

# STITES & HARBISON<sub>PLLC</sub>

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March 1, 2005

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Beth O' Donnell  
Executive Director  
Public Service Commission of Kentucky  
P.O. Box 615  
Frankfort, KY 40602-0615

RECEIVED

MAR 01 2005

PUBLIC SERVICE  
COMMISSION

**RE: Administrative Case No. 387**

Dear Ms. O'Donnell:

Please find enclosed and accept for filing Kentucky Power Company's Responses to the Commission's December 20, 2001 Order.

If you have any questions, please do not hesitate to contact me.

Sincerely yours,

STITES & HARBISON PLLC

  
Mark R. Overstreet

cc: Errol K. Wagner

KE057:00KE4:12126:1:FRANKFORT

**COMMONWEALTH OF KENTUCKY**  
**BEFORE THE PUBLIC SERVICE COMMISSION**

**RECEIVED**  
MAR 01 2005  
PUBLIC SERVICE  
COMMISSION

**IN THE MATTER OF :**

**A REVIEW OF THE ADEQUACY OF )  
KENTUCKY'S GENERATION )  
CAPACITY AND TRANSMISSION )  
SYSTEM )**

**ADMINISTRATIVE  
CASE NO. 387**

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**RESPONSE OF KENTUCKY POWER COMPANY  
D/B/A  
AMERICAN ELECTRIC POWER  
  
TO  
  
COMMISSION ORDER DATED DECEMBER 20, 2001**

**March 1, 2005**



**Kentucky Power  
d/b/a  
American Electric Power**

**REQUEST**

Actual and weather-normalized monthly coincident peak demands for the just completed calendar year. Demands should be disaggregated into (a) native load demand (firm and non-firm) and (b) off-system demand (firm and non-firm). Please provide the information for both Kentucky Power Company individually and the AEP-East Power Pool (pursuant to the Commission's December 13, 2004 Order in the Rockport UPSA extension, Case No. 2004-00420).

**RESPONSE**

Page 2 of this response provides actual and weather normalized 2004 monthly peak internal demands for Kentucky Power Company and AEP System-East. Kentucky Power Company and AEP System-East had 0 and 862 MW of contractual interruptible capacity, respectively.

Page 3 of this response provides actual 2004 monthly system demands for Kentucky Power and AEP System-East. The system demands include internal load and off-system sales. Weather-normalized monthly peak system demands for Kentucky Power Company and AEP System-East have not been developed and therefore, are not available.

**WITNESS:** Errol K Wagner

Kentucky Power Company and AEP System-East  
Actual and Weather Normalized Peak Internal Demand (MW)  
2004

Month	Kentucky Power Company			AEP System-East			
	Peak	Peak Day	Peak Hour	Peak	Peak Day	Peak Hour	Normalized Peak
January	1,478	1/31/2004	9	18,958	1/23/2004	9	18,904
February	1,391	2/16/2004	9	17,530	2/2/2004	9	18,039
March	1,351	3/23/2004	8	16,507	3/23/2004	8	16,959
April	1,167	4/5/2004	8	15,174	4/5/2004	8	14,682
May	1,132	5/25/2004	13	16,316	5/12/2004	16	16,371
June	1,174	6/17/2004	14	18,502	6/9/2004	14	18,594
July	1,209	7/13/2004	15	18,917	7/13/2004	16	19,960
August	1,228	8/3/2004	16	19,049	8/3/2004	17	19,251
September	1,060	9/1/2004	17	16,735	9/15/2004	16	17,398
October	950	10/18/2004	8	14,507	10/18/2004	19	14,300
November	1,220	11/15/2004	9	15,891	11/30/2004	19	16,282
December	1,615	12/20/2004	9	19,626	12/20/2004	9	18,018

Kentucky Power Company and AEP System-East  
 Actual Peak System Demand (MW)  
 2004

Month	Kentucky Power Company			AEP System-East		
	Peak	Peak Day	Peak Hour	Peak	Peak Day	Peak Hour
January	1,864	1/23/2004	8	25,516	1/15/2004	15
February	1,822	2/2/2004	9	24,918	2/2/2004	9
March	1,605	3/11/2004	8	21,411	3/17/2004	18
April	1,418	4/5/2004	7	20,431	4/19/2004	11
May	1,496	5/24/2004	15	21,545	5/24/2004	15
June	1,660	6/11/2004	14	24,229	6/17/2004	15
July	1,641	7/9/2004	15	24,400	7/6/2004	17
August	1,691	8/19/2004	15	24,722	8/3/2004	17
September	1,508	9/1/2004	16	23,330	9/2/2004	16
October	1,194	10/26/2004	8	18,301	10/26/2004	19
November	1,660	11/10/2004	9	22,734	11/10/2004	8
December	1,888	12/20/2004	9	23,641	12/20/2004	9



**Kentucky Power  
d/b/a  
American Electric Power**

**REQUEST**

Load shape curves that show actual peak demands and weather-normalized peak demands (native load demand and total demand) on a monthly basis for the just competed calendar year. Please provide the information for both Kentucky Power Company individually and the AEP-East Power Pool (pursuant to the Commission's December 13, 2004 Order in the Rockport UPSA extension, Case No. 2004-00420).

**RESPONSE**

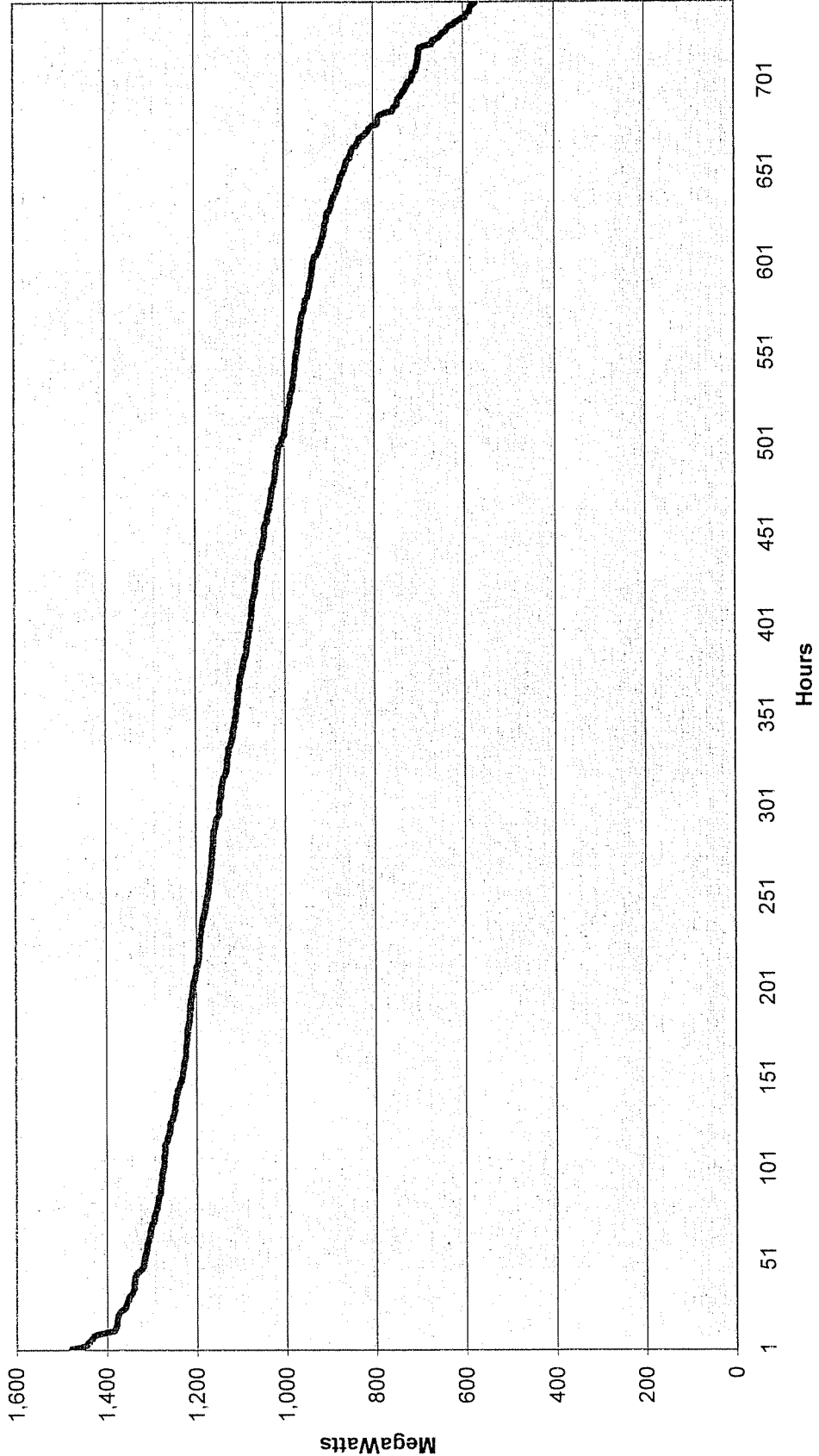
Pages 2 through 13 provide 2004 monthly load duration curves for Kentucky Power Company's internal load. Pages 14 through 25 provide 2004 monthly load duration curves for Kentucky Power Company's system load. Pages 26 through 37 provide 2004 monthly load duration curves for AEP System-East's internal load. Pages 38 through 49 provide 2004 monthly load duration curves for AEP System-East's system load. The system load, for both Kentucky Power Company and AEP System-East, includes internal load and off-system sales.

Weather-normalized monthly internal peaks for Kentucky Power Company and AEP System-East are provided on Page 2 of Item Number 1. Weather normalized system peaks have not been developed and therefore, are not available.

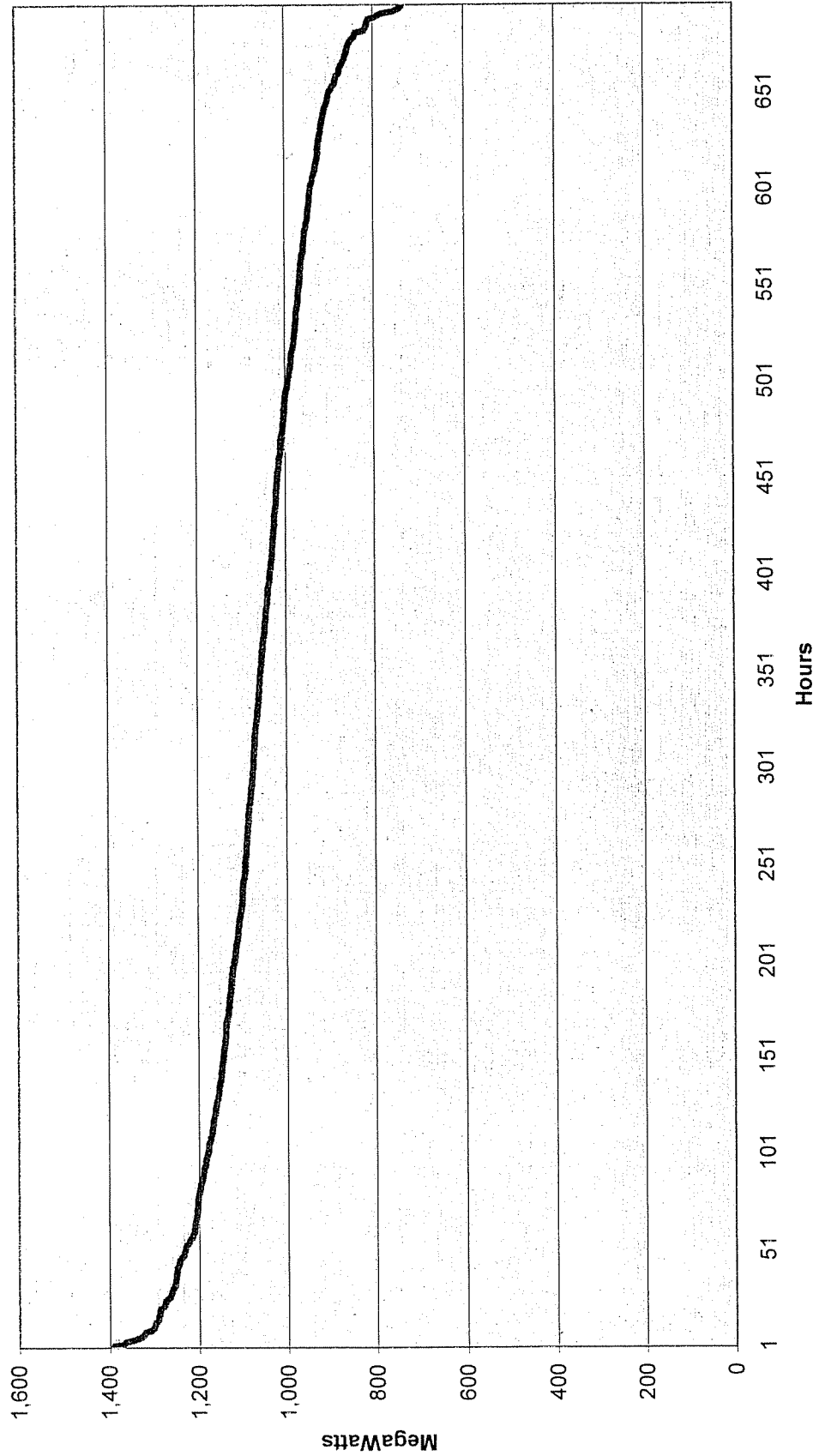
**WITNESS:** Errol K Wagner



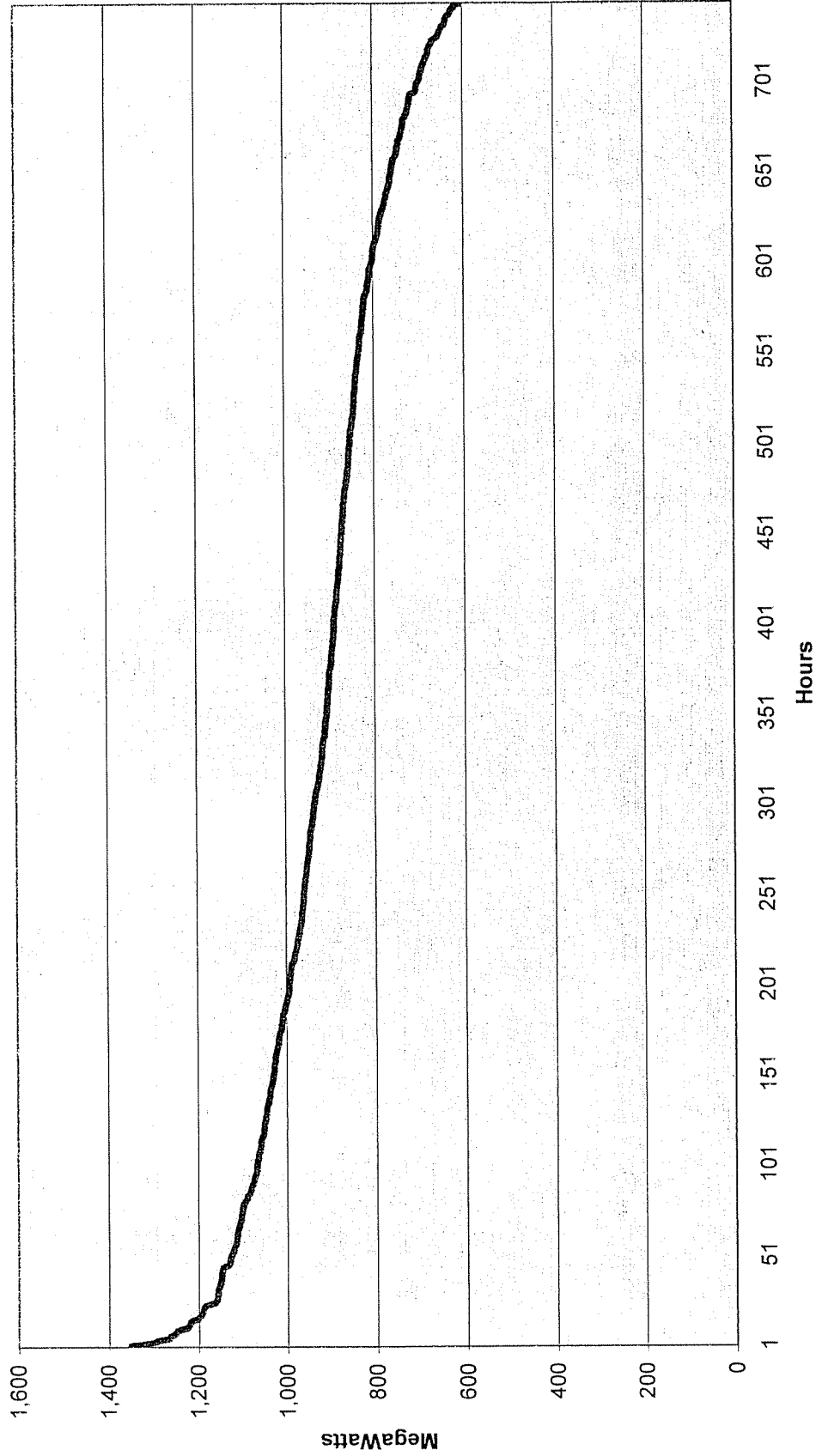
Kentucky Power Company  
January 2004 Load Duration Curve  
(Internal Load)



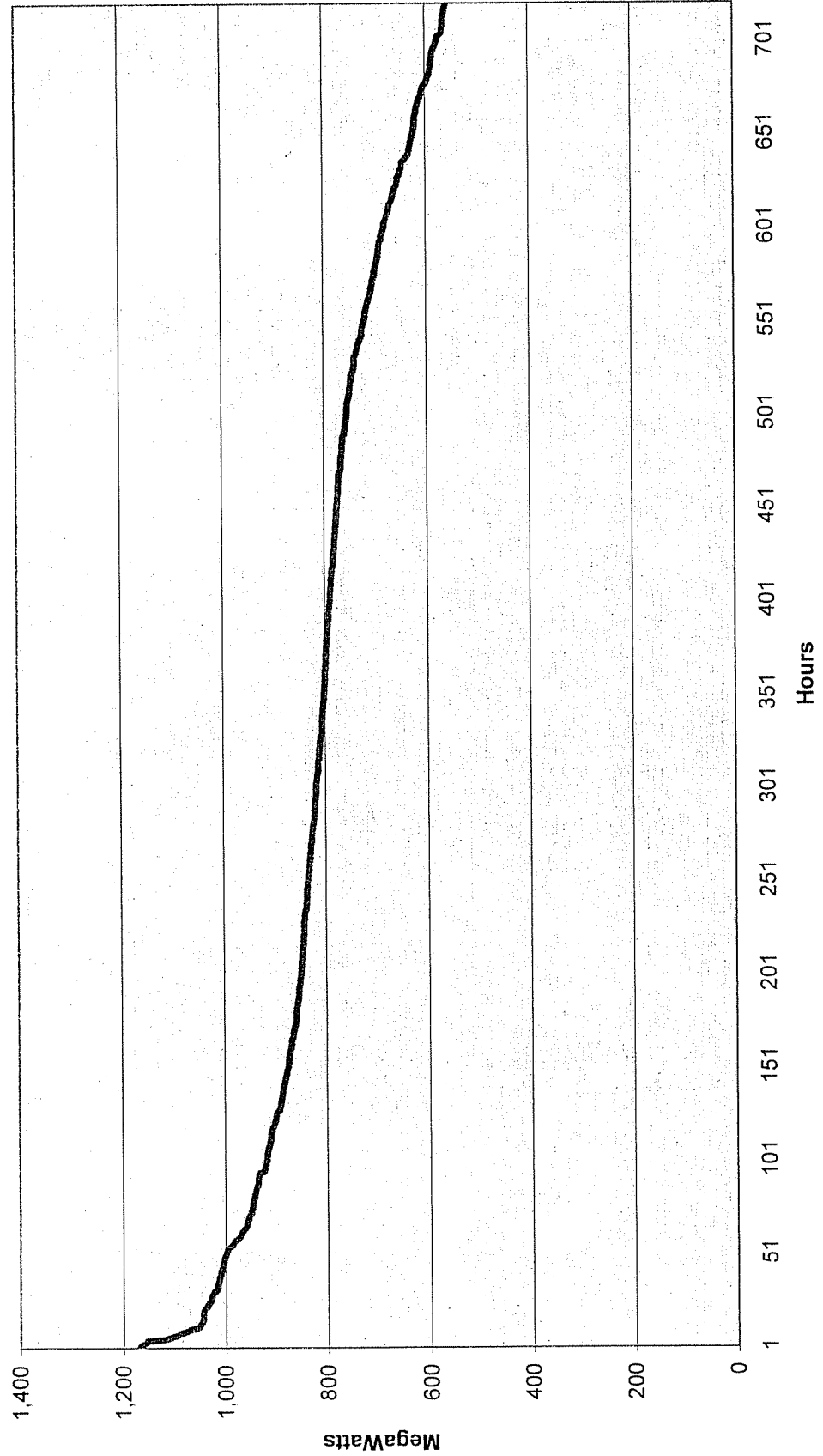
Kentucky Power Company  
February 2004 Load Duration Curve  
(Internal Load)



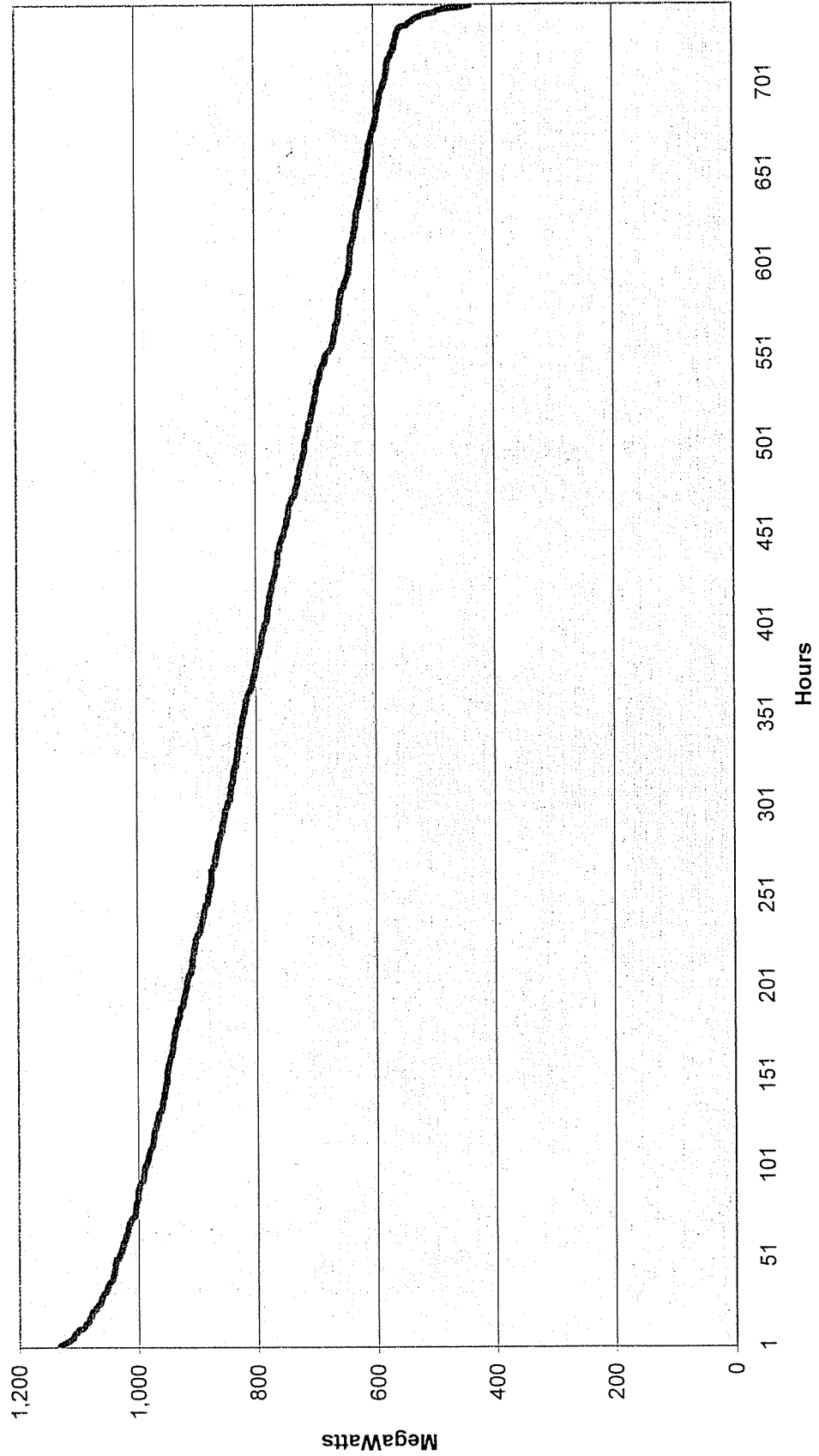
Kentucky Power Company  
March 2004 Load Duration Curve  
(Internal Load)



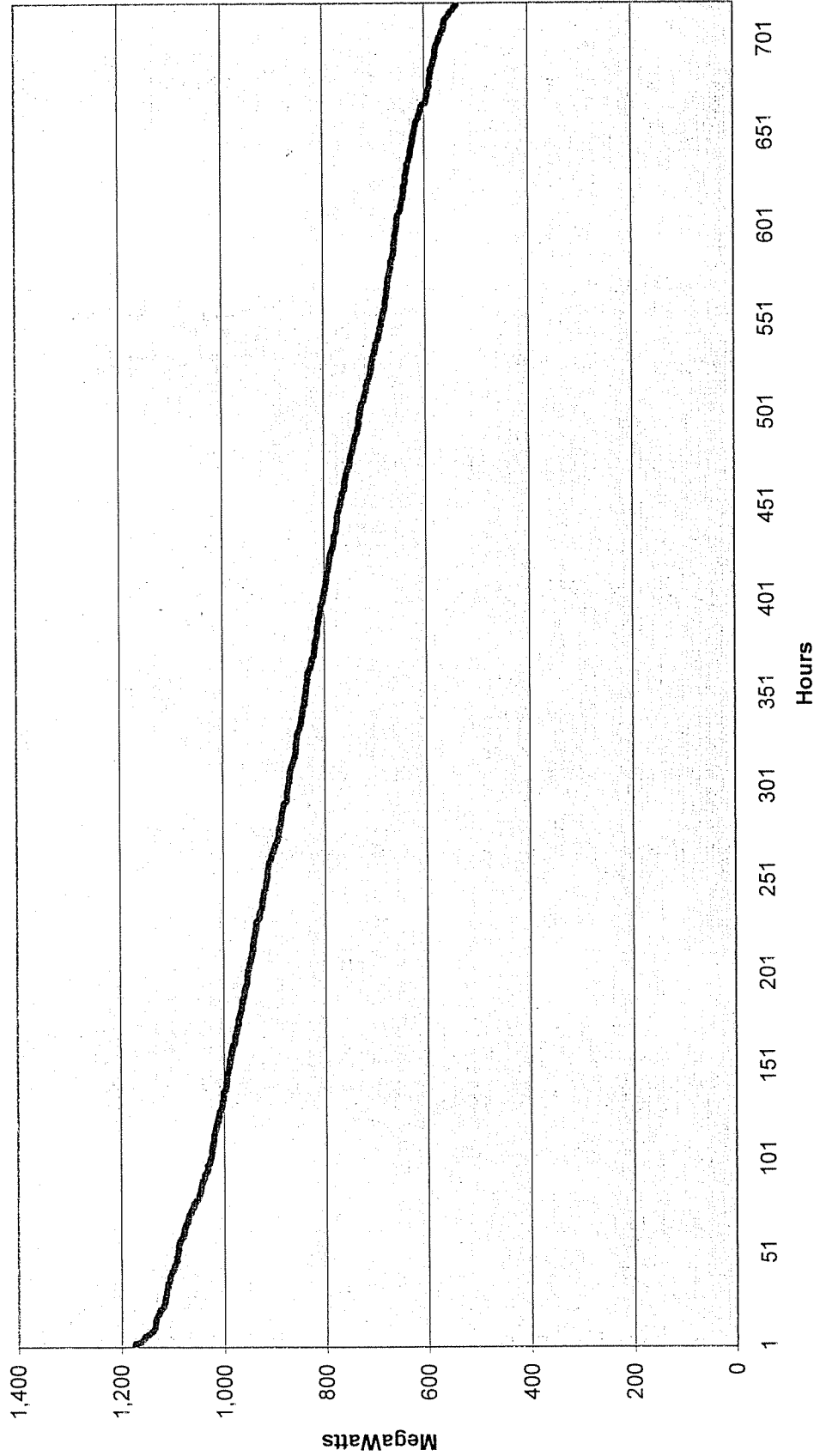
Kentucky Power Company  
April 2004 Load Duration Curve  
(Internal Load)



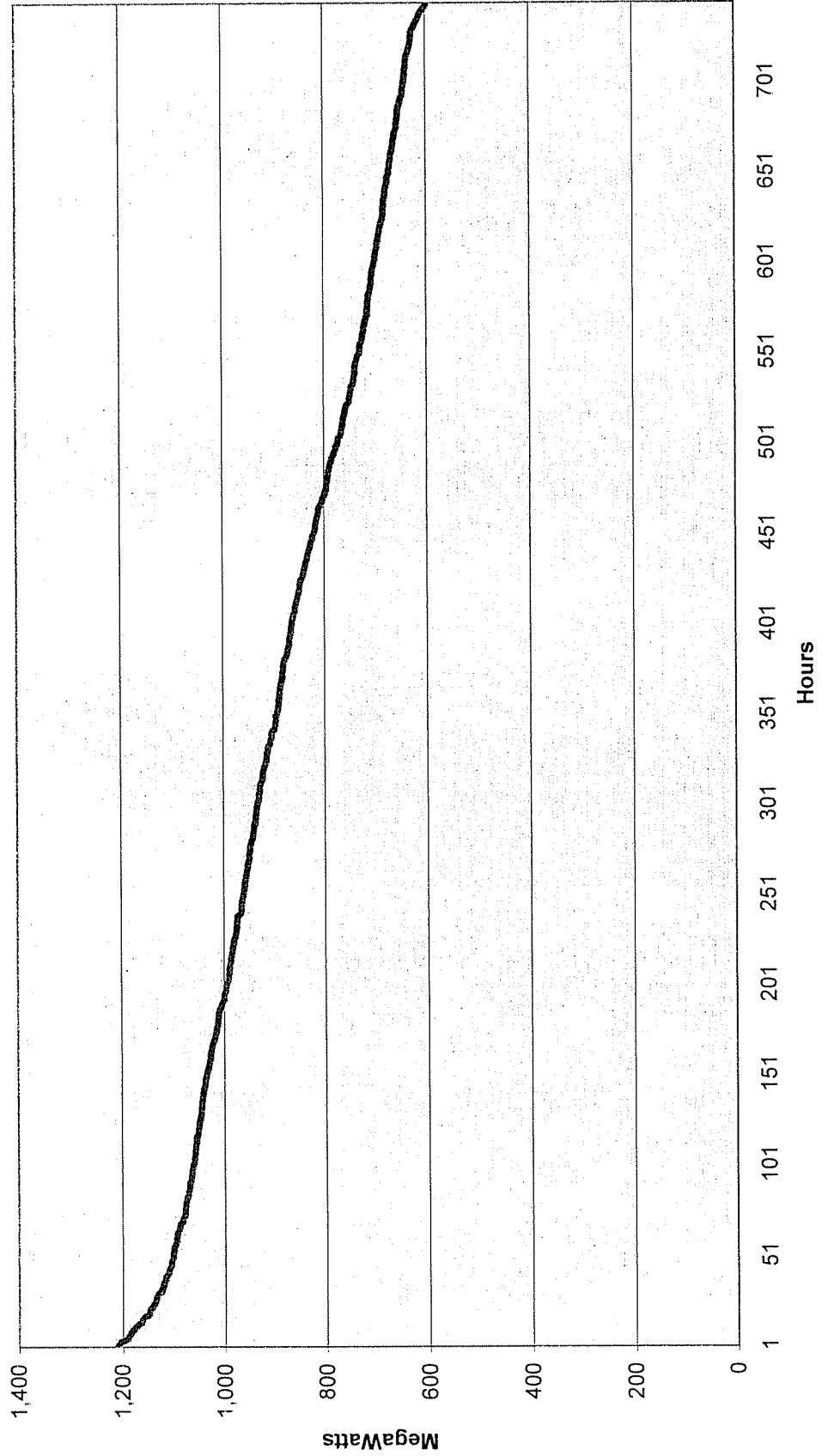
Kentucky Power Company  
May 2004 Load Duration Curve  
(Internal Load)



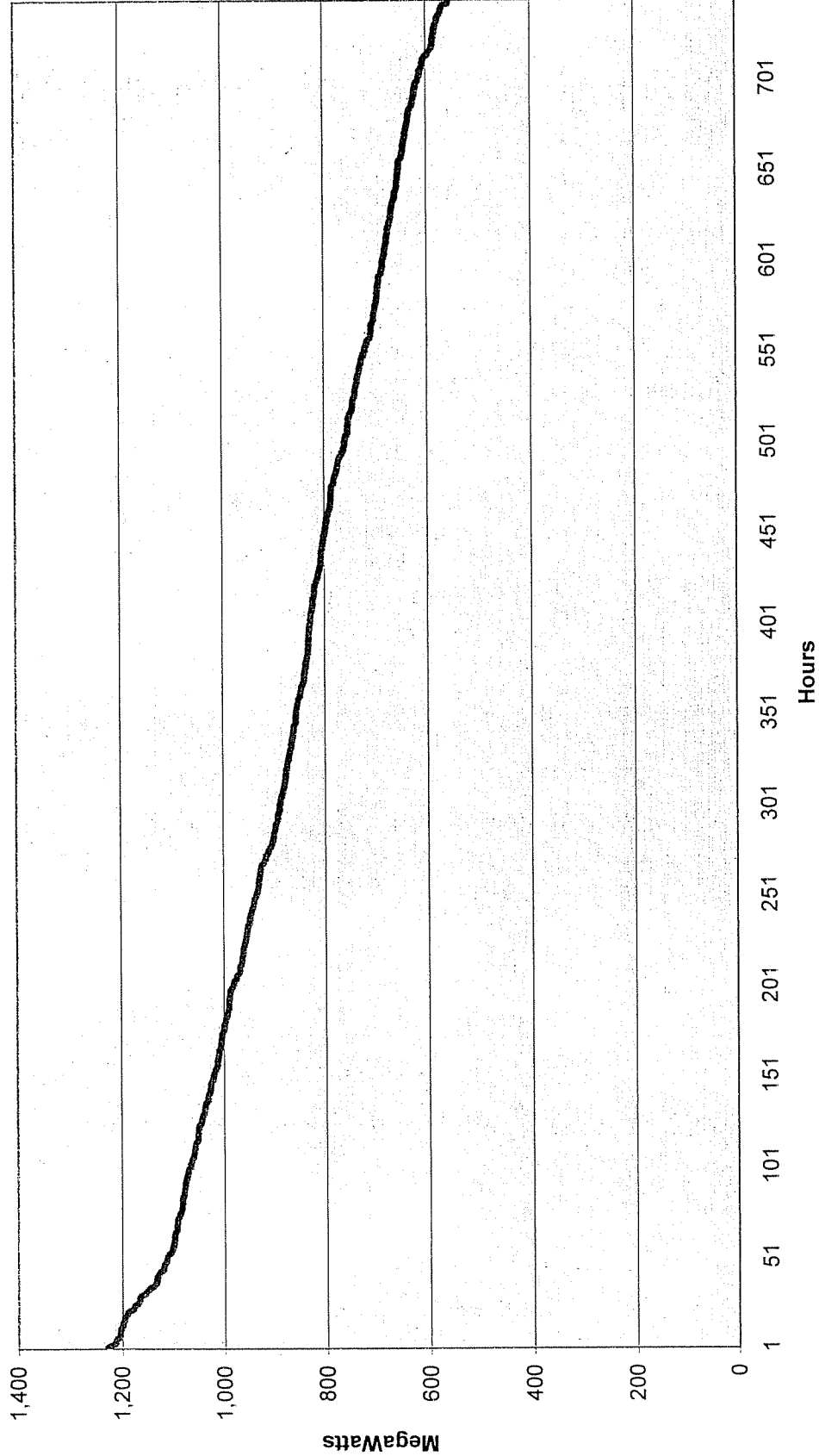
Kentucky Power Company  
June 2004 Load Duration Curve  
(Internal Load)



Kentucky Power Company  
July 2004 Load Duration Curve  
(Internal Load)

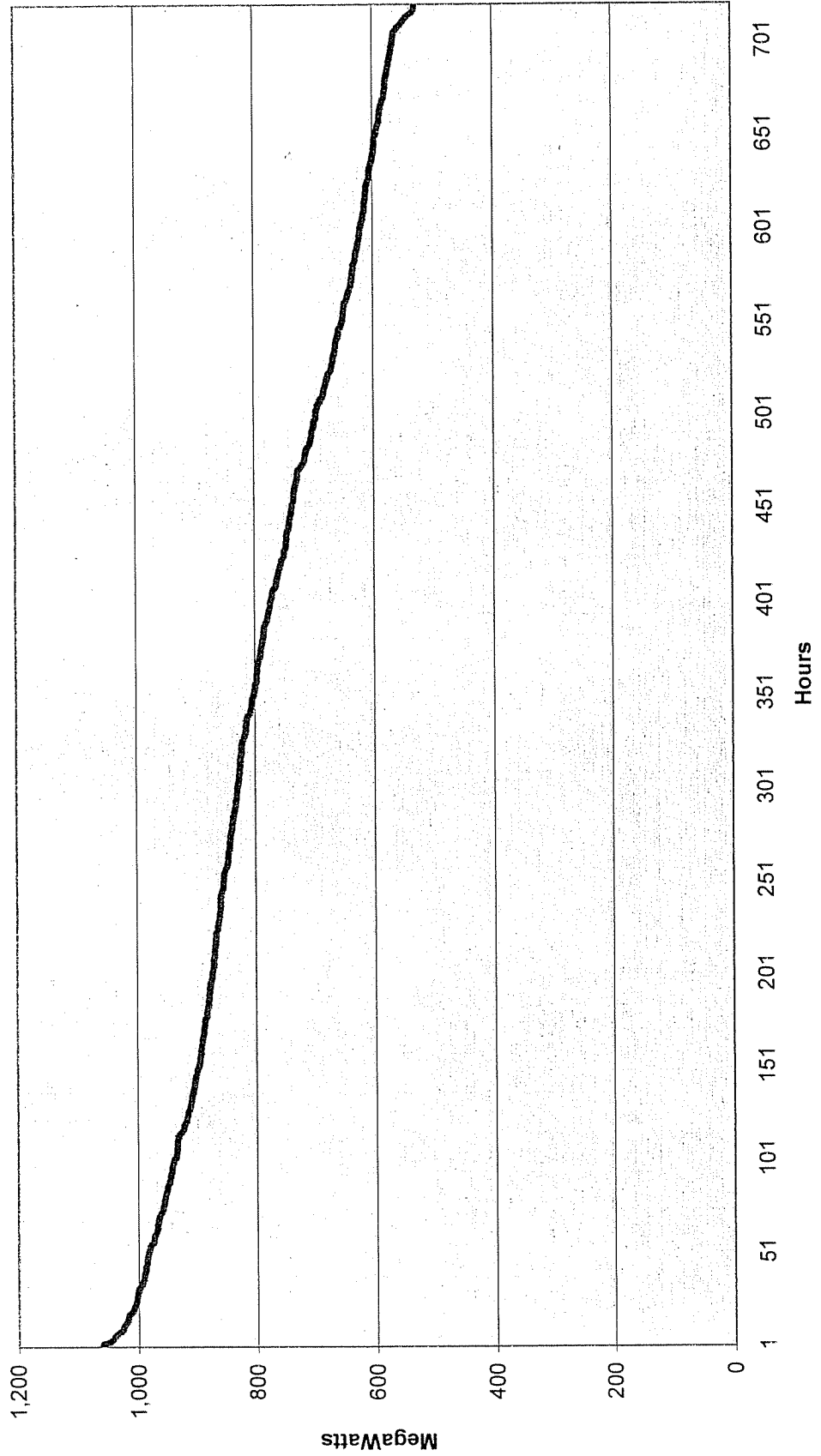


Kentucky Power Company  
August 2004 Load Duration Curve  
(Internal Load)

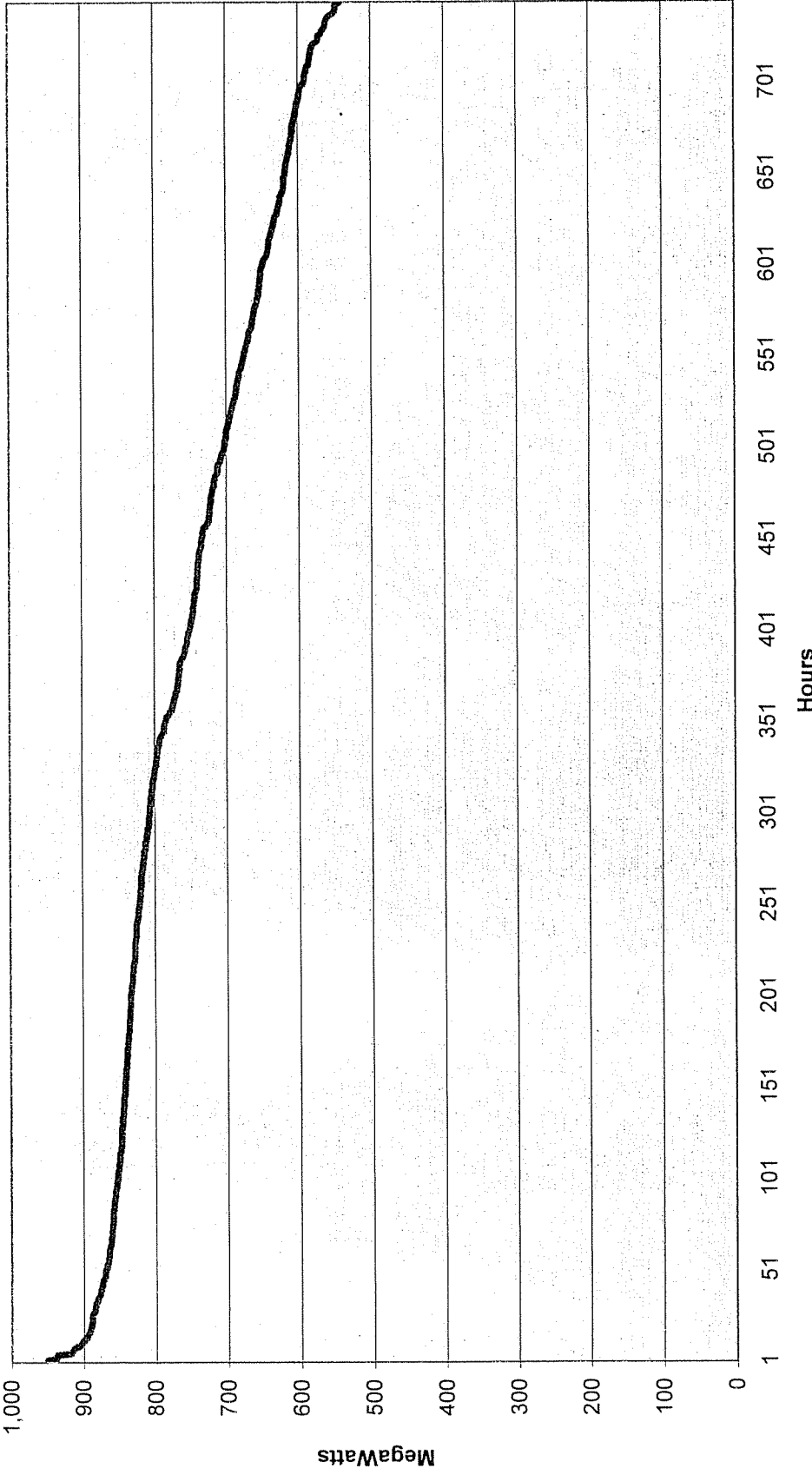




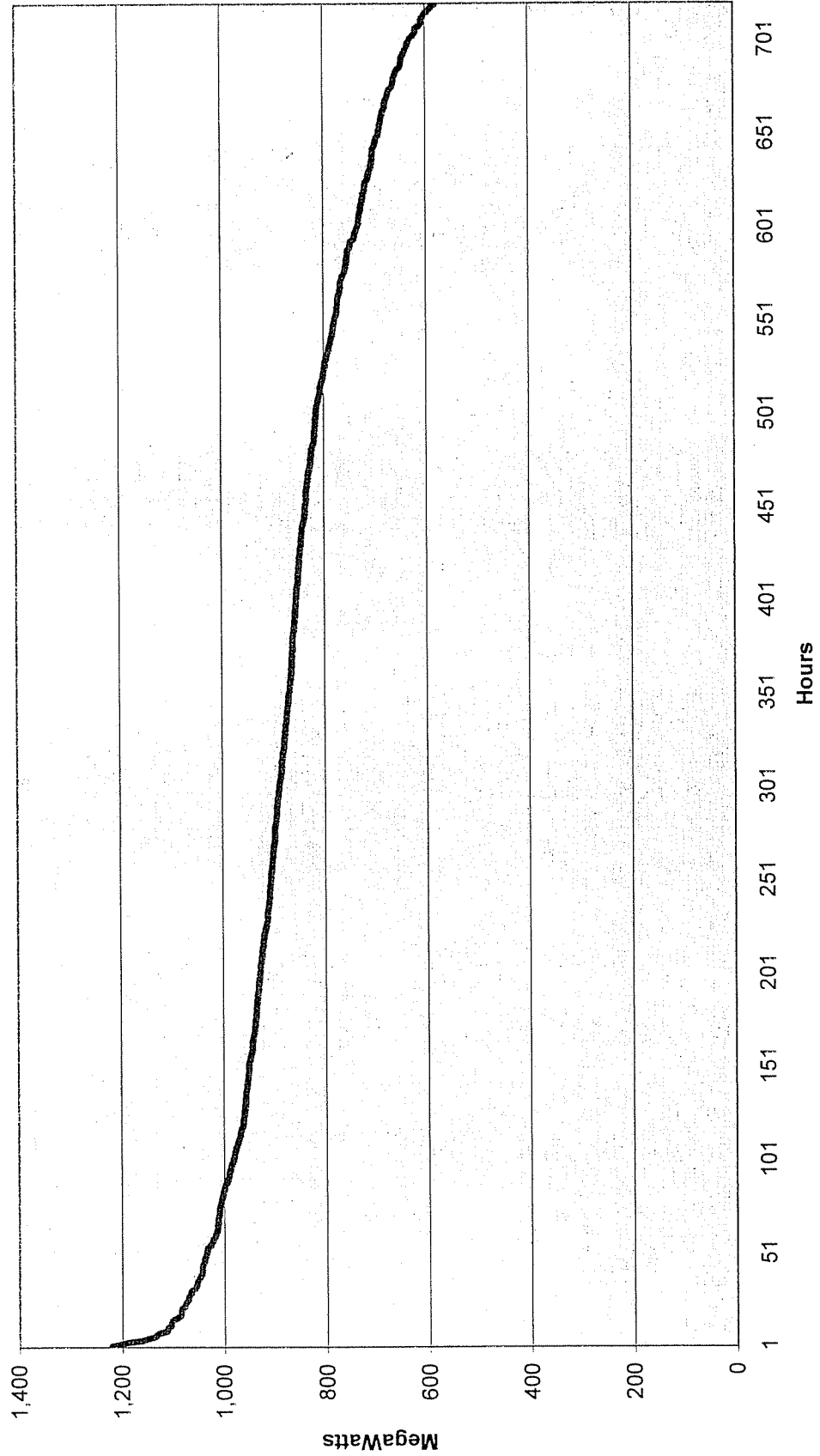
Kentucky Power Company  
September 2004 Load Duration Curve  
(Internal Load)



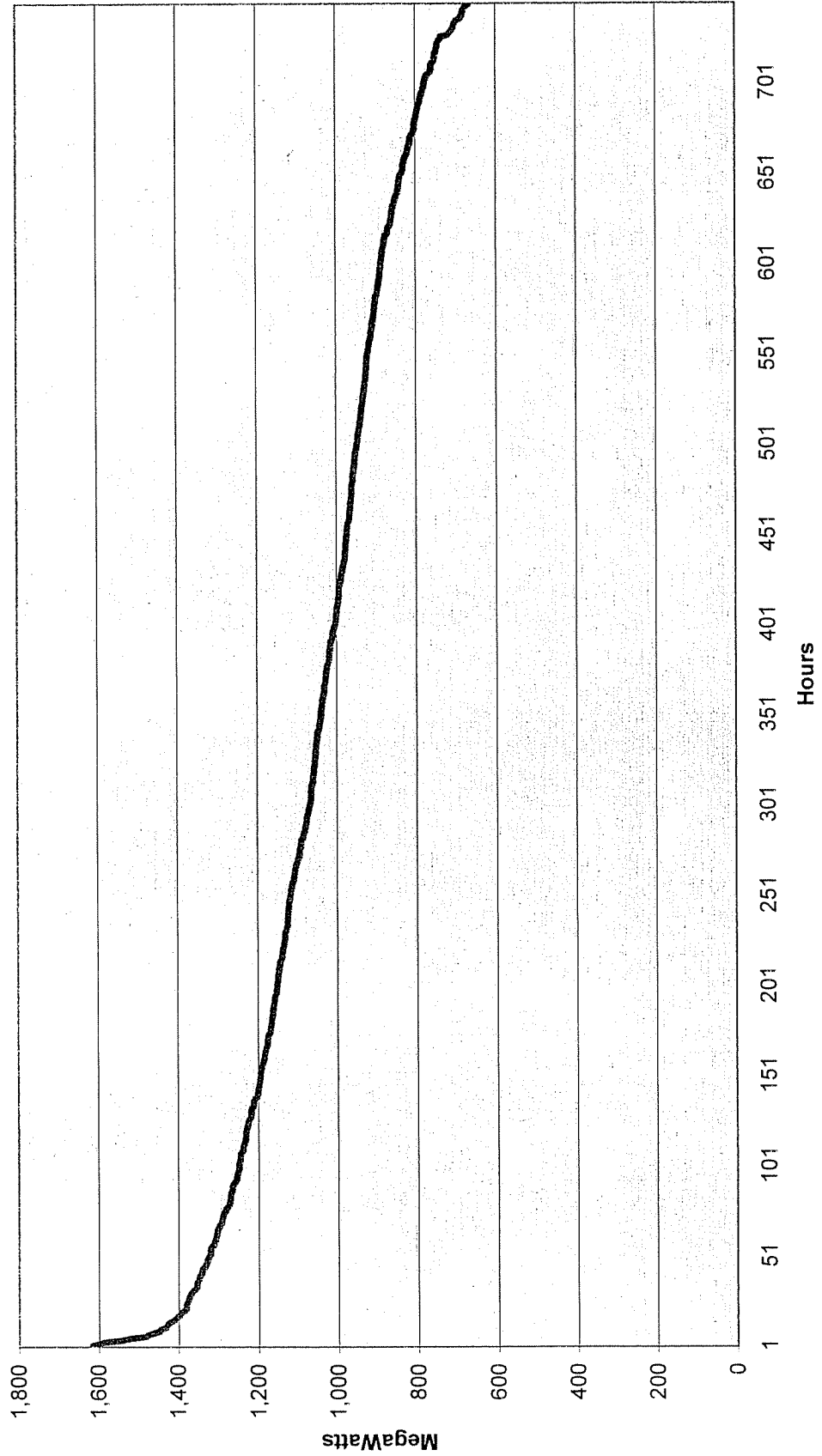
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October 2004 Load Duration Curve  
(Internal Load)



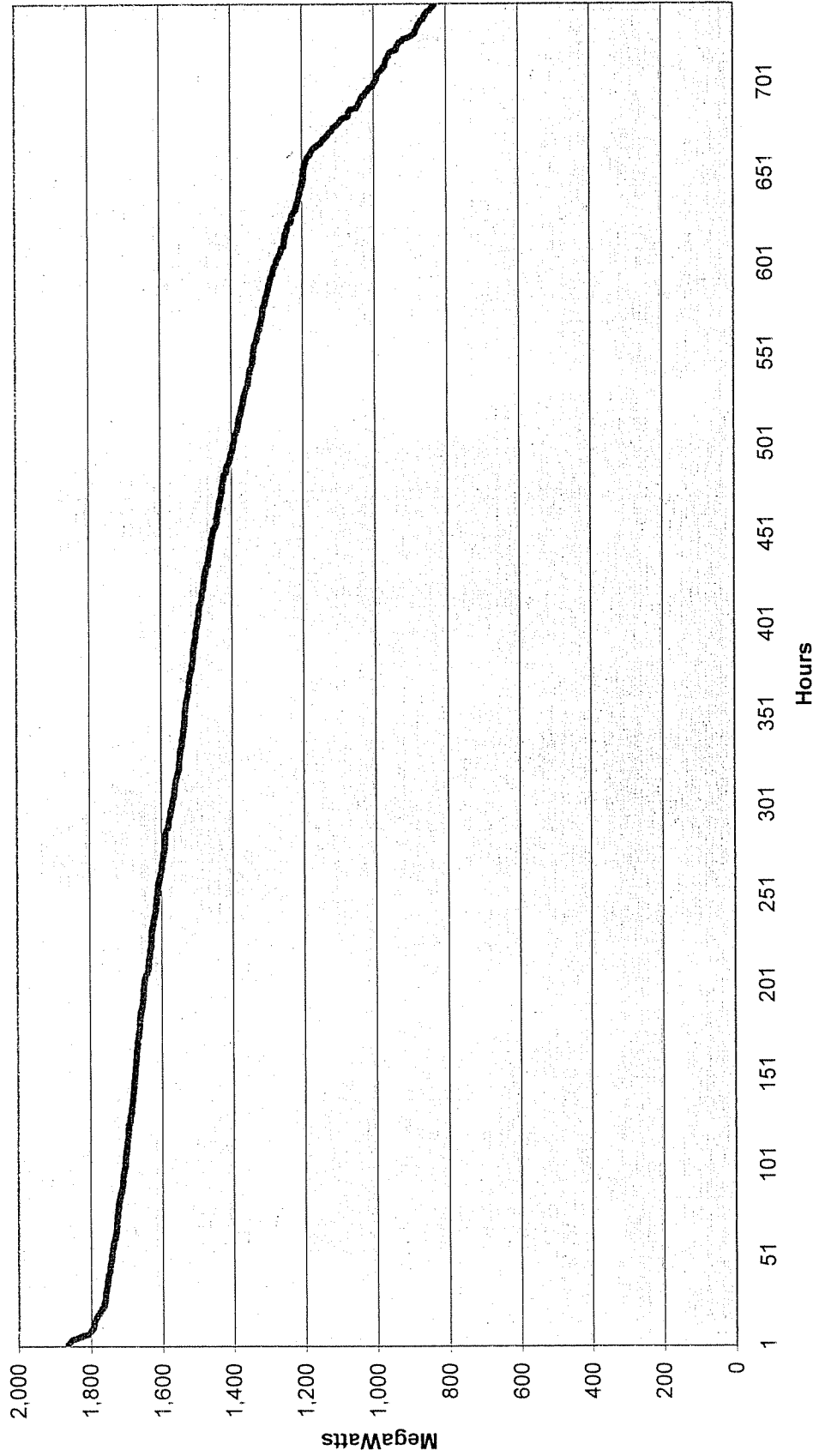
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November 2004 Load Duration Curve  
(Internal Load)



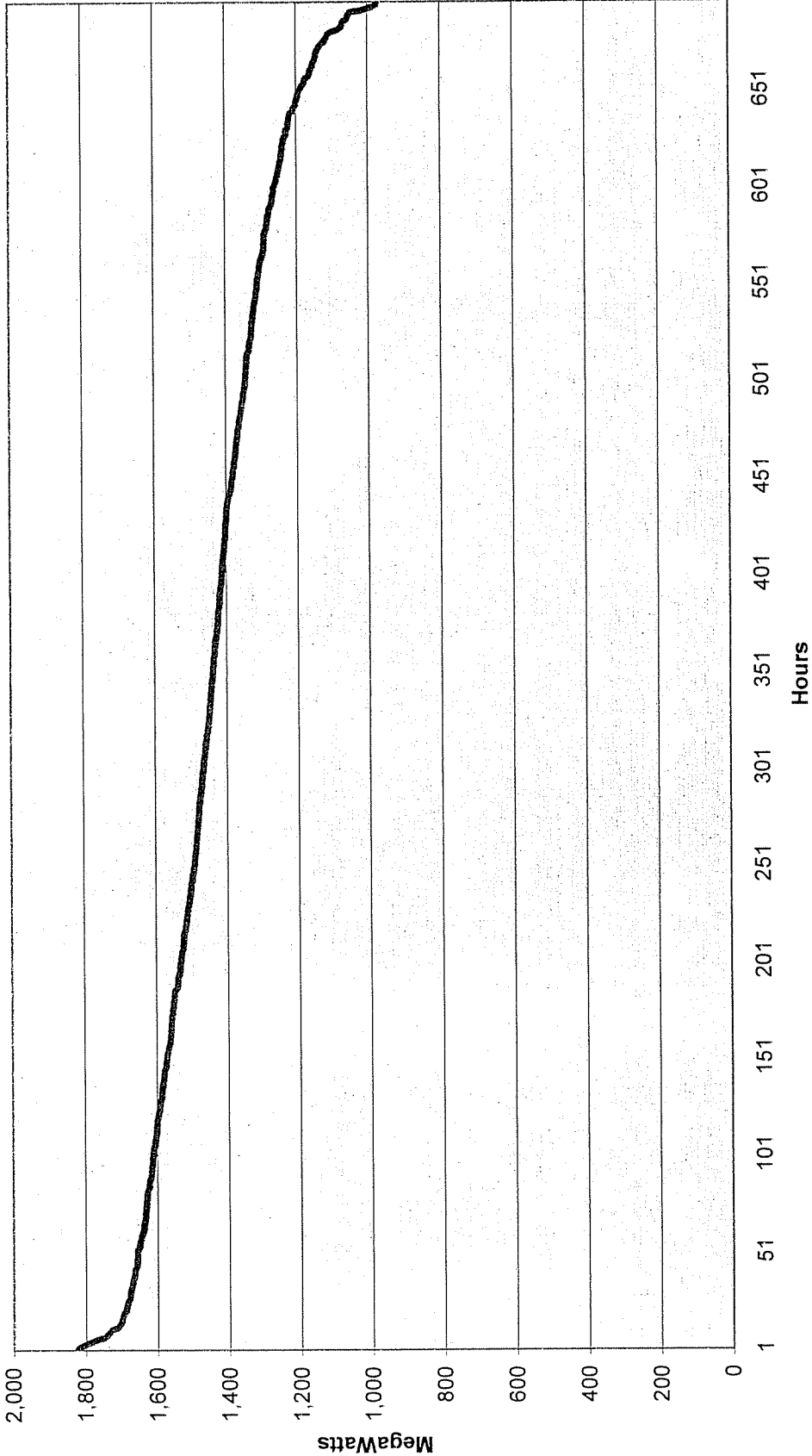
Kentucky Power Company  
December 2004 Load Duration Curve  
(Internal Load)



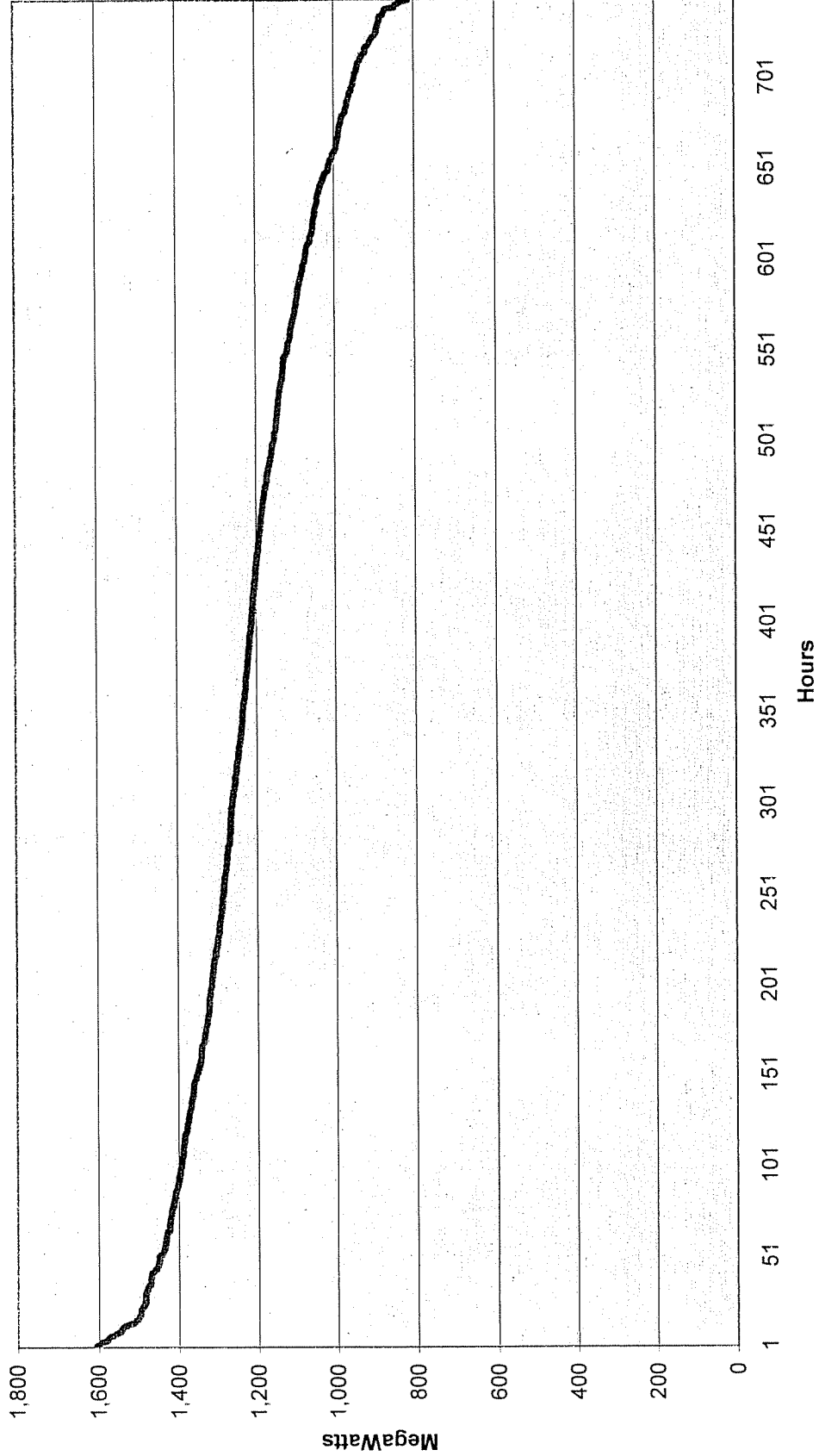
Kentucky Power Company  
January 2004 Load Duration Curve  
(System Load)



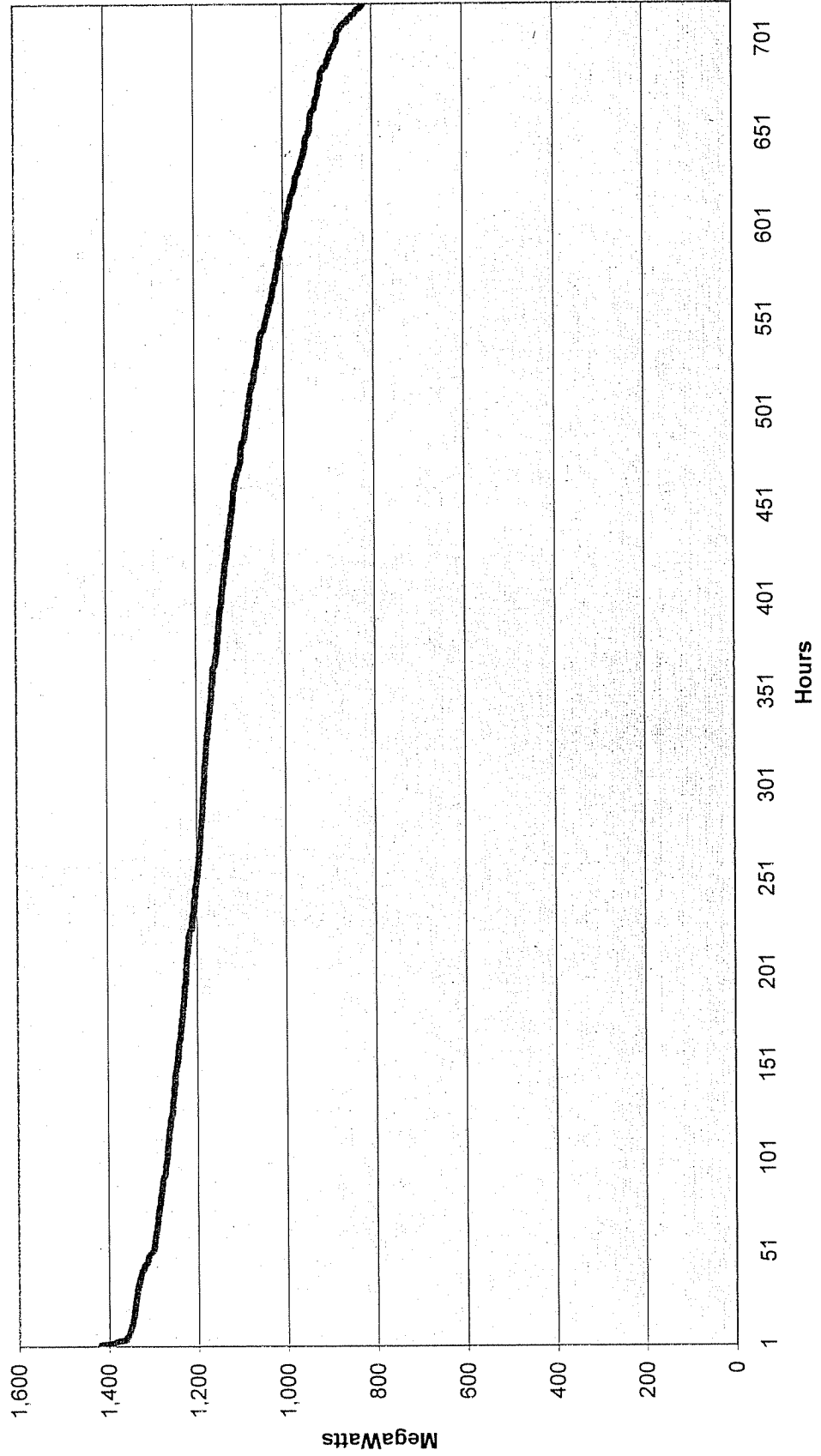
Kentucky Power Company  
February 2004 Load Duration Curve  
(System Load)



Kentucky Power Company  
March 2004 Load Duration Curve  
(System Load)

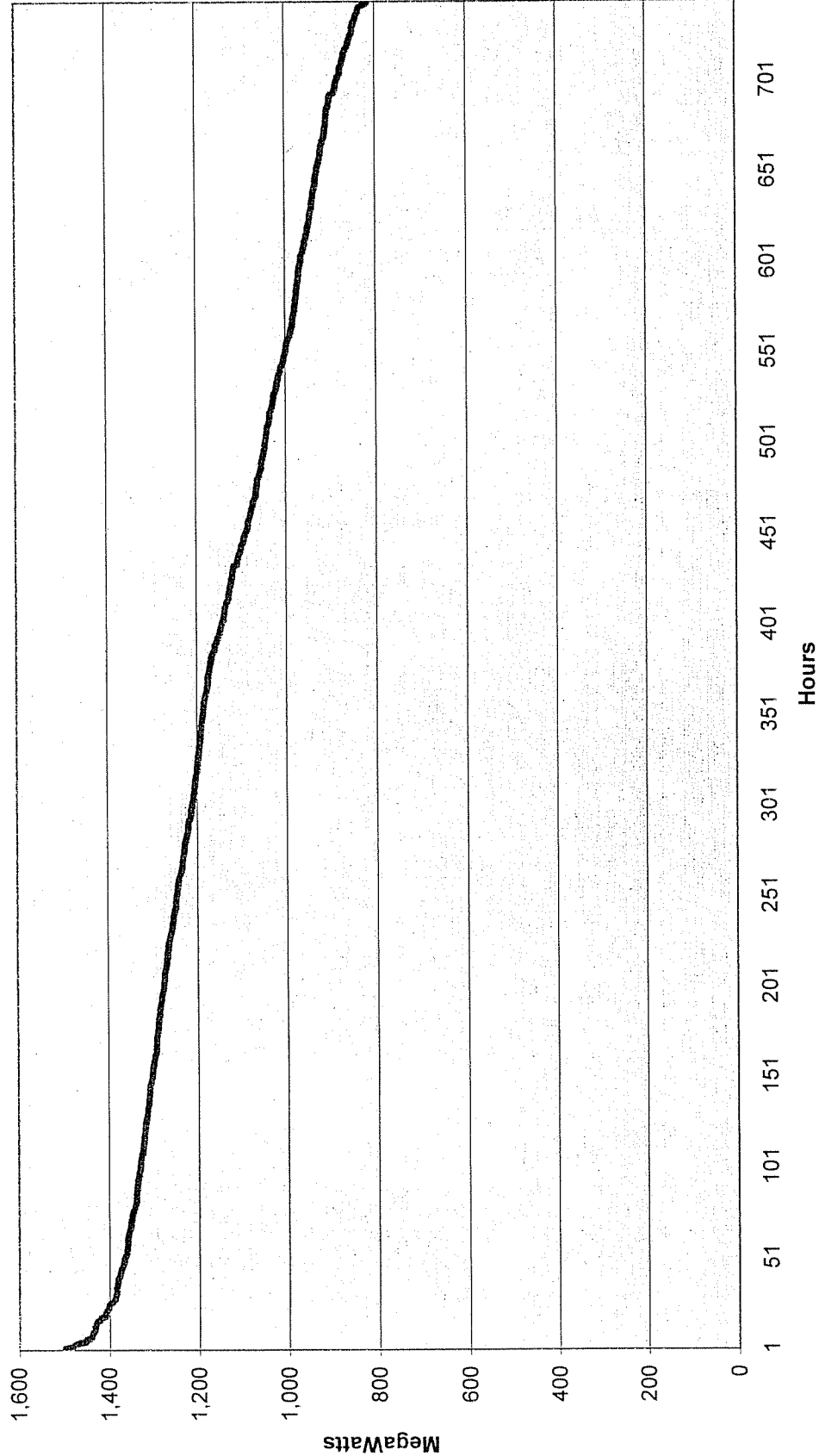


Kentucky Power Company  
April 2004 Load Duration Curve  
(System Load)

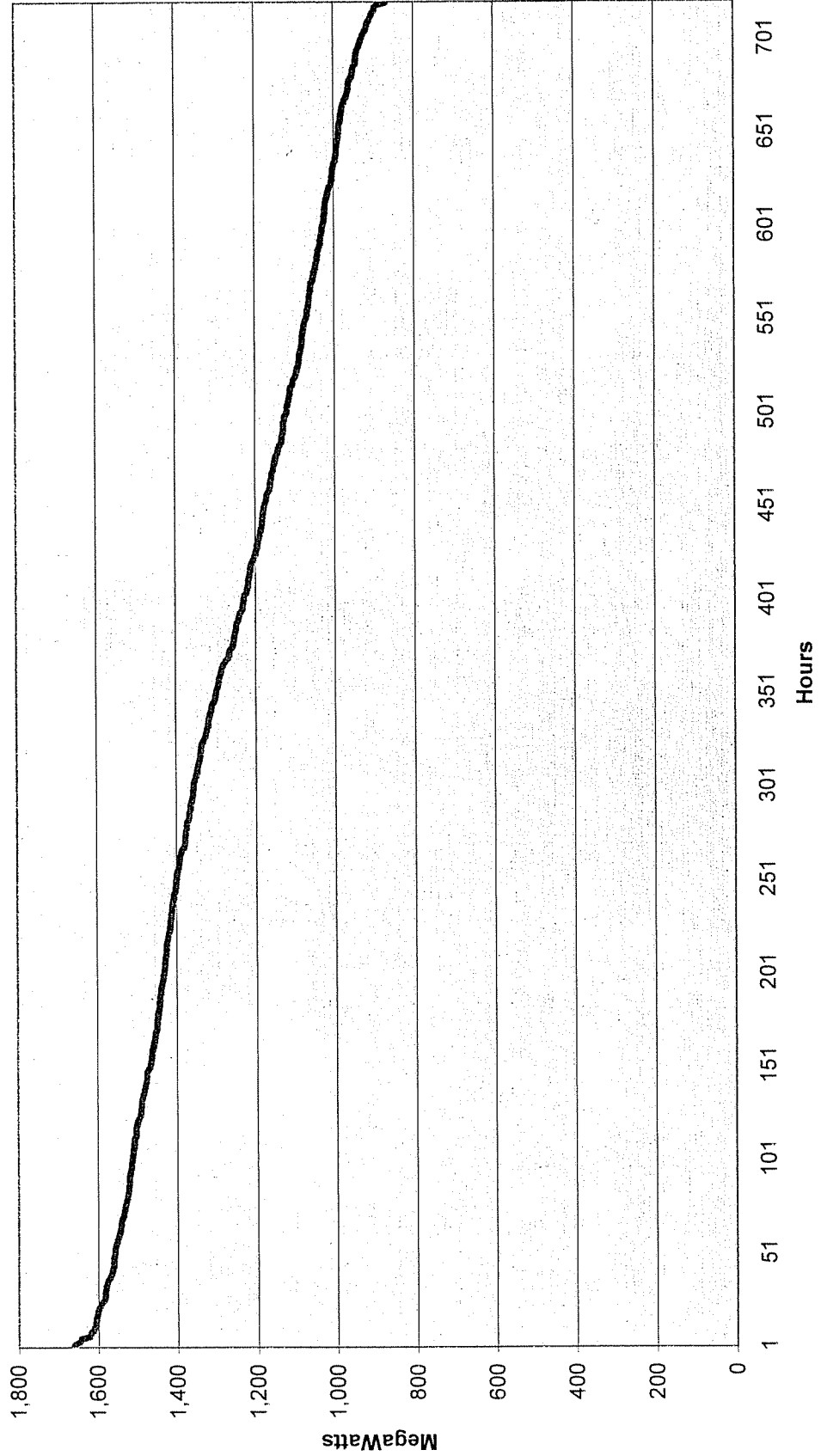




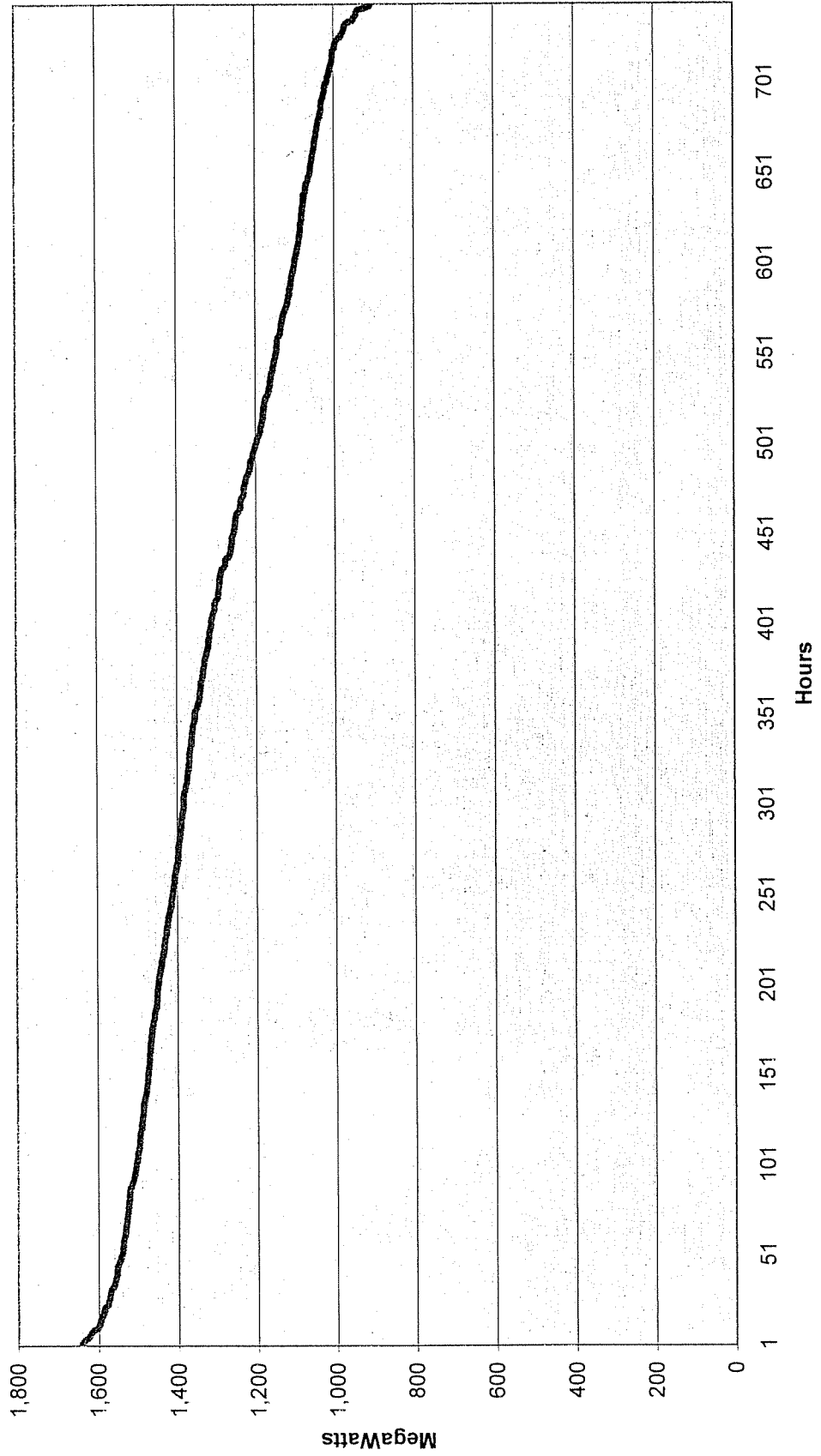
Kentucky Power Company  
May 2004 Load Duration Curve  
(System Load)



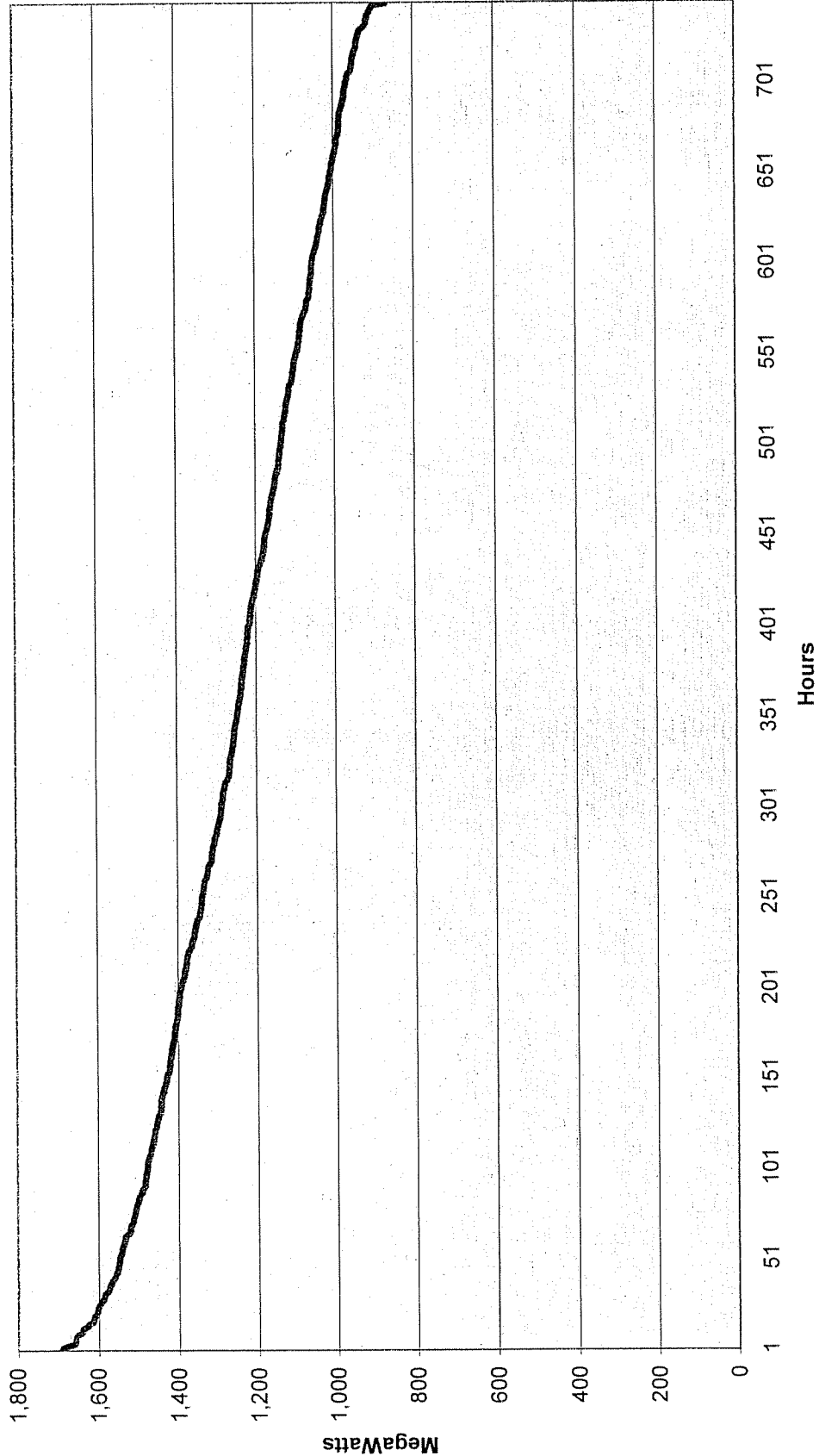
Kentucky Power Company  
June 2004 Load Duration Curve  
(System Load)



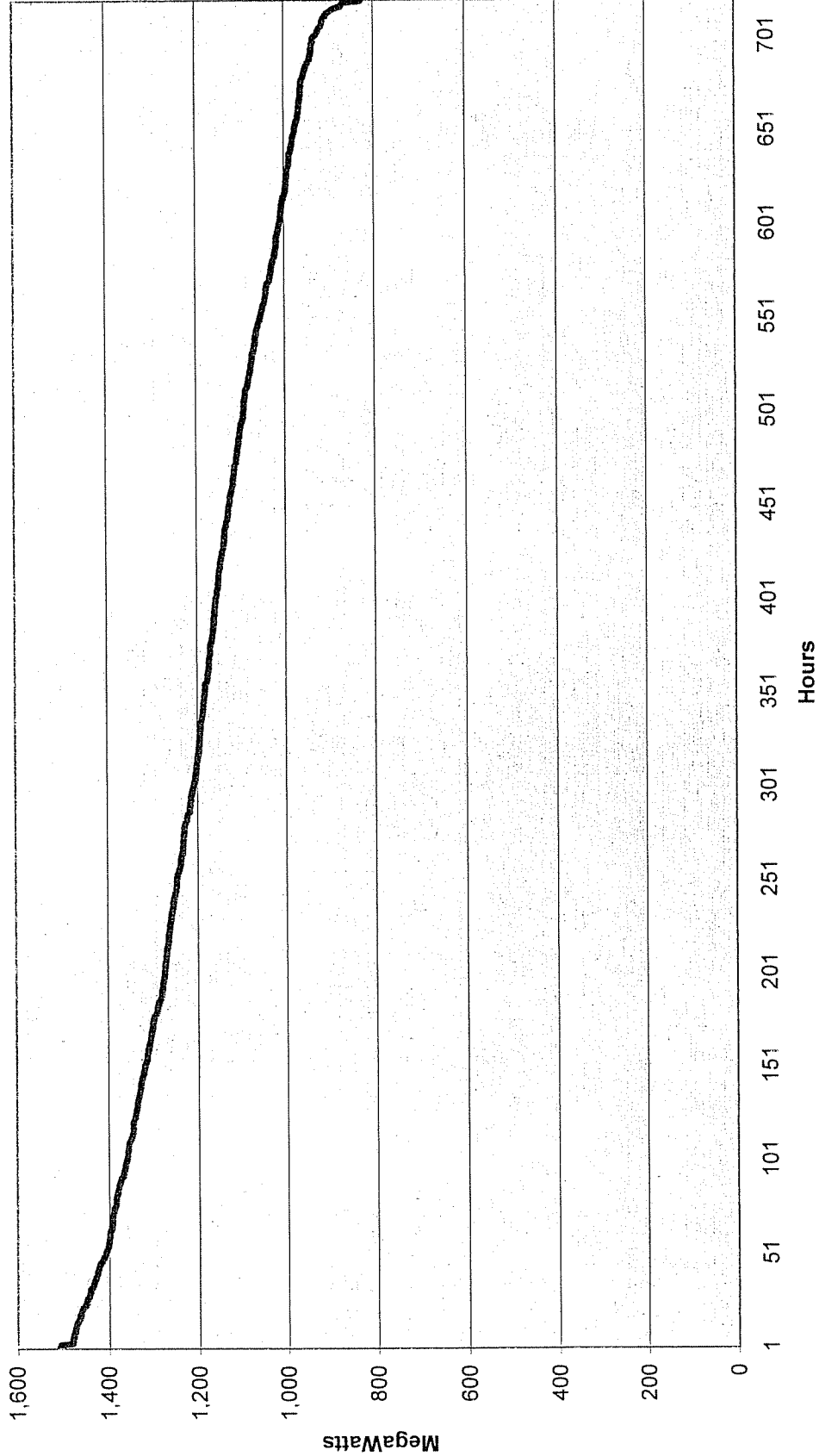
Kentucky Power Company  
July 2004 Load Duration Curve  
(System Load)



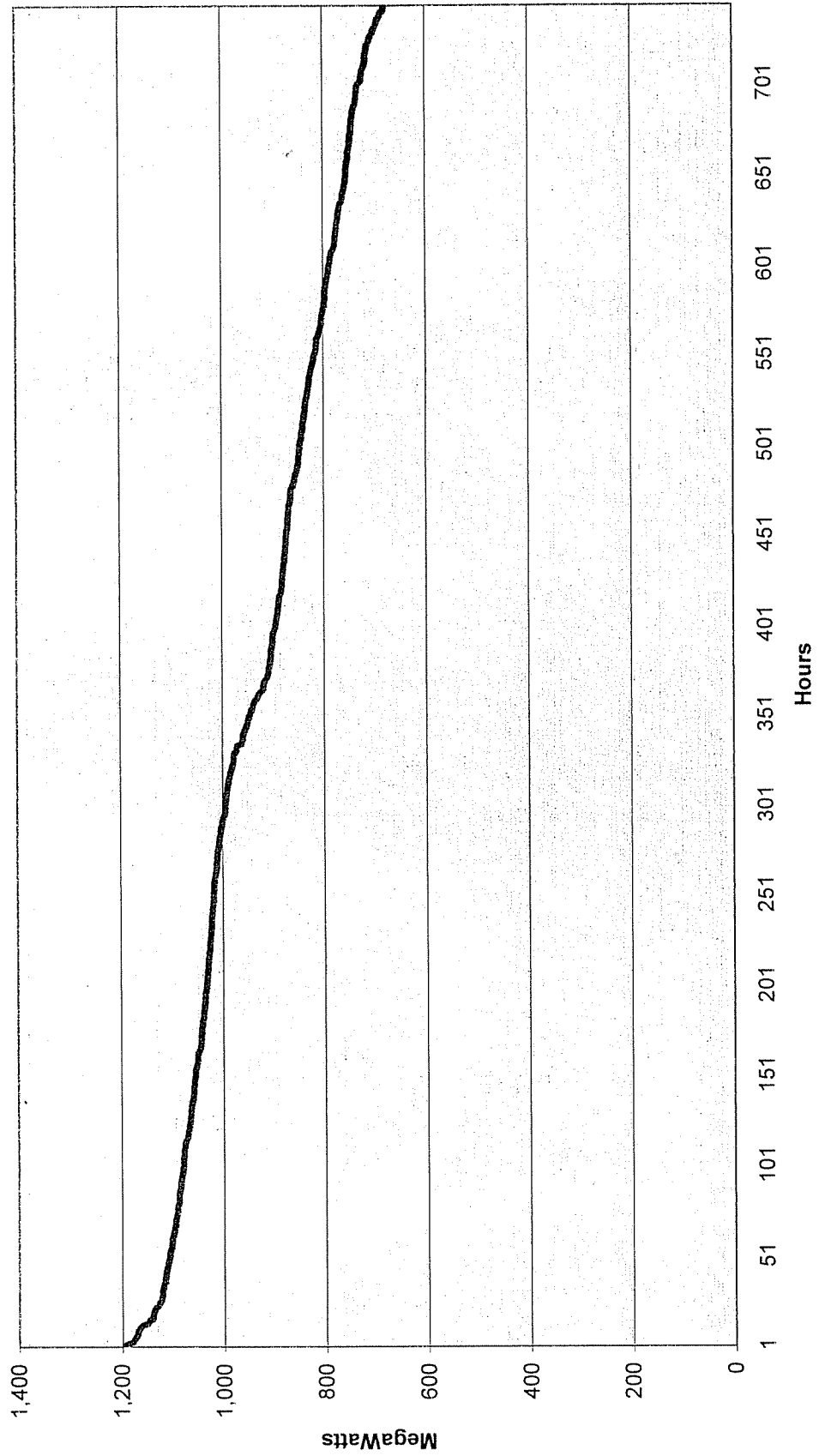
Kentucky Power Company  
August 2004 Load Duration Curve  
(System Load)



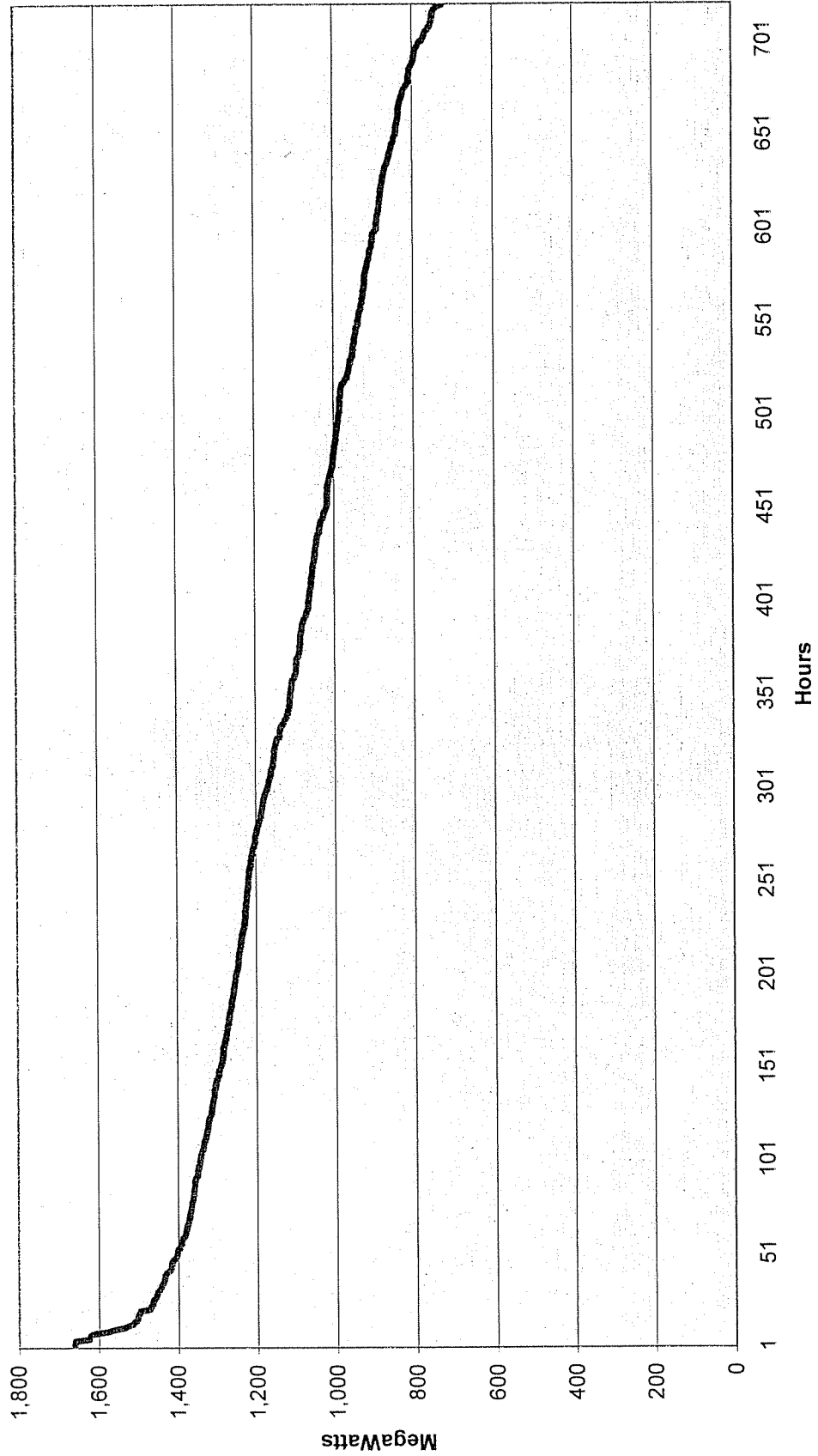
Kentucky Power Company  
September 2004 Load Duration Curve  
(System Load)



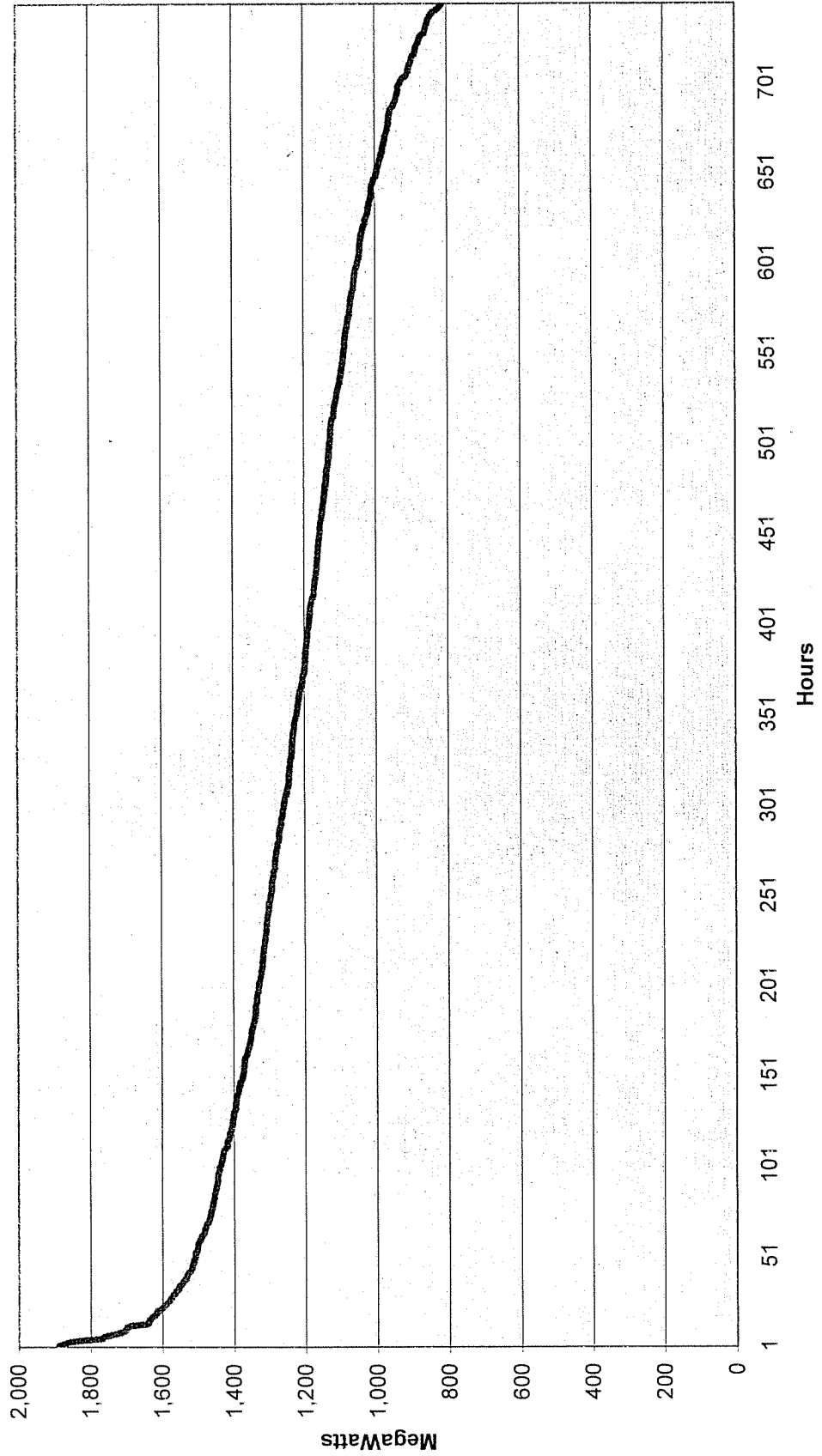
Kentucky Power Company  
October 2004 Load Duration Curve  
(System Load)



Kentucky Power Company  
November 2004 Load Duration Curve  
(System Load)

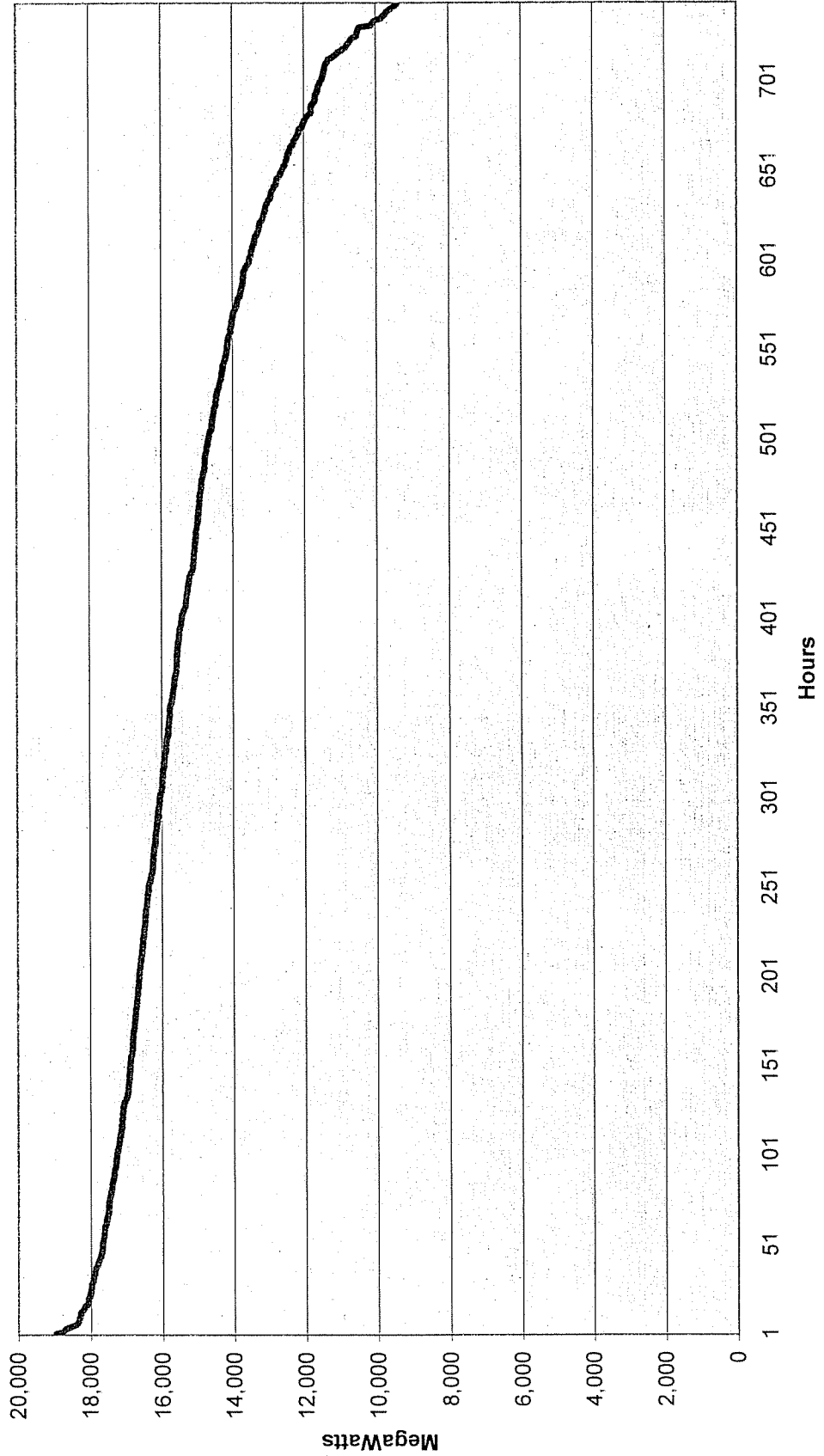


Kentucky Power Company  
December 2004 Load Duration Curve  
(System Load)

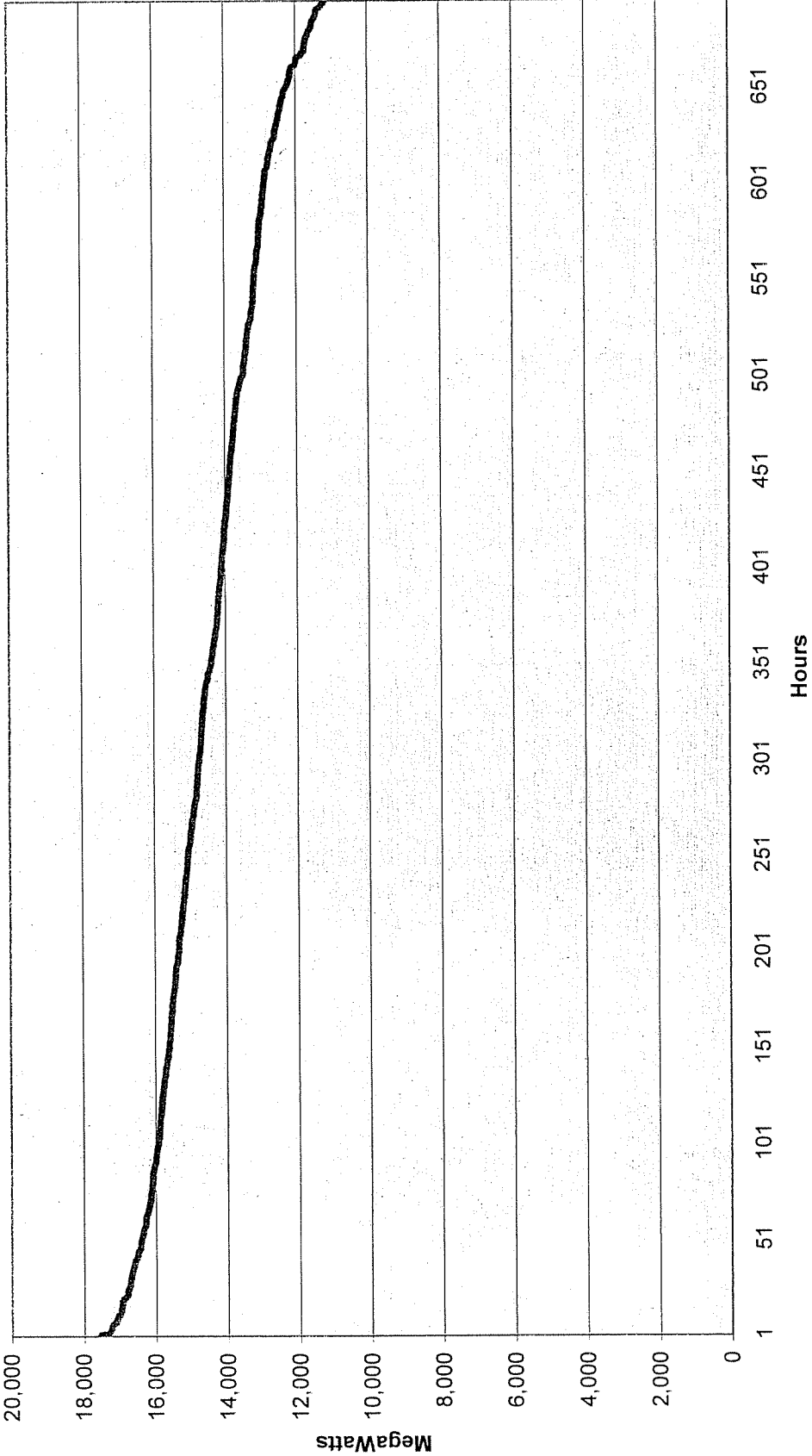




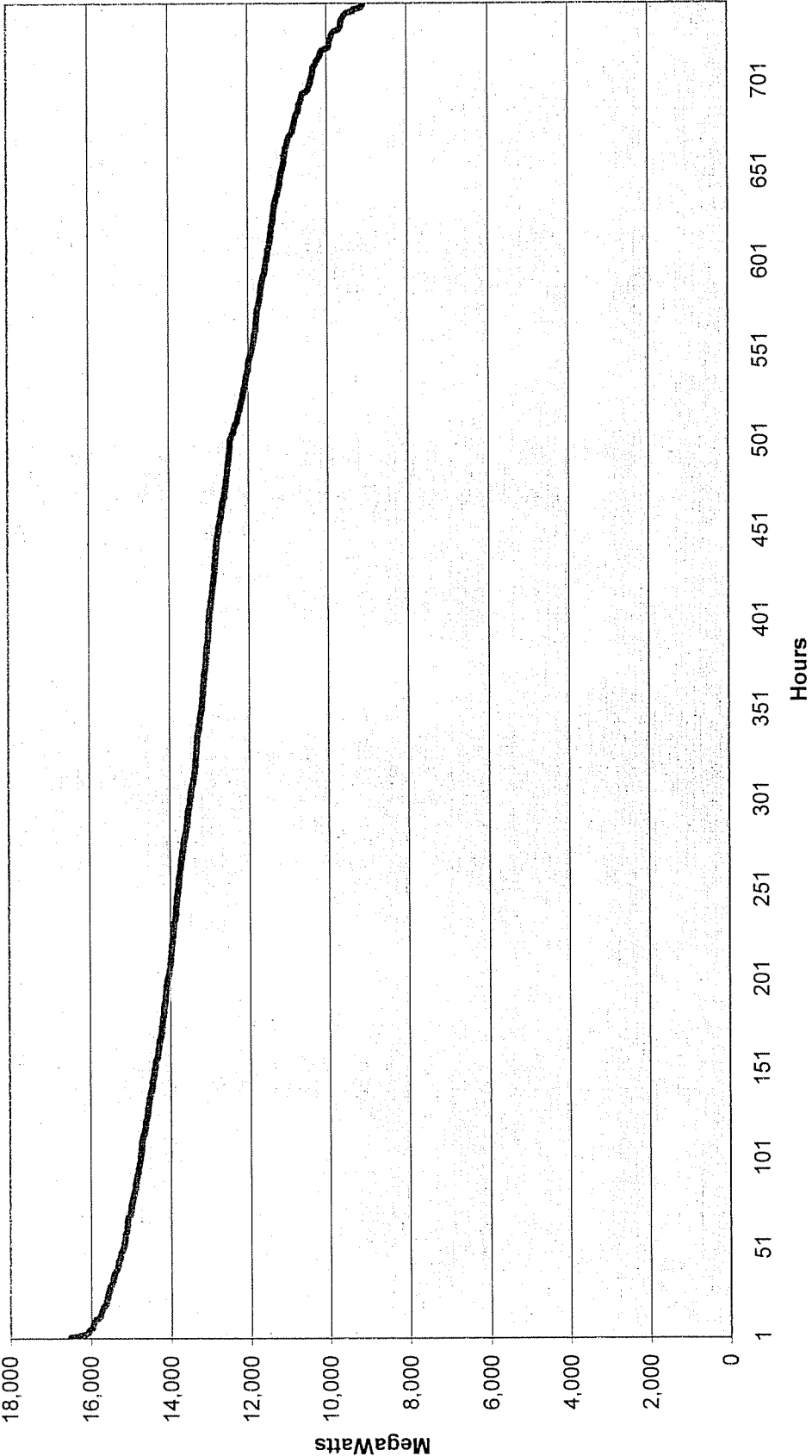
AEP System-East  
January 2004 Load Duration Curve  
(Internal Load)



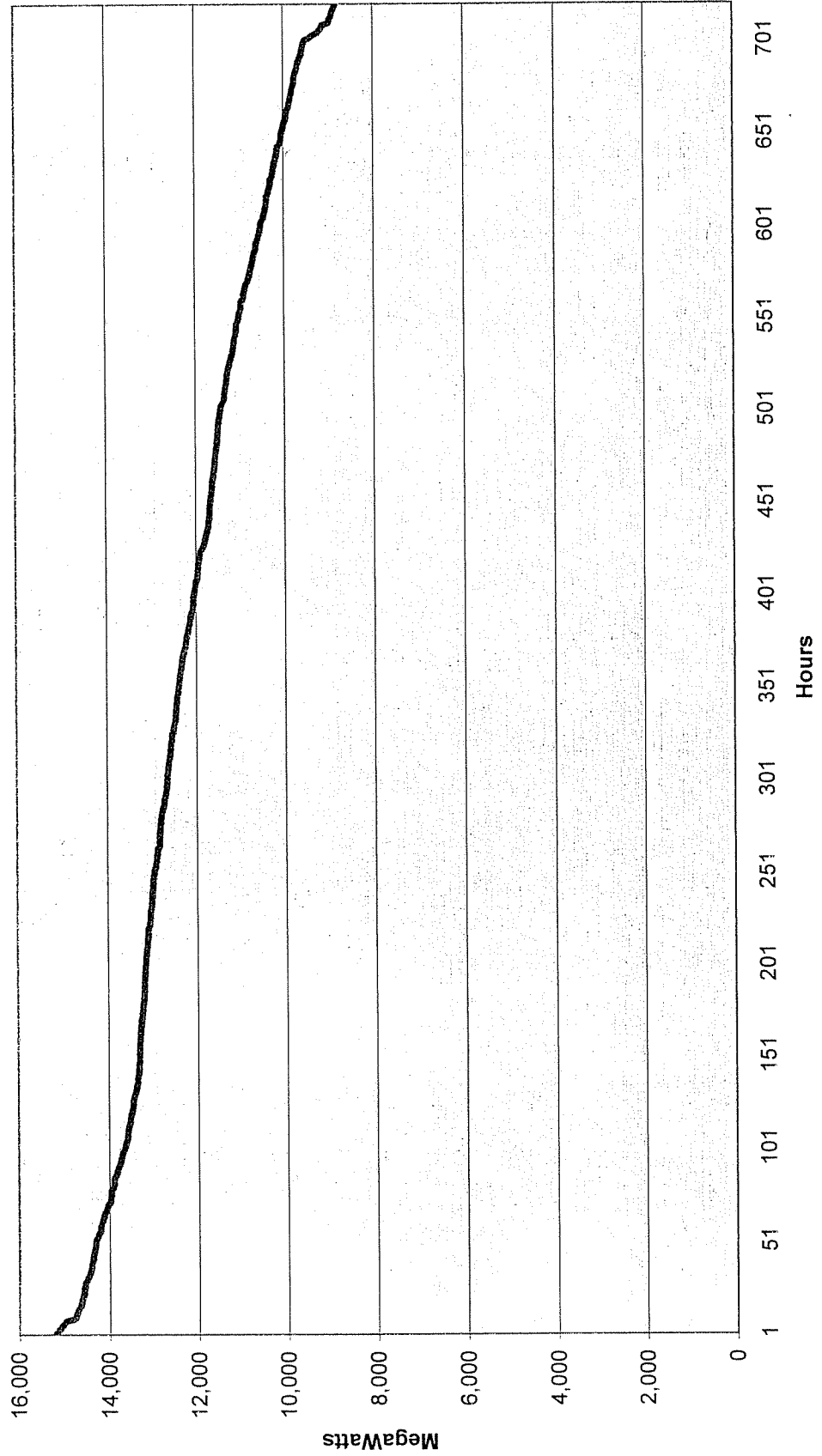
AEP System-East  
February 2004 Load Duration Curve  
(Internal Load)



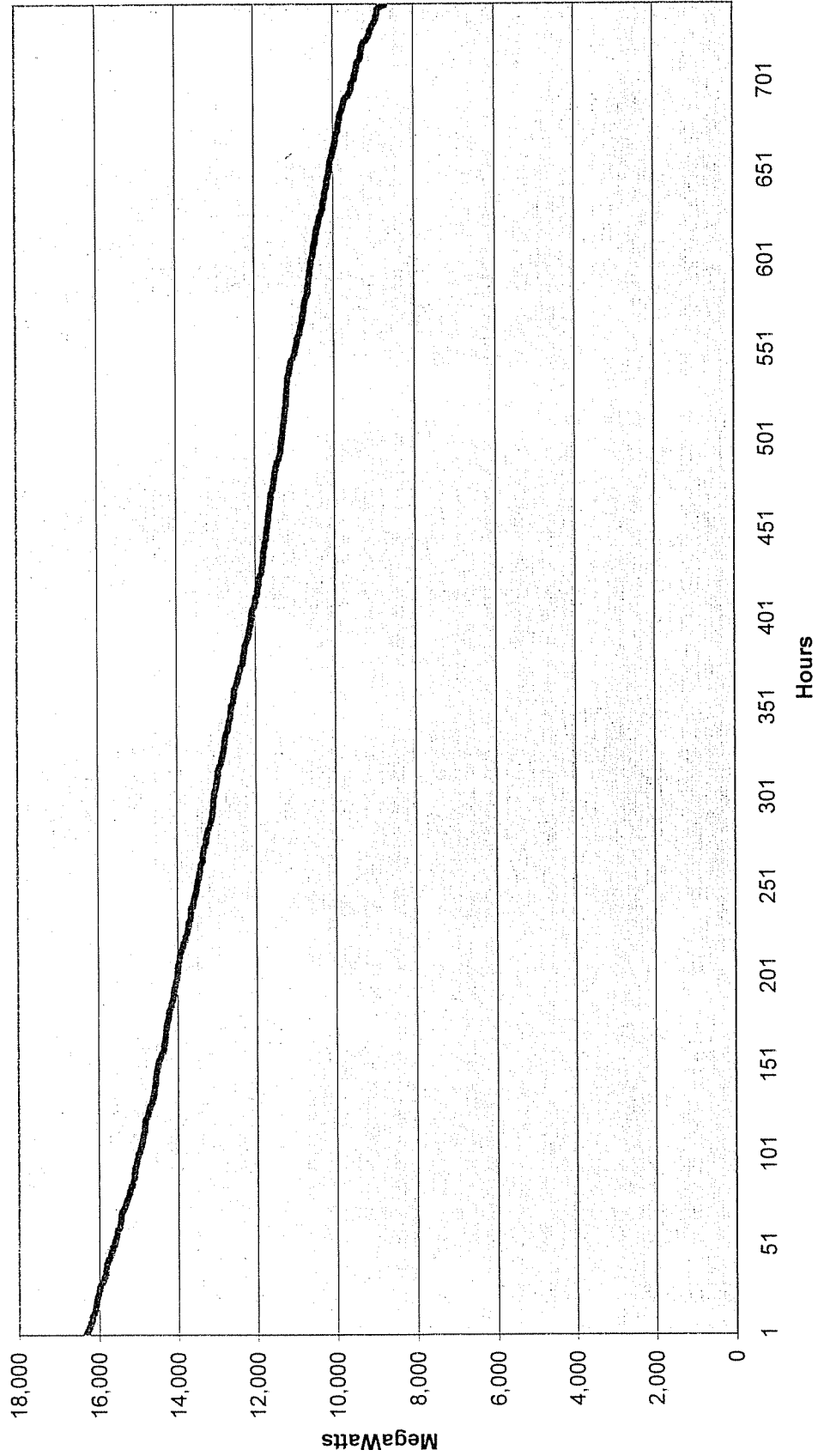
AEP System-East  
March 2004 Load Duration Curve  
(Internal Load)



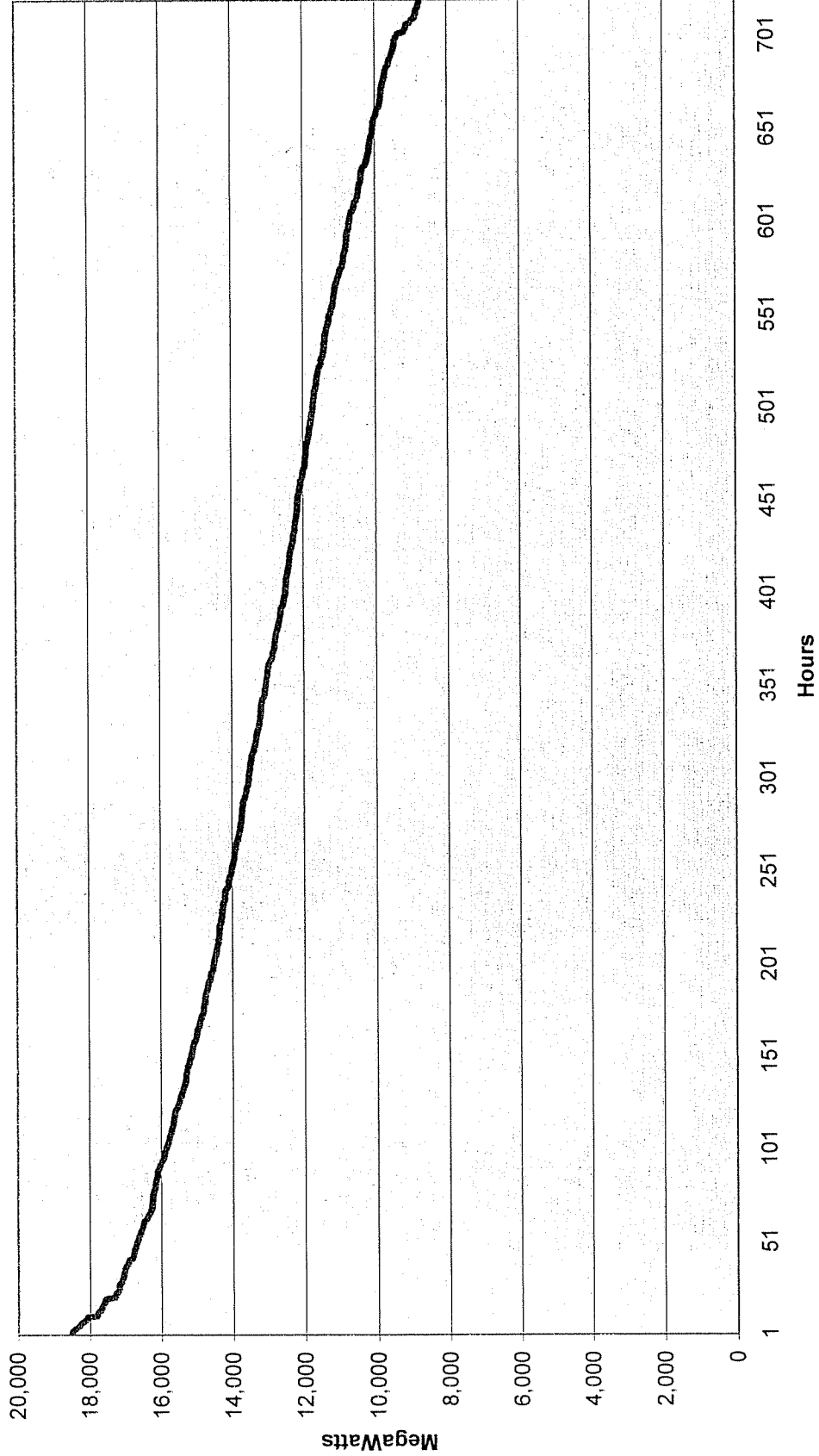
AEP System-East  
April 2004 Load Duration Curve  
(Internal Load)



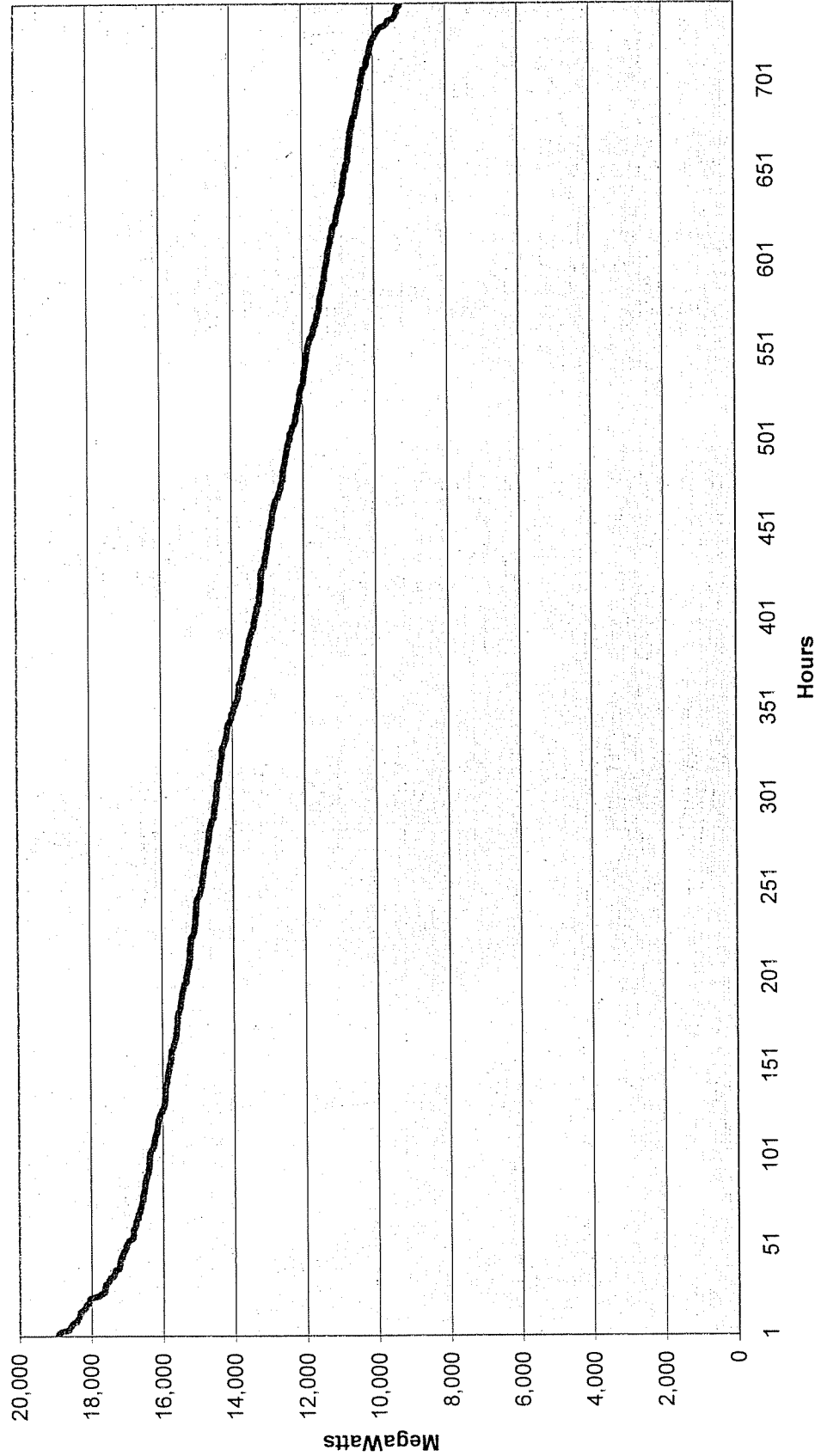
**AEP System-East  
May 2004 Load Duration Curve  
(Internal Load)**



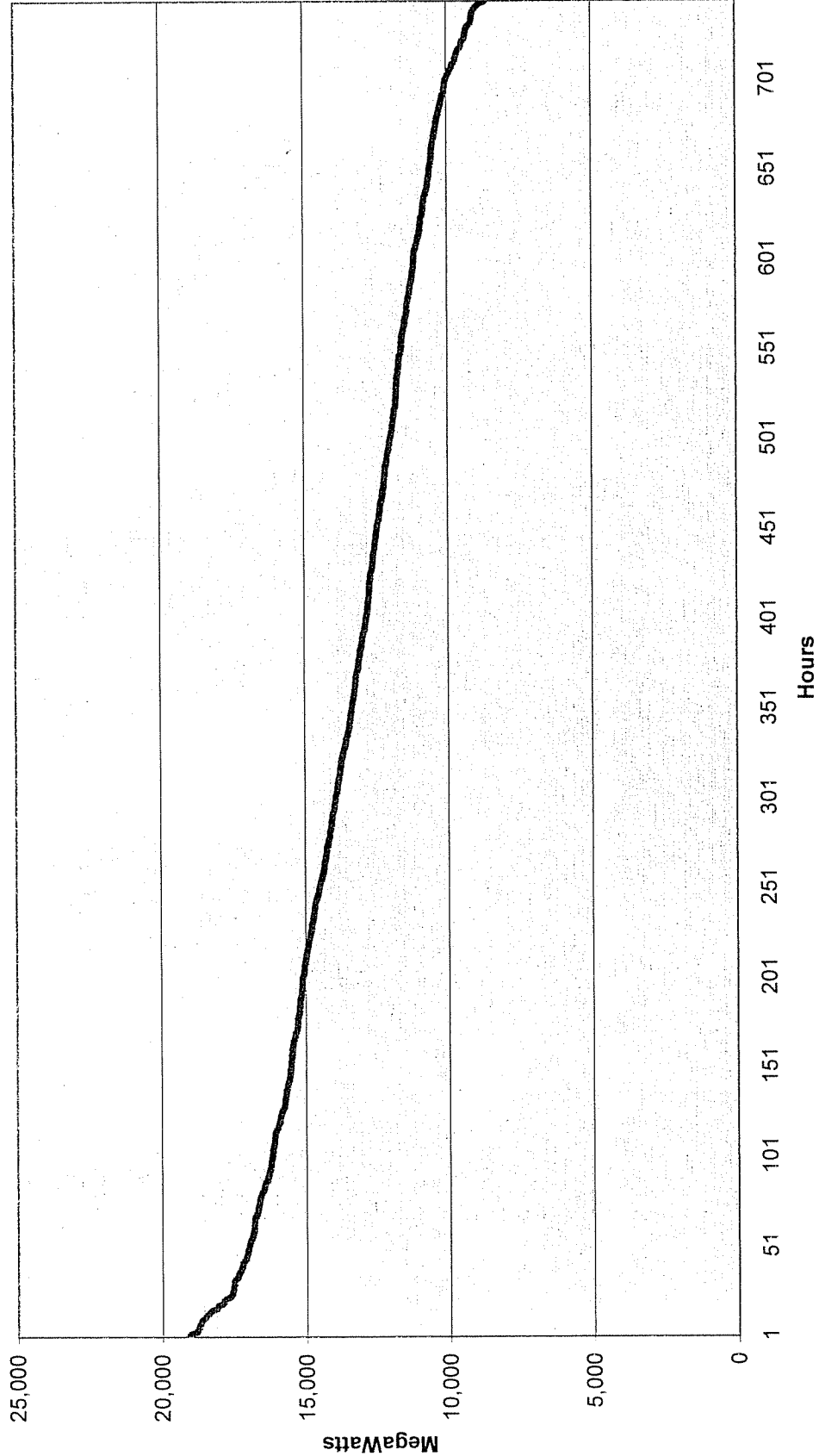
AEP System-East  
June 2004 Load Duration Curve  
(Internal Load)



AEP System-East  
July 2004 Load Duration Curve  
(Internal Load)

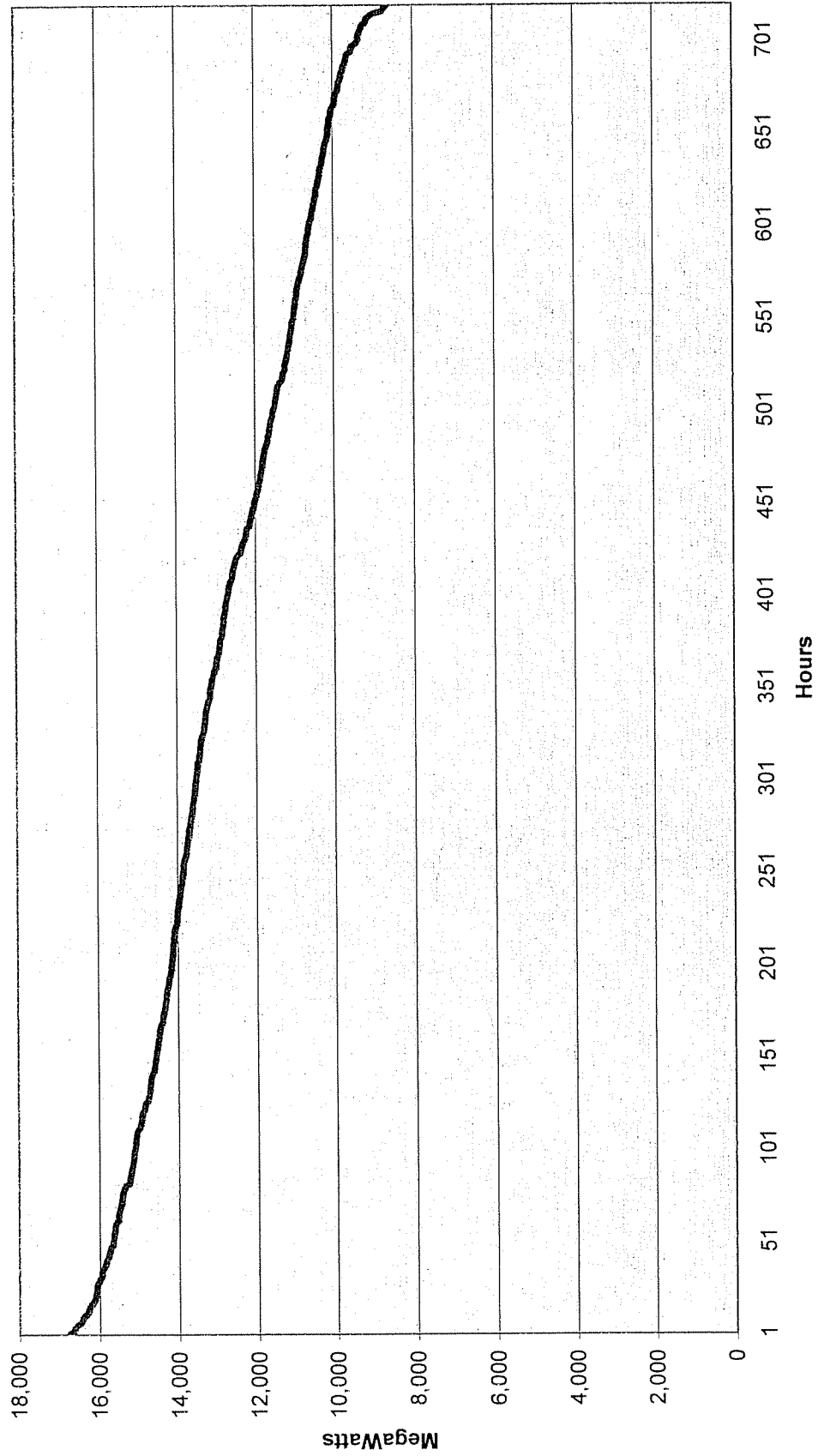


AEP System-East  
August 2004 Load Duration Curve  
(Internal Load)

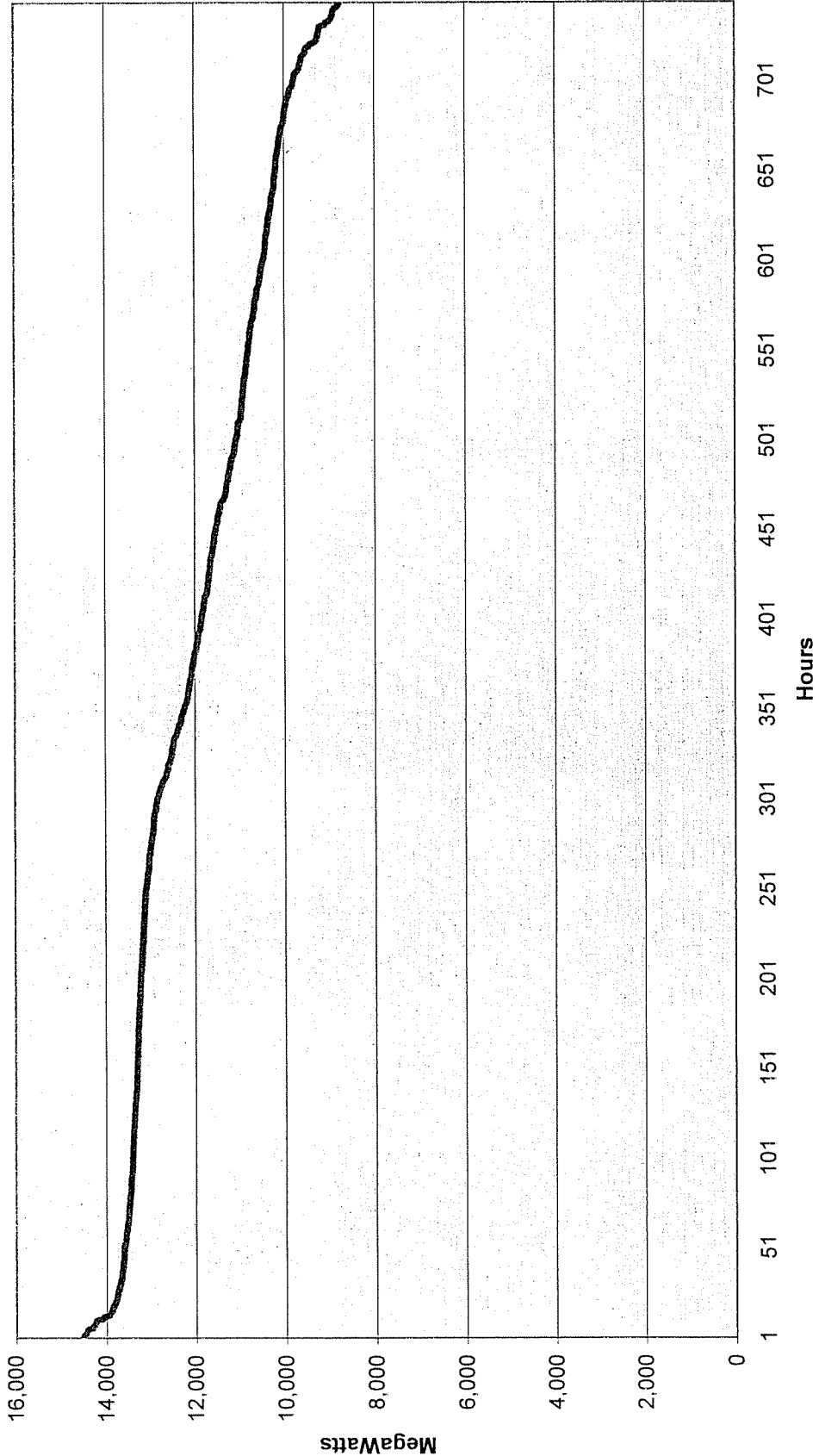




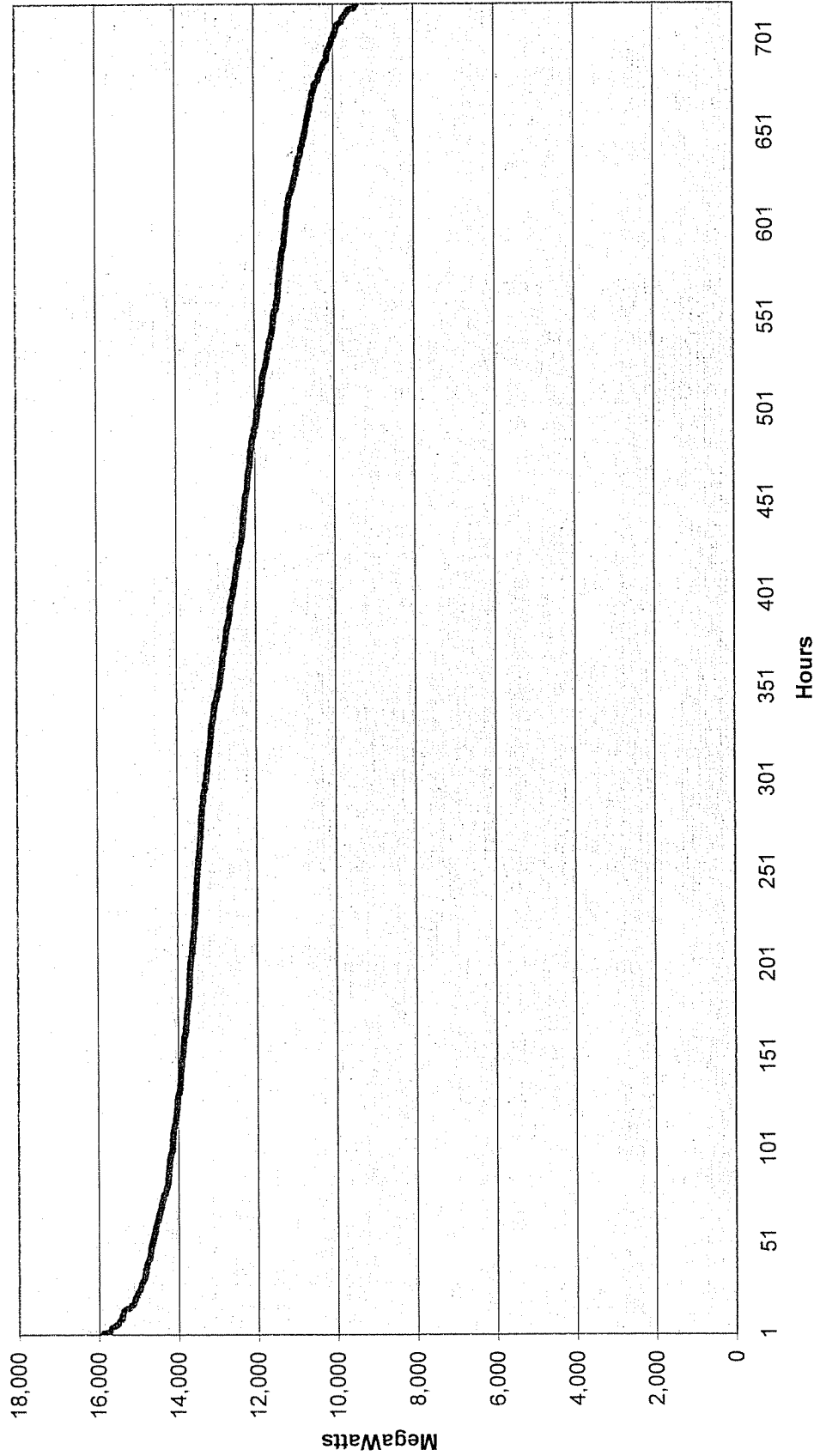
AEP System-East  
September 2004 Load Duration Curve  
(Internal Load)



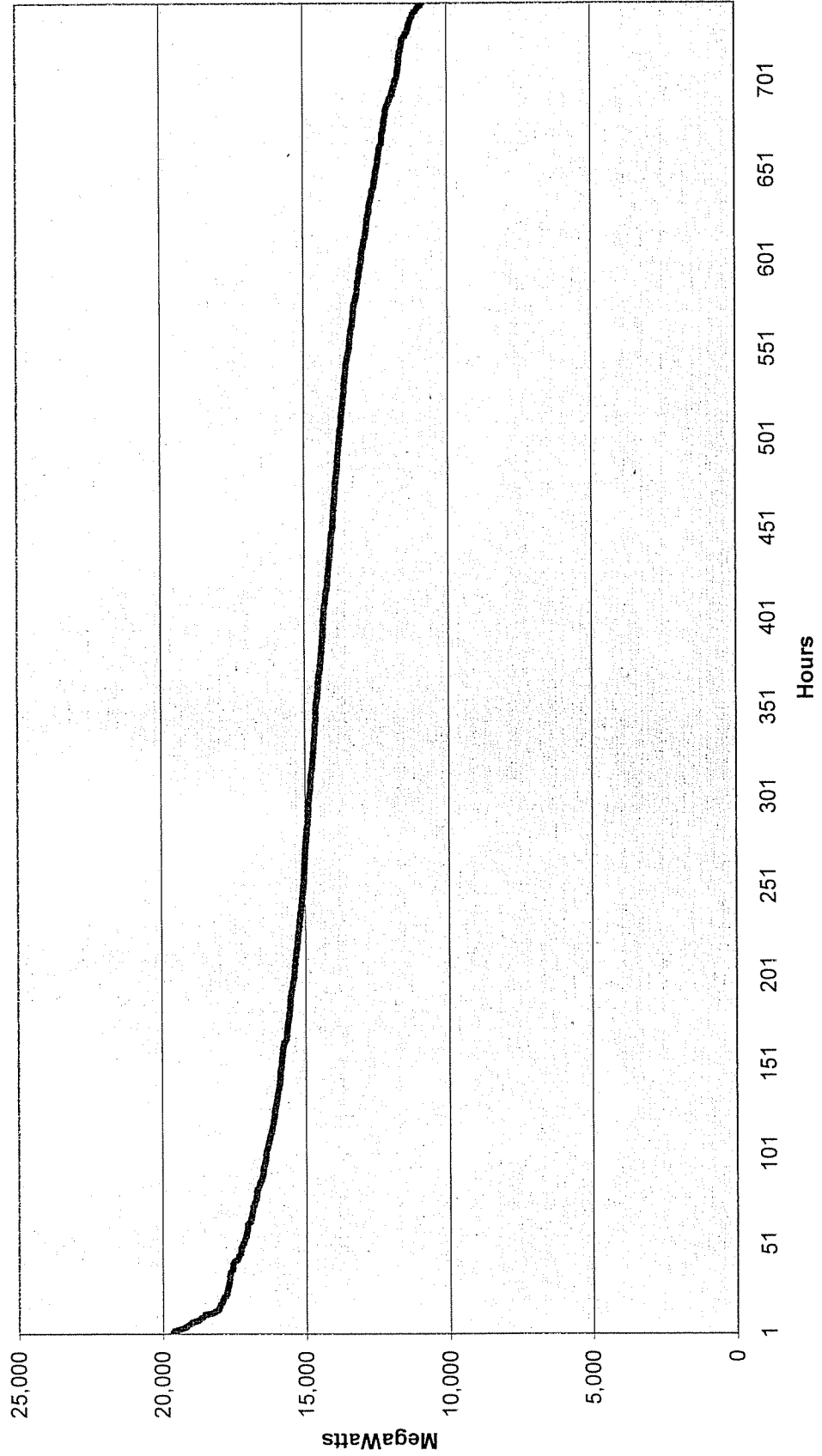
AEP System-East  
October 2004 Load Duration Curve  
(Internal Load)



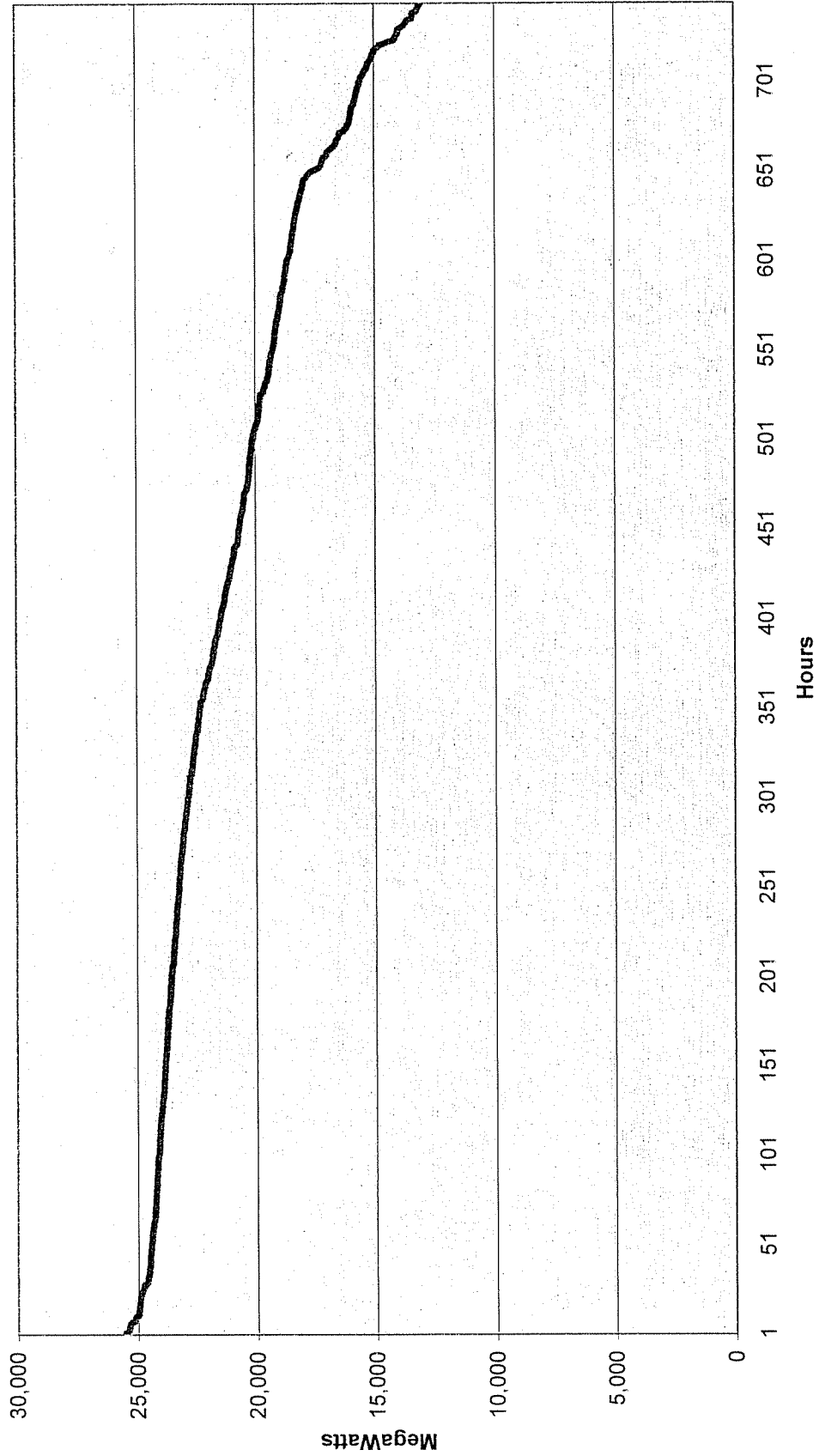
AEP System-East  
November 2004 Load Duration Curve  
(Internal Load)



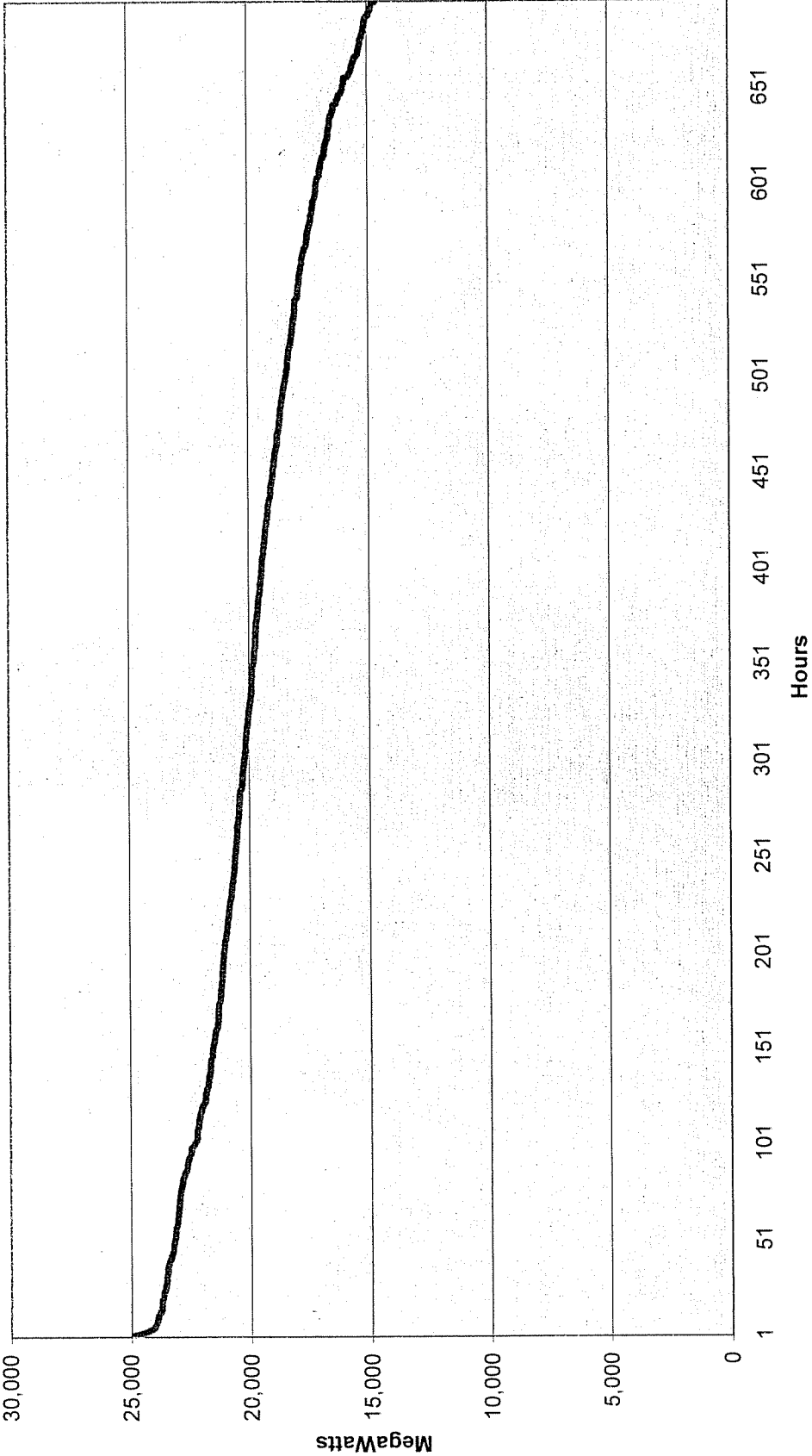
AEP System-East  
December 2004 Load Duration Curve  
(Internal Load)



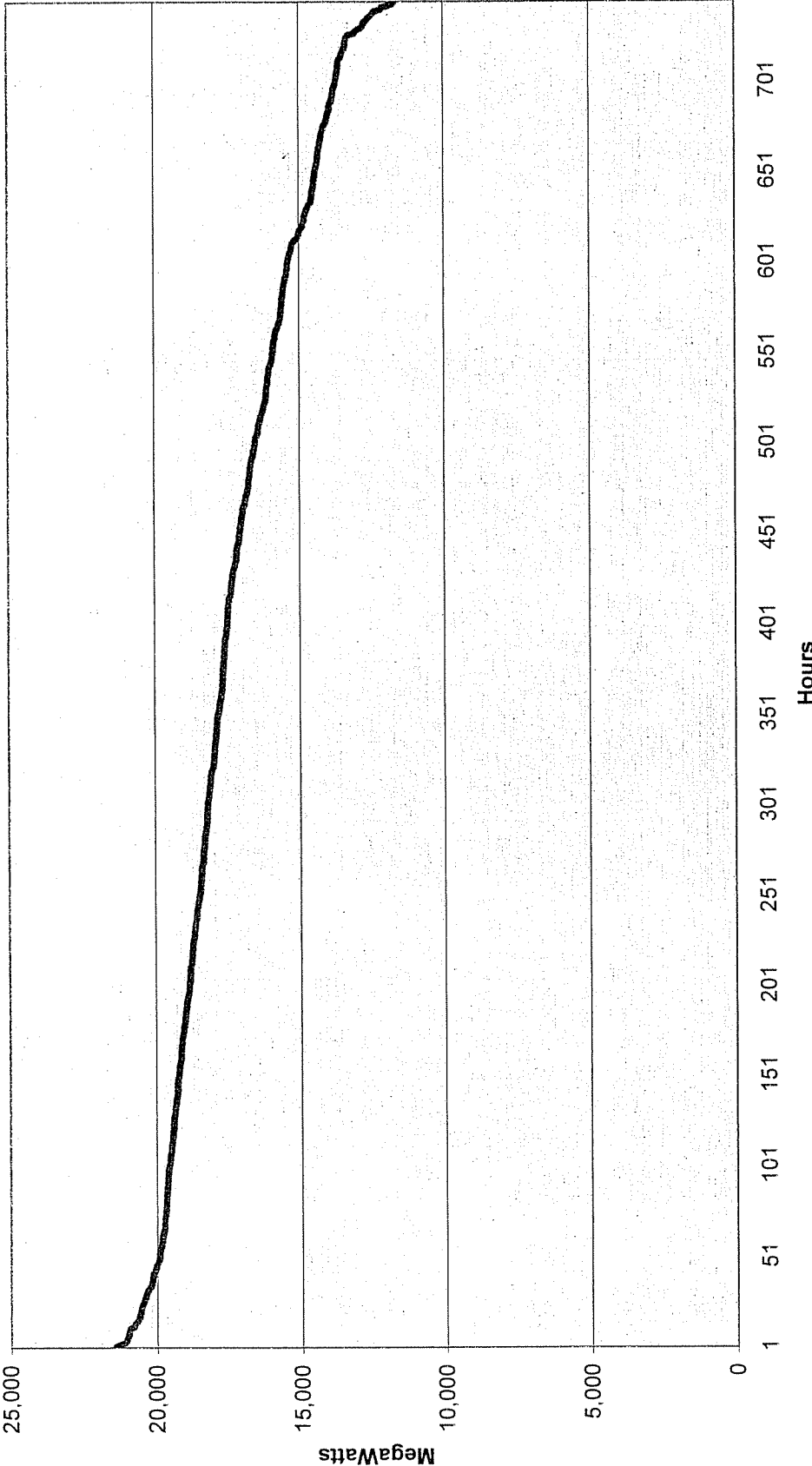
AEP System-East  
January 2004 Load Duration Curve  
(System Load)



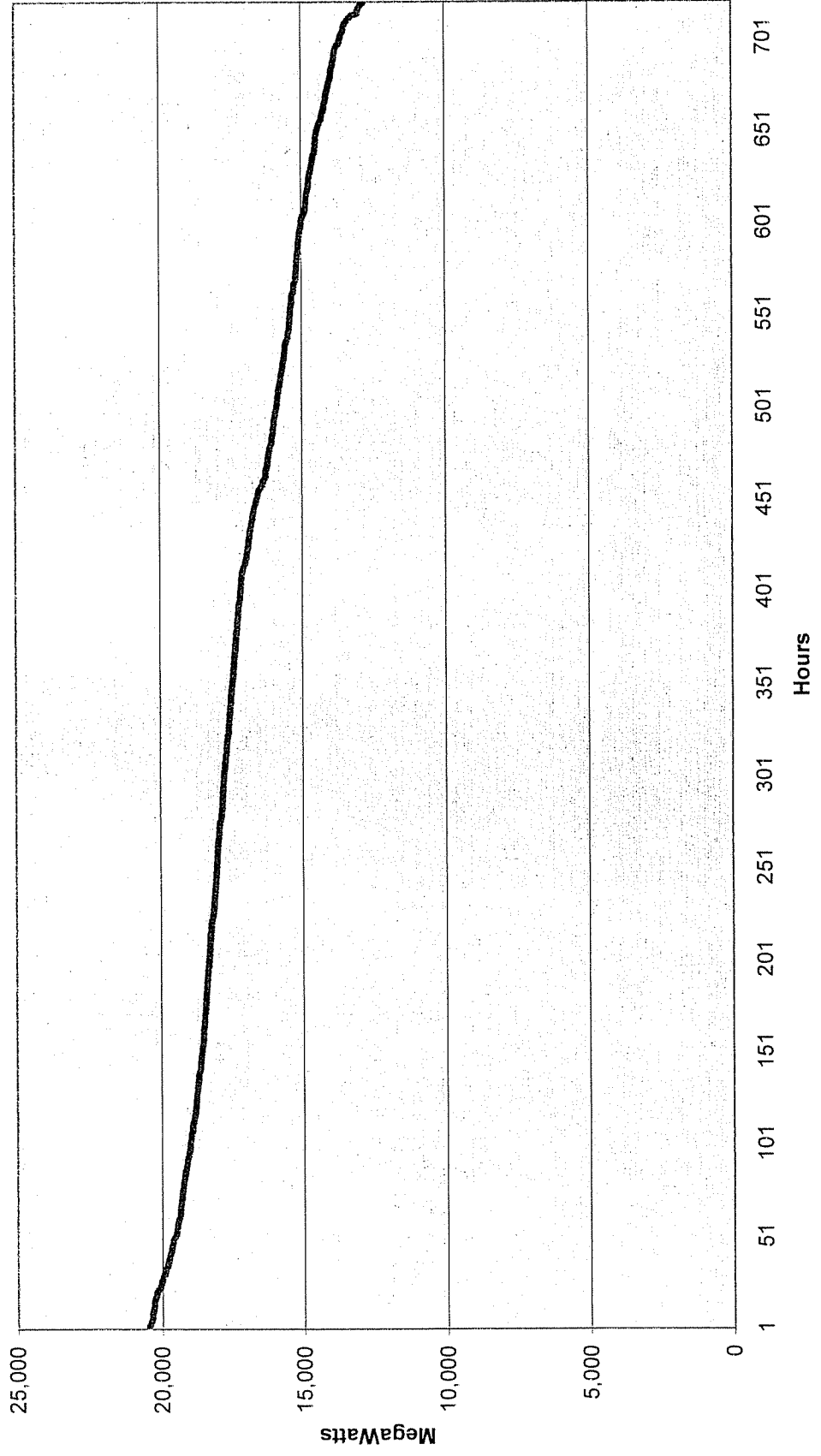
AEP System-East  
February 2004 Load Duration Curve  
(System Load)



AEP System-East  
March 2004 Load Duration Curve  
(System Load)

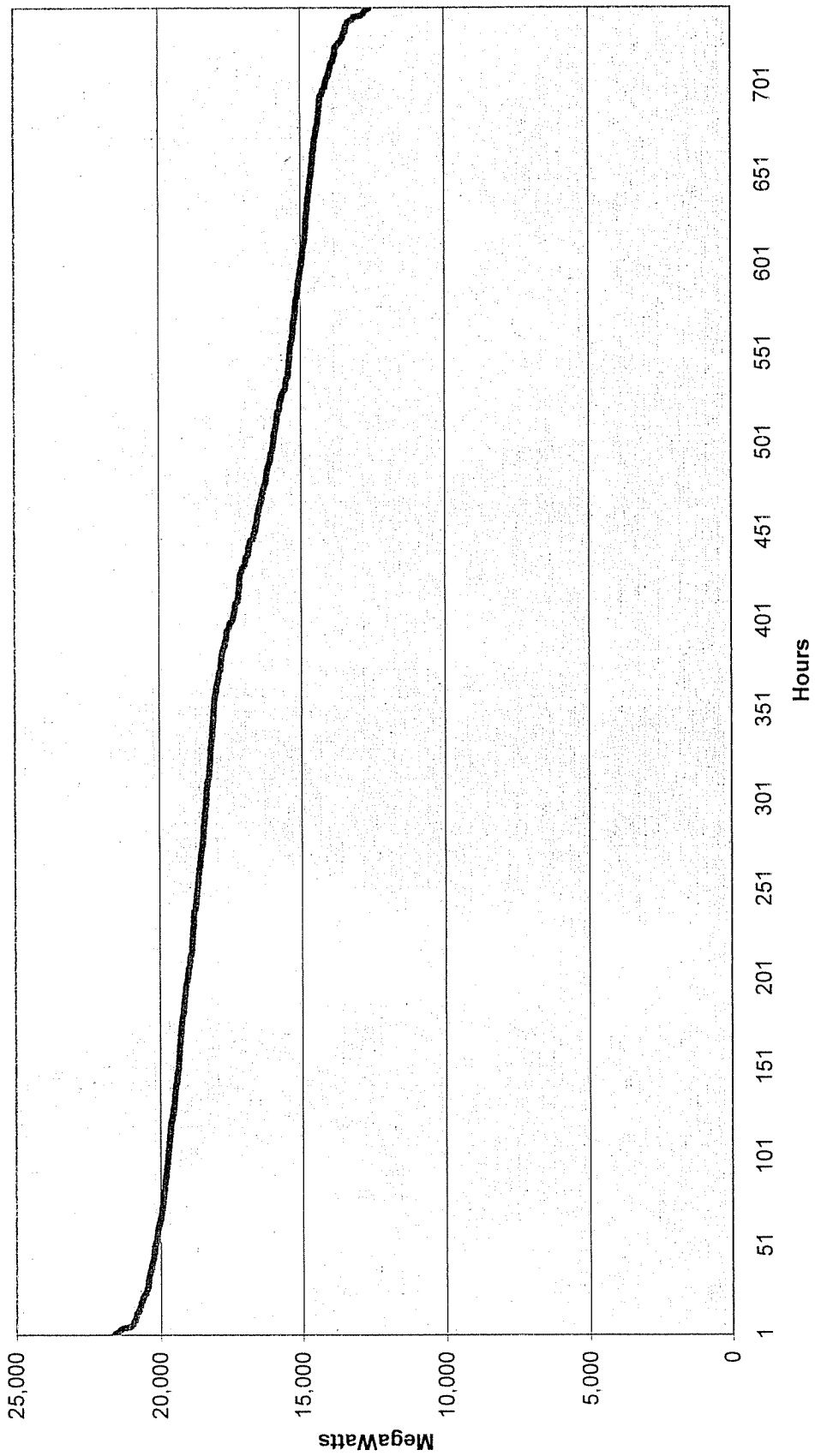


AEP System-East  
April 2004 Load Duration Curve  
(System Load)

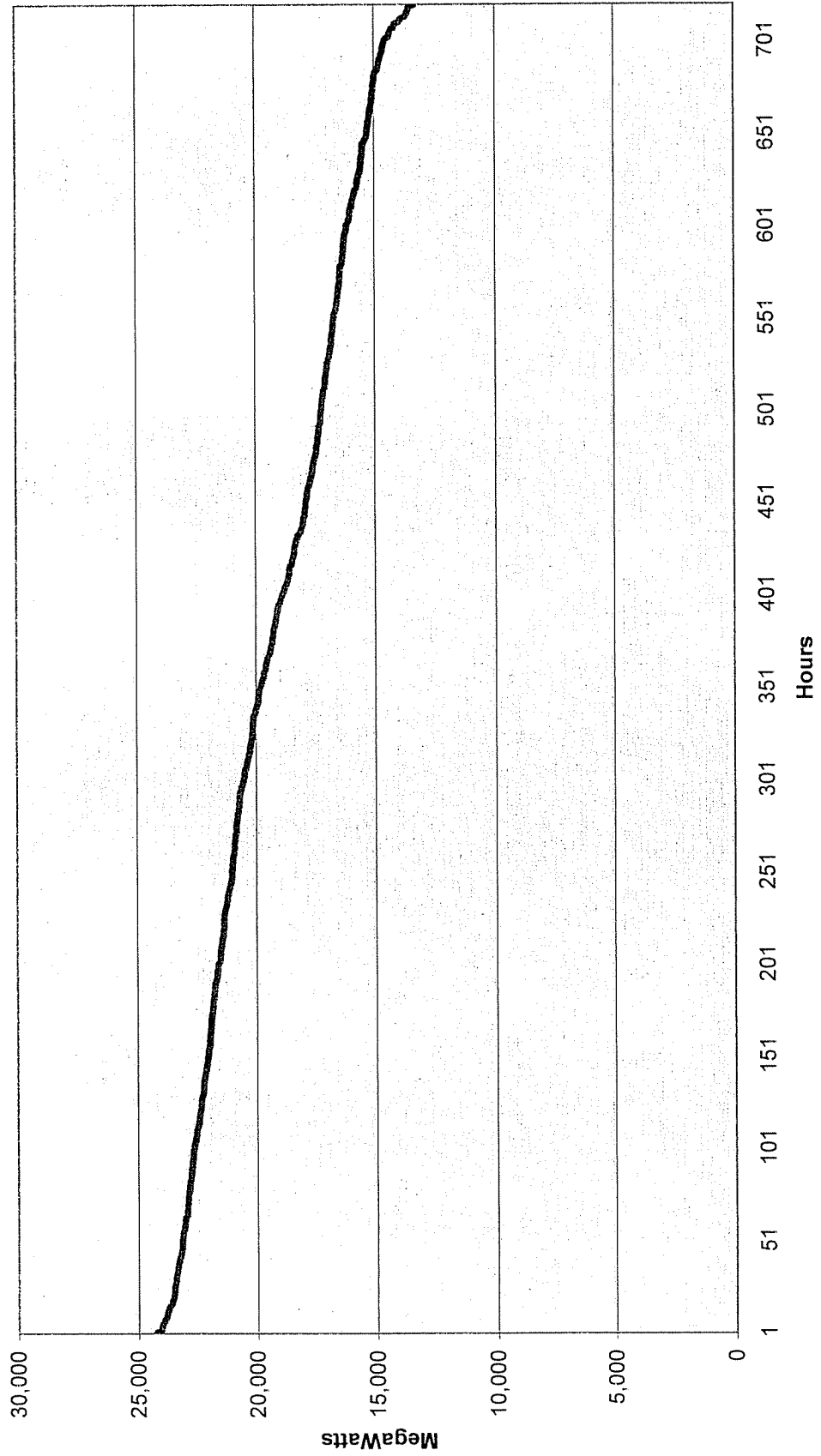




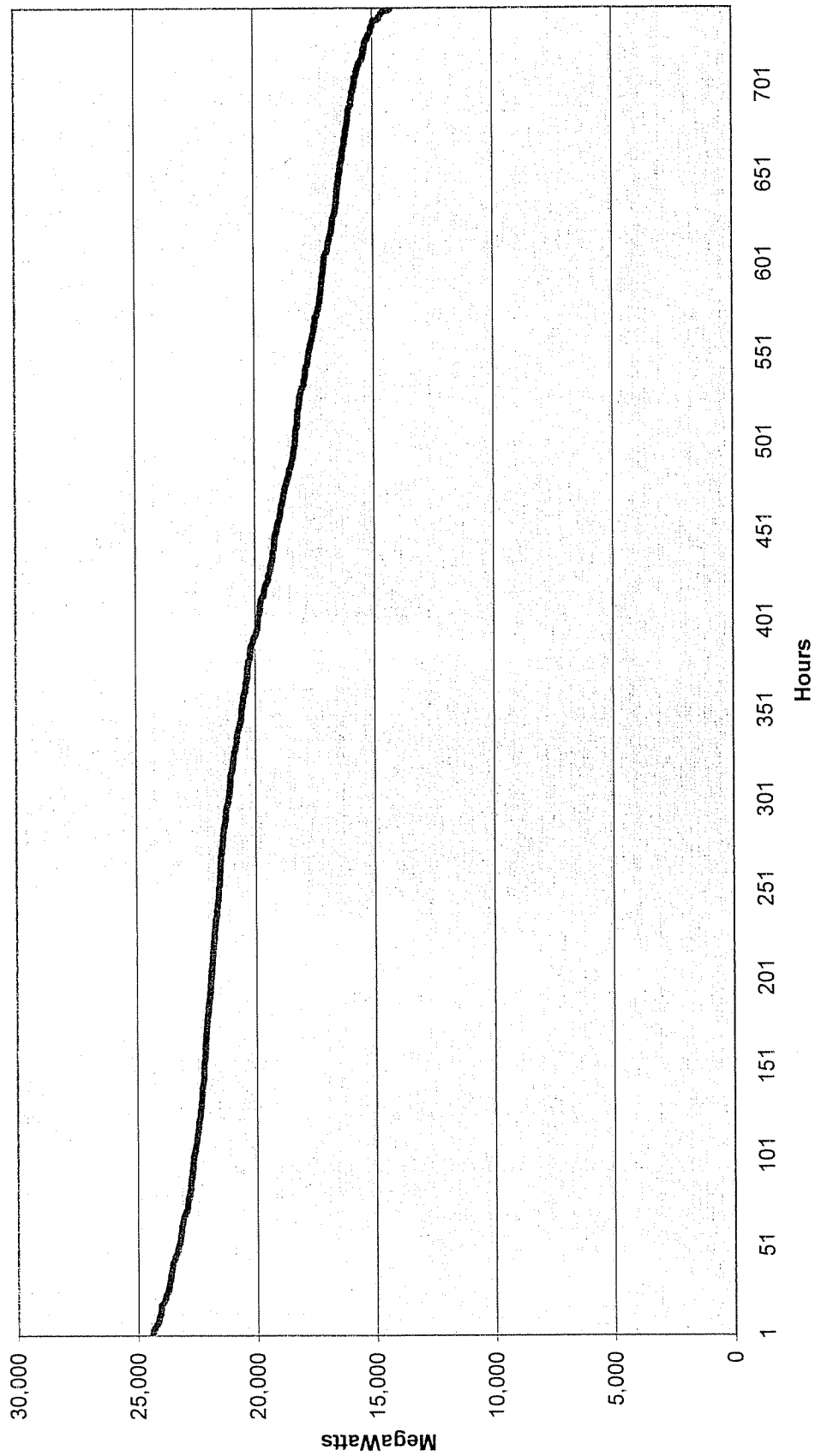
**AEP System-East  
May 2004 Load Duration Curve  
(System Load)**



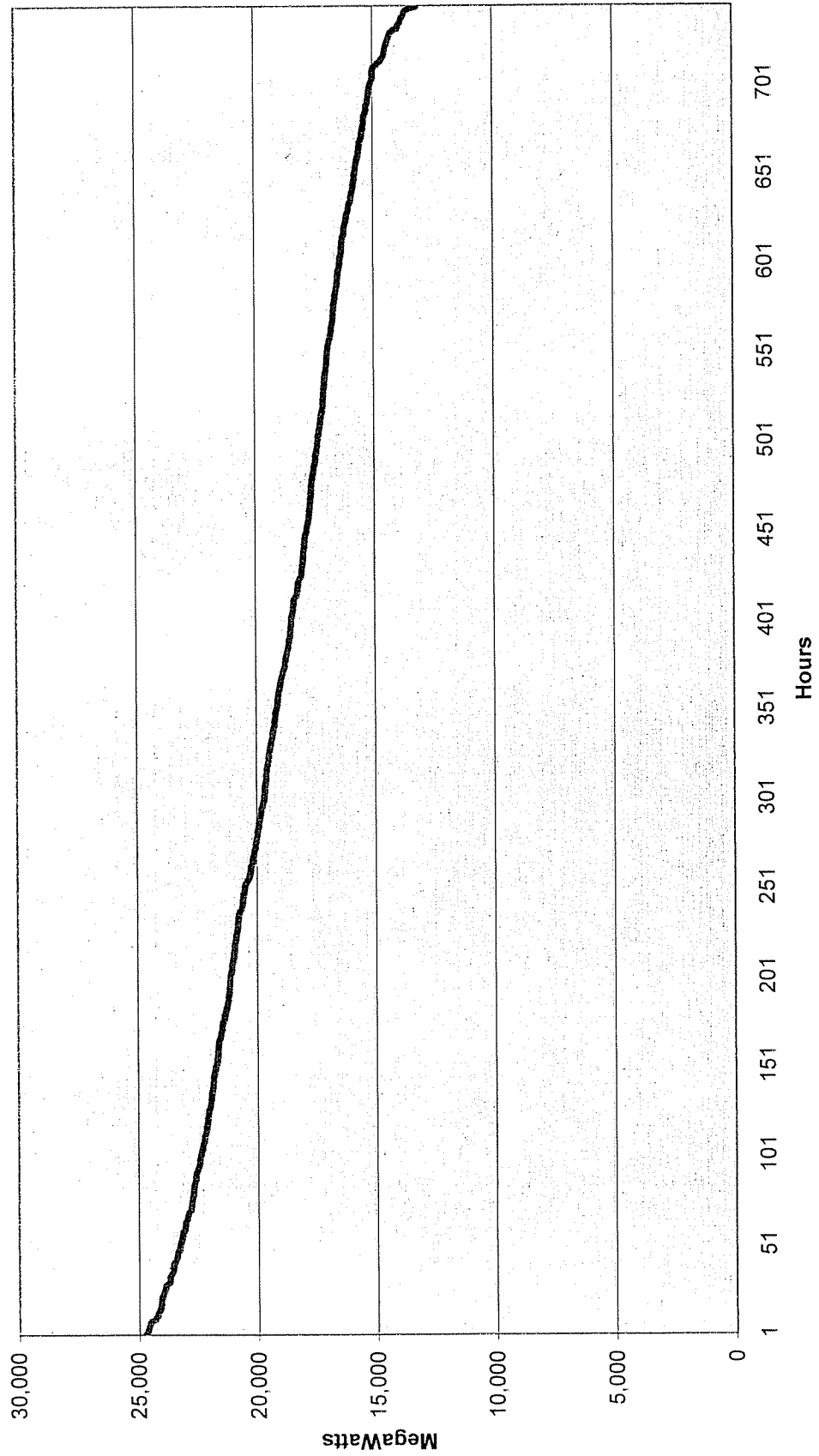
AEP System-East  
June 2004 Load Duration Curve  
(System Load)



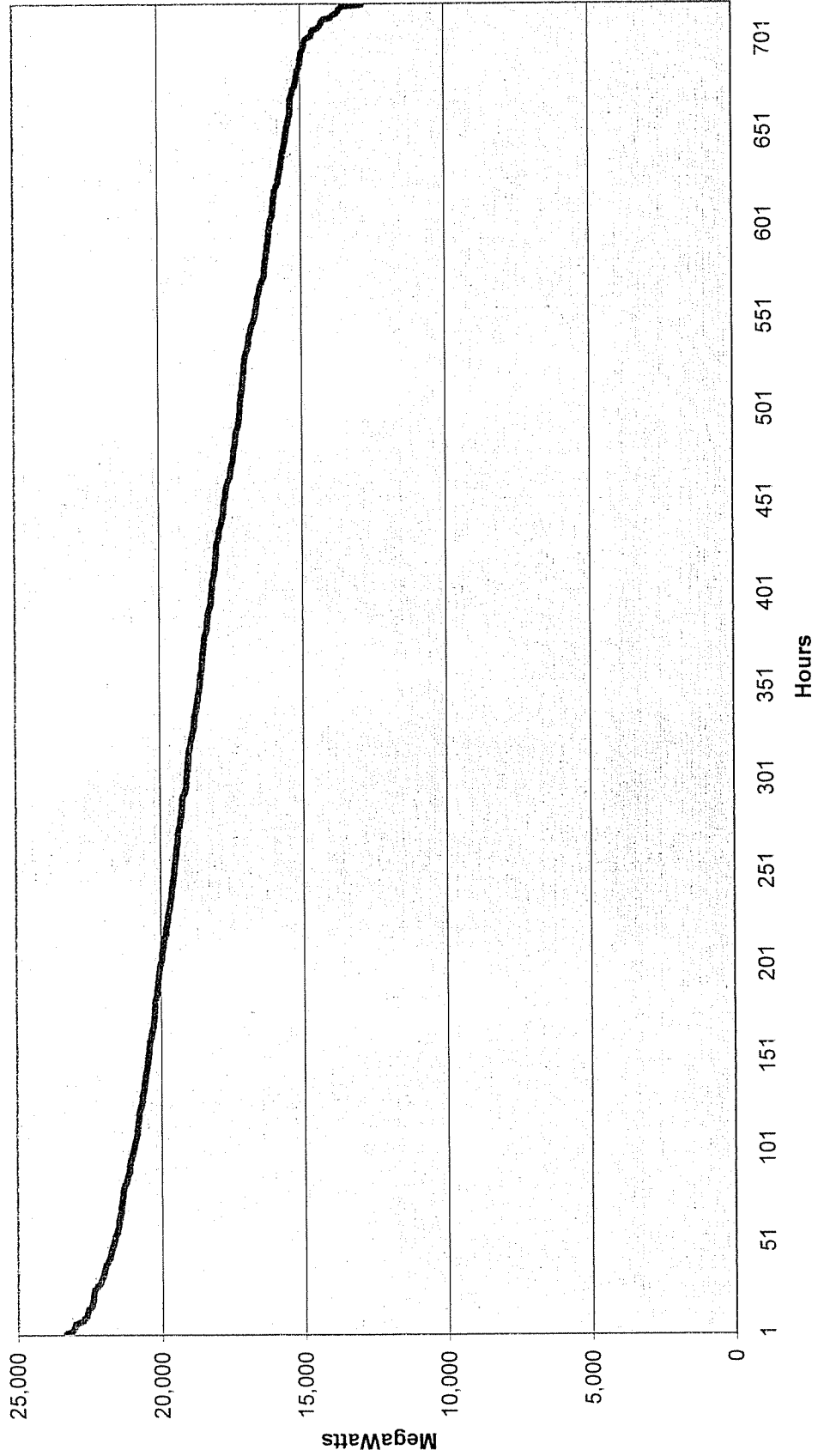
AEP System-East  
July 2004 Load Duration Curve  
(System Load)



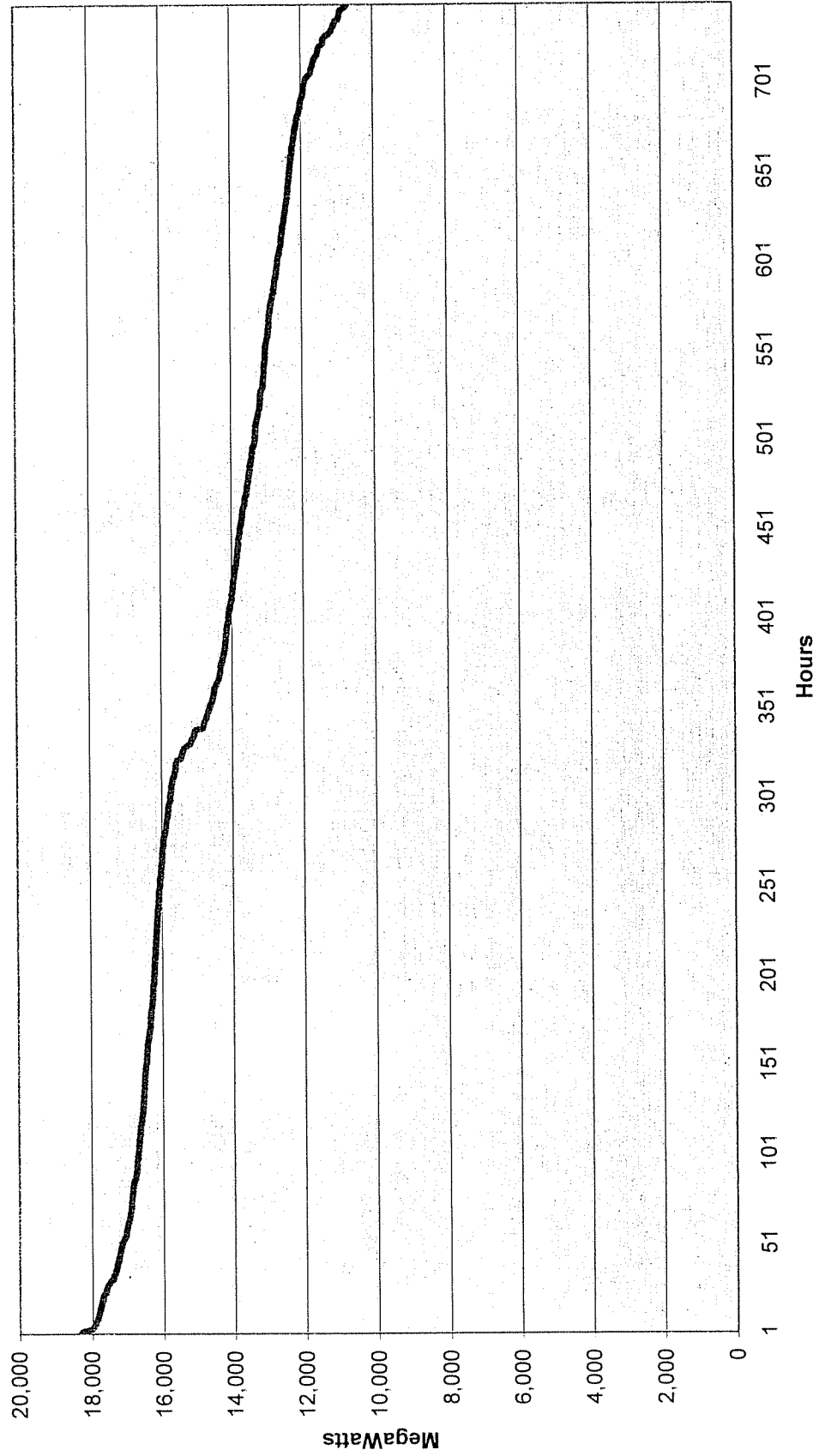
AEP System-East  
August 2004 Load Duration Curve  
(System Load)



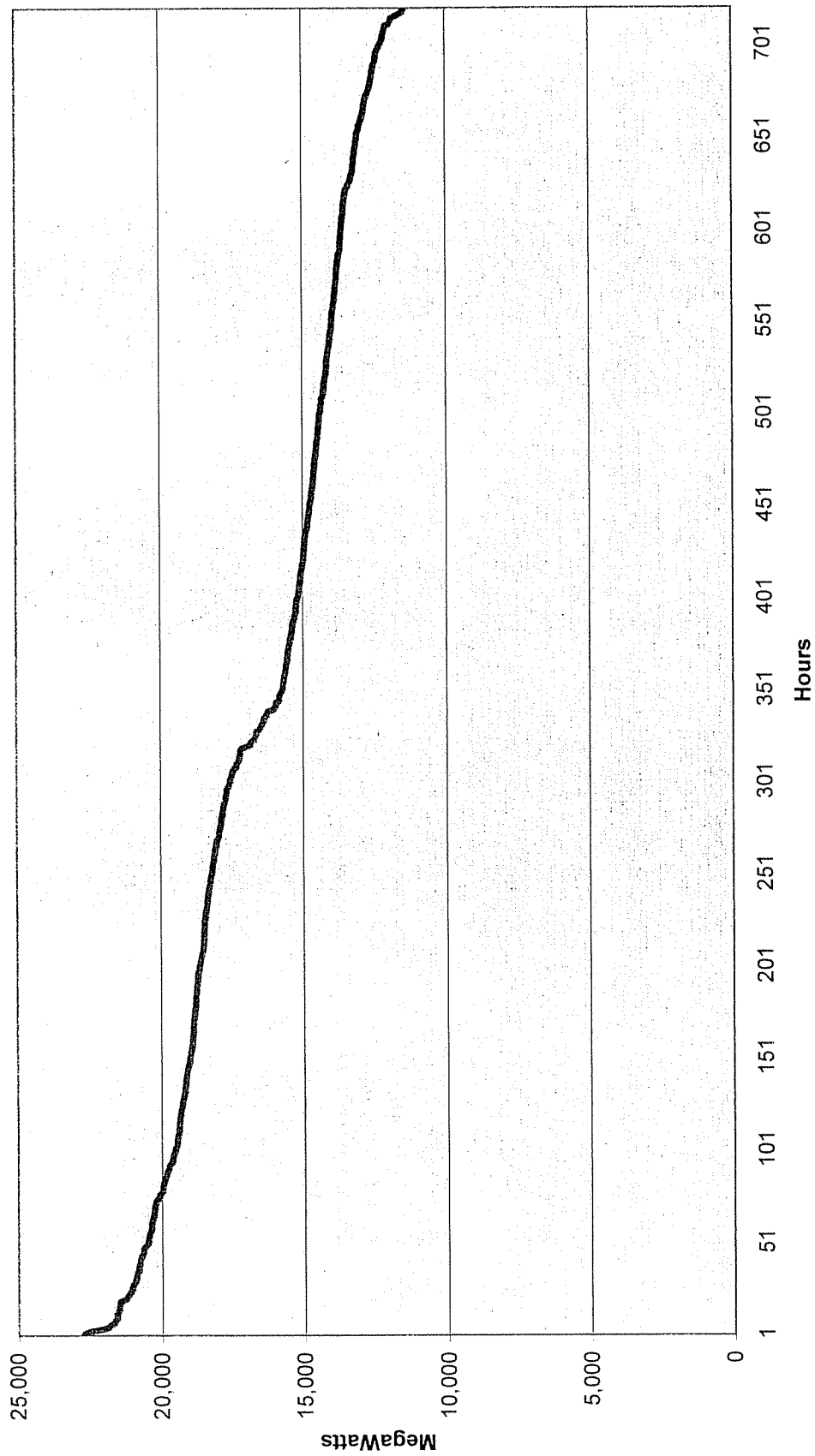
AEP System-East  
September 2004 Load Duration Curve  
(System Load)



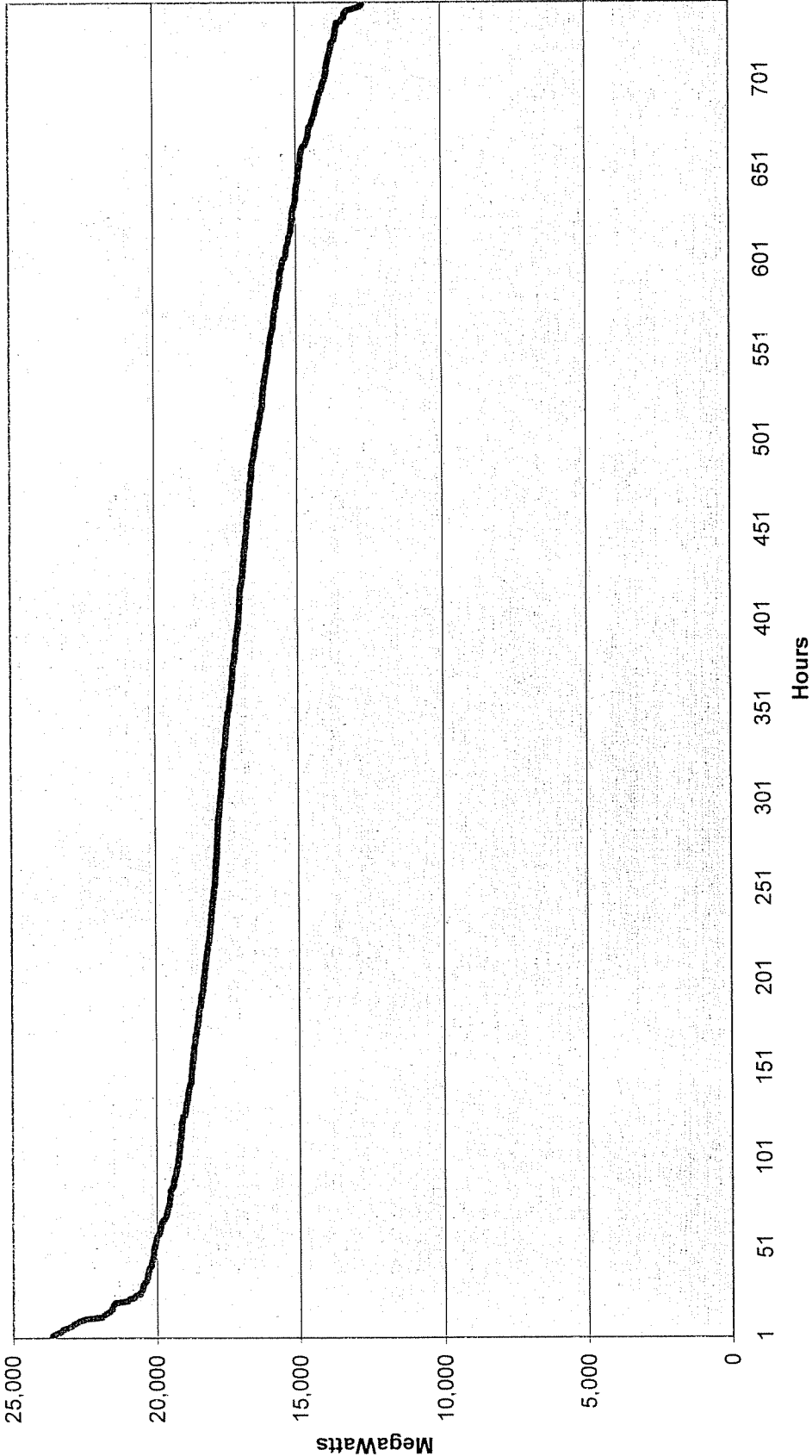
AEP System-East  
October 2004 Load Duration Curve  
(System Load)



AEP System-East  
November 2004 Load Duration Curve  
(System Load)



AEP System-East  
December 2004 Load Duration Curve  
(System Load)







**Kentucky Power  
d/b/a  
American Electric Power**

**REQUEST**

Based on the most recent demand forecast, the base case demand and energy forecasts and high case demand and energy forecasts for the current year and the following four years. The information should be disaggregated into (a) native load (firm and non-firm demand) and (b) off-system load (both firm and non-firm demand). Please provide the information for both Kentucky Power Company individually and the AEP-East Power Pool (pursuant to the Commission's December 13, 2004 Order in the Rockport UPSA extension, Case No. 2004-00420).

**RESPONSE**

Page 2 provides Kentucky Power Company's forecast of seasonal peak internal demands and annual internal energy requirements. In addition, the associated high forecast for seasonal peak internal demands and internal energy requirements are provided on this page.

Page 3 provides AEP System-East's forecast of seasonal peak internal demands and annual internal energy requirements. In addition, the associated high forecast for seasonal peak internal demands and internal energy requirements are provided on this page.

The off-system energy sales forecasts for Kentucky Power Company and AEP System-East are provided on Page 4 of this response. Forecasts of off-system peak demand for Kentucky Power Company and AEP System-East have not been developed and therefore, such forecasts are not available. In addition, high forecasts for off-system energy sales and peak demand have not been developed and therefore, such forecasts are not available.

**WITNESS:** Errol K Wagner

Kentucky Power Company  
 Base and High Forecast  
 Energy Sales (GWH) and Seasonal Peak Demand (MW)  
 2005 - 2009

Year	Energy Sales		Summer Peak Demand		Preceding Winter Peak Demand	
	Base	High	Base	High	Base	High
2005	8,241	8,329	1,364	1,378	1,687	1,705
2006	8,249	8,395	1,355	1,379	1,695	1,725
2007	8,410	8,613	1,384	1,417	1,722	1,763
2008	8,522	8,777	1,398	1,440	1,741	1,793
2009	8,629	8,949	1,420	1,473	1,769	1,835

AEP System-East  
 Base and High Forecast  
 Energy Sales (GWH) and Seasonal Peak Demand (MW)  
 2005 - 2009

Year	Energy Sales		Summer Peak Demand		Preceding Winter Peak Demand	
	Base	High	Base	High	Base	High
2005	118,663	119,928	20,461	20,679	19,479	19,687
2006	121,168	123,317	20,917	21,288	19,814	20,165
2007	123,675	126,657	21,351	21,866	20,209	20,696
2008	125,749	129,506	21,676	22,324	20,463	21,074
2009	127,726	132,466	22,124	22,945	20,808	21,580

**Kentucky Power Company and AEP-System-East**  
**Forecast Off-System Energy Sales (GWh)**  
**2005 - 2009**

<u>Year</u>	<u>KPCo</u> <u>Off-System</u> <u>Sales</u>	<u>AEP-East</u> <u>Off-System</u> <u>Sales</u>
2005	2,375	30,488
2006	1,377	18,000
2007	1,764	23,222
2008	1,902	24,905
2009	1,807	23,619



**Kentucky Power  
d/b/a  
American Electric Power**

**REQUEST**

The target reserve margin currently used for planning purposes, stated as a percentage of demand. If changed from what was in use in 2001, include a detailed explanation for the change. Please provide the information for both Kentucky Power Company individually and the AEP-East Power Pool (pursuant to the Commission's December 13, 2004 Order in the Rockport UPSA extension, Case No. 2004-00420).

**RESPONSE**

Due to the October 1, 2004 integration of AEP's Eