order 2005-121**

**Vegetation Management Program**

Vegetation management in the form of non-selective herbicides is used in controlled access areas such as substations and pole storage lots. The applications are typically made on an annual basis by a licensed applicator. Bush-hogging or rough mowing is the preferred method of the PEPB for managing the vegetation growth on right-of-ways throughout the system. The mowing intervals are typically from one to three years, depending on the growth rate and density. Weed and brush growth can be effectively contained by controlling plants before they have a chance to reach maturity. The PEPB utilizes both contractors and in-house personnel to perform rough mowing operations throughout the season.

**Transmission and Distribution Inspection Program**

The PEPB owns, operates, and maintains both transmission and distribution facilities including two substations.

The transmission poles and high-voltage insulators are inspected by contract crews approximately every five years. The crews visually inspect the pole, wire, and insulators on each transmission pole using a bucket truck.

The two substations that serve the PEPB system are inspected at least once a week. The inspection consists of visually checking the circuit breakers, station transformer, circuit switcher, lightning arresters, batteries, and relays in each substation.

The PEPB distribution system was recently converted to a GIS/GPS system. In the process, detailed data on the age and condition of the poles, transformers, and other attachments were recorded in an easily accessible computerized database format. The database can be used to find poles that are approaching their useful end-of-life by examining their birthmark data. This allows the utility to perform preventative maintenance to minimize any possible future outages as a result of aged or structurally weak equipment. Approximately every five years, PEPB personnel will schedule an inspection of the poles throughout the system to locate weakened poles, broken guy wires, missing or damaged crossarm braces, etc.

**PEPB Provides Reliable Service**

PEPB provides excellent reliability to the Princeton area. Attached is a summary of the reliability data for 2005. At the Engineering & Operations Technical Conference last month, the American Public Power Association introduced the Reliable Public Power Provider program (RP3), a new approach to recognizing the many efforts utilities make to keep the lights on. The program is an effort to document high work force standards for the public power utility industry and to allow utilities to gain public recognition of their sustained efforts at providing excellent electric service.

**Princeton Electric Plant Board Response to  
Kentucky Public Service Commission  
Executive Order 2005-121**

PEPB and several other utilities helped design this program to honor outstanding public power systems for the work they do in their communities on a daily basis and to promote the importance of reliability and best practices within the utilities. To earn RP3 designation, utilities will submit to a review committee verification of their practices and accomplishments in four areas: reliability, safety, training, and system improvement.

On behalf of PEPB, I am proud to announce that we will be participating in this extensive performance review as part of our ongoing efforts to effectively and efficiently serve our customers and the community. PEPB's Average System Availability Index (ASAI) was 99.998%. PEPB tracks other national standard reliability indices such as SAIFI, CAIDI, SAIDI, and MAIFI. PEPB's records indicate that our reliability is better than most and that is good for business. A reliable electric system helps business hold cost down.

Reliability, safety, training, and system improvement are the four corners of a strong foundation for customer and community service – public power's reason for existence. I will keep you informed on our work to earn this recognition and our continuing efforts to strengthen our relationships with our customers. Please feel free to contact me with any questions regarding the RP3 program or PEPB's reliability performance.

**PEPB Operates Safely**

PEPB has earned the American Public Power Association's 2004 Electric Utility Safety Award for safe operating practices. The utility earned a first place award in the category for utilities with 15,000 to 29,999 worker-hours of exposure.

**PEPB Uses 900 MHZ Wireless Technology**

PEPB has completed Phase I of a three phase project to utilize the latest wireless technology to better operate its power delivery system. Working with RW Beck, PEPB now has an operating Supervisory Control and Data Acquisition System (SCADA) to remotely monitor power delivery and power quality. The SCADA system will enable PEPB to improve the quality of its service while keeping cost down. The application of low cost wireless technology created a cost effective solution that a small municipal electric system could afford. This innovation is expected to help PEPB keep future operating cost low by reducing the number and duration of power disturbances.

**PEPB Provides Lineman Training**

PEPB in collaboration with other municipally and cooperatively owned public power systems in Kentucky constructed a Lineman Training Center containing four separate outdoor classrooms. These lab facilities enable Kentucky linemen to have access to some of the best training available. The lab is open to all publicly owned power systems. PEPB requires its linemen to complete the Tennessee Valley Public Power Association Lineman Apprentice Program as part of a four year apprentice regimen. PEPB believes that better trained linemen allow the opportunity to provide better service to our customers.

**Princeton Electric Plant Board Response to  
Kentucky Public Service Commission  
Executive Order 2005-121**

**PEPB is an EnergyStar Partner**

PEPB has entered an agreement with the US DOE to become a sponsor of EnergyStar conservation efforts. PEPB is the first municipally owned public power company in Kentucky. This partnership will enable PEPB customers to use electricity wisely.

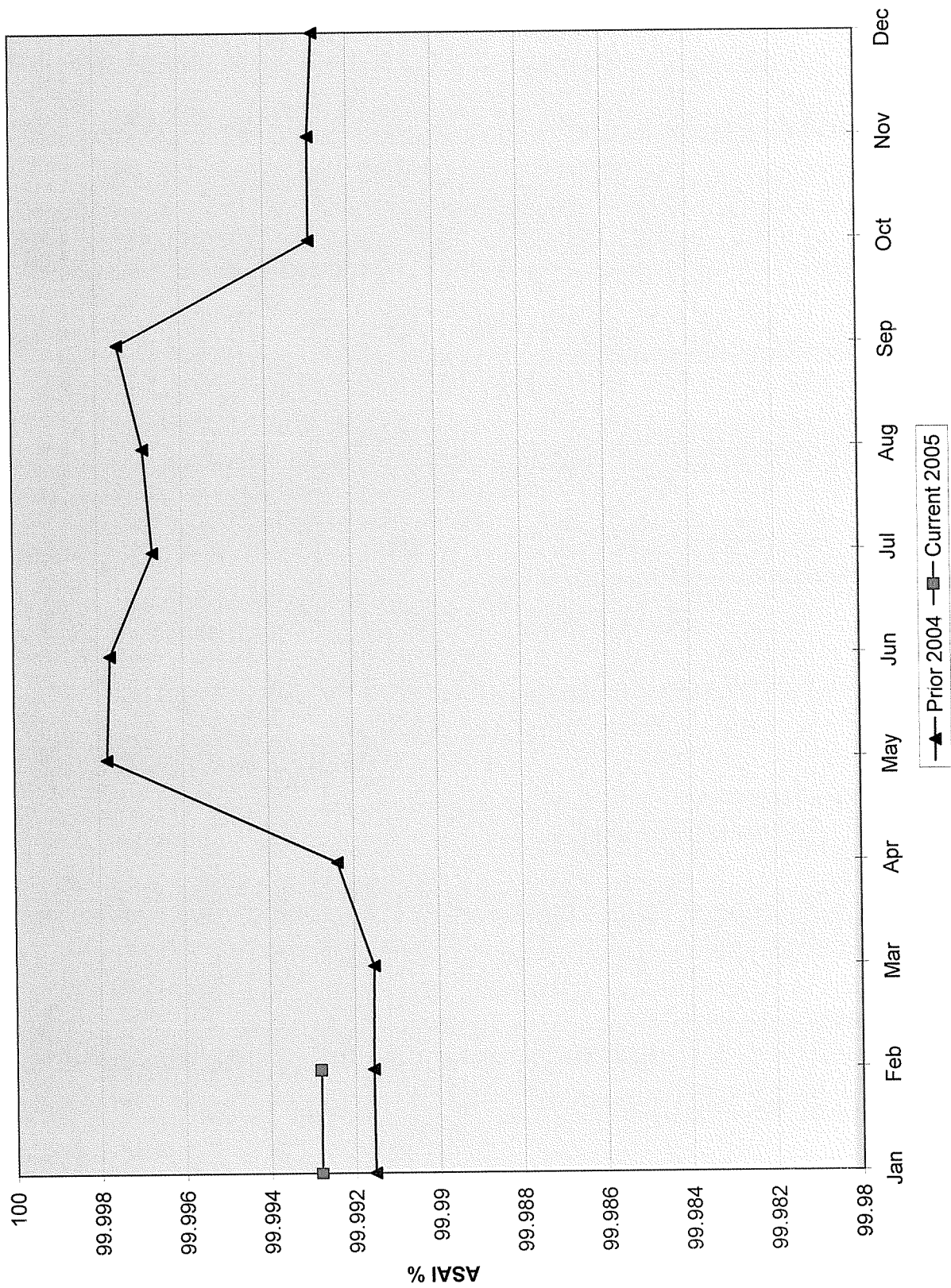
**PEPB Promotes Economic Development**

PEPB makes available to new manufacturing companies that locate new facilities in its service area, and incentive rate for the first five years. This Growth Credit Program enables PEPB to support the Princeton Industrial Development Authority attract companies to locate in Princeton.





ASAI (Average Service Availability Index)

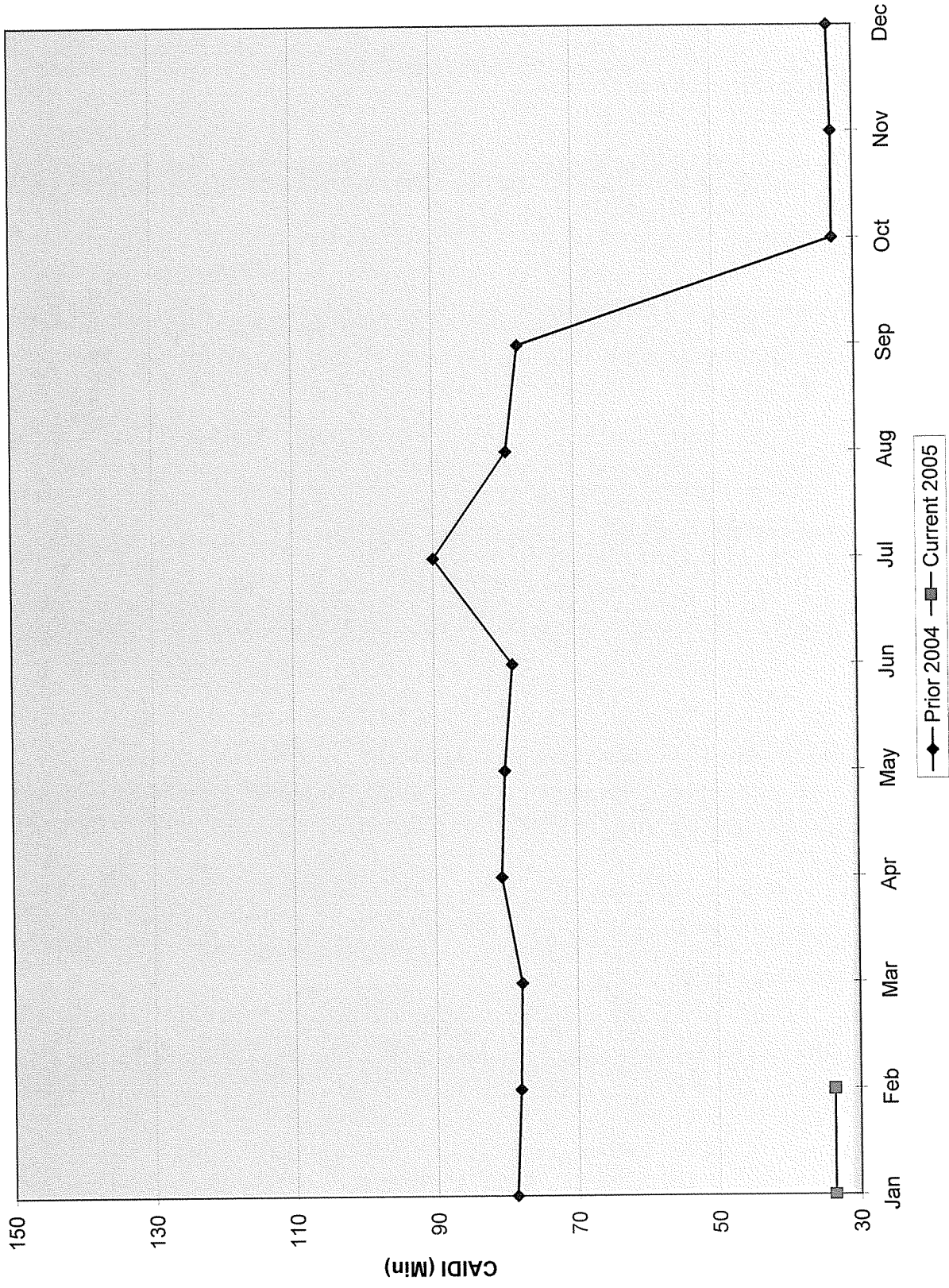


The ratio of the total customer minutes that service was available divided by the total customer minutes demanded (expected) in a time period. It is expressed as a percent.



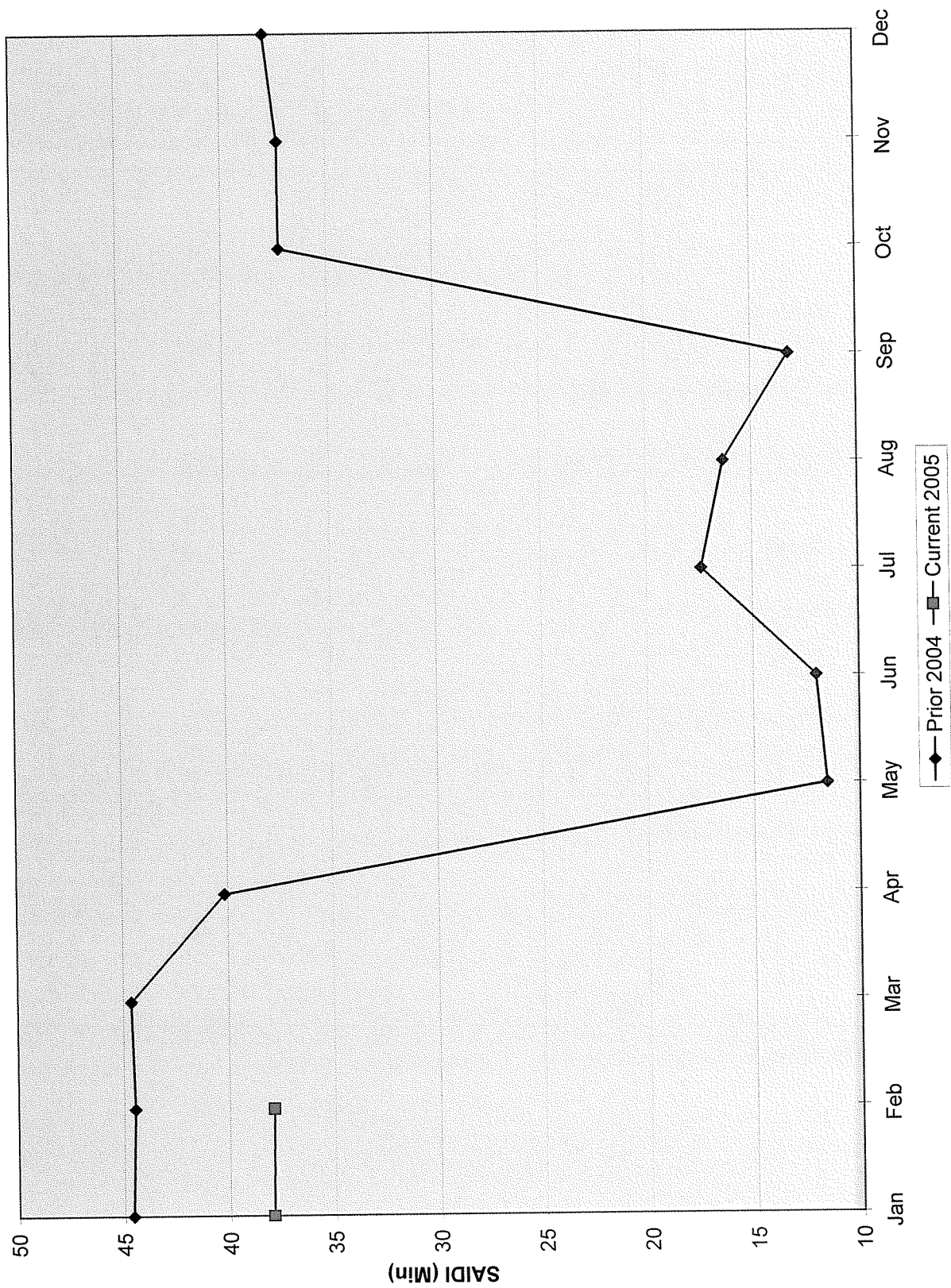
# CAIDI (Customer Average Interruption Duration Index)

5/6/05



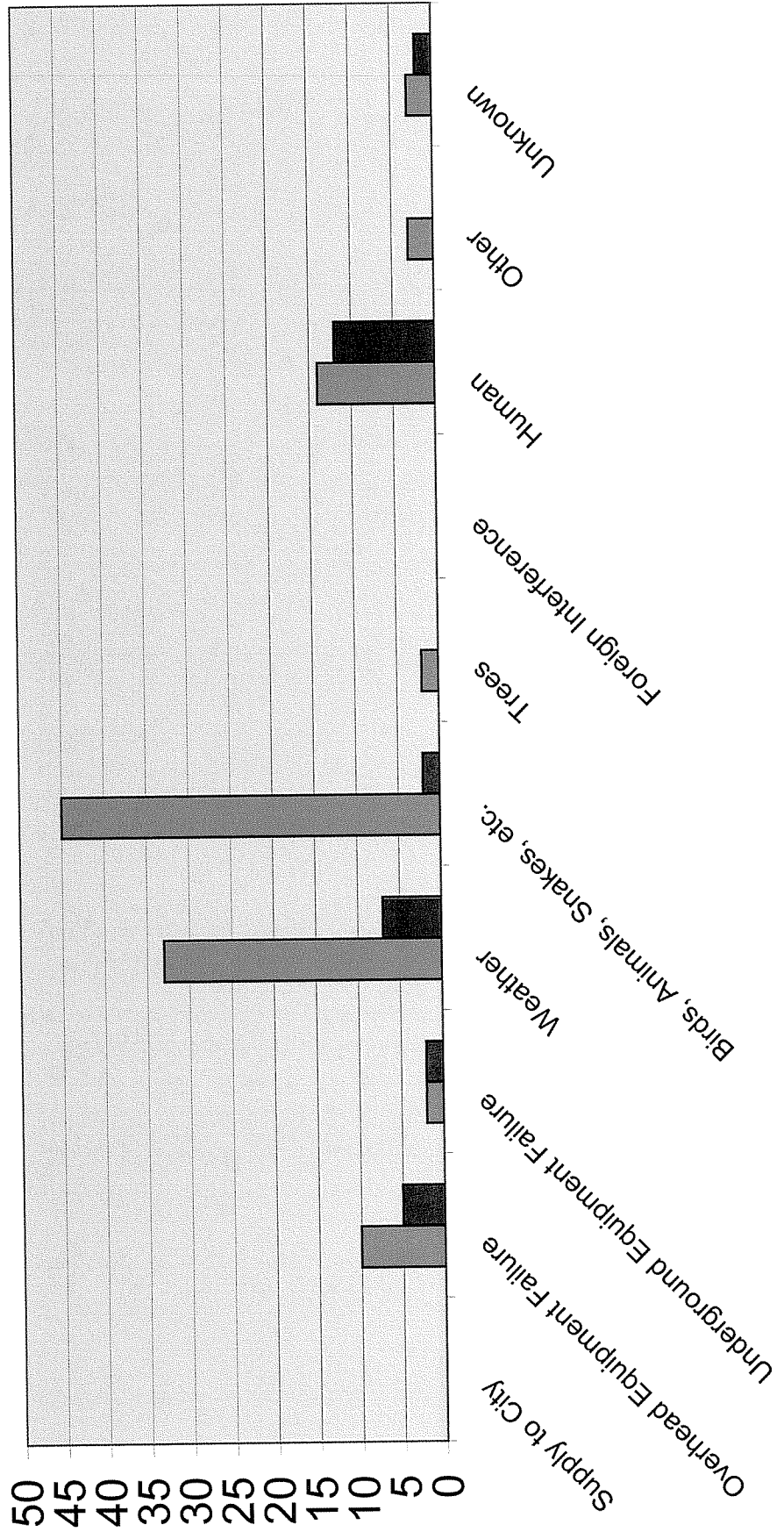
This is the average duration of a customer outage, and is calculated by dividing the sum of the customer minutes off by the number of customers who experienced long interruptions.

### SAIDI (System Average Interruption Duration Index)



This is the avg interruption duration for all customers served, and is calculated by dividing the sum of the customer minutes off by the avg number of customers served.

# Outages By Cause



■ 2004 ■ 2005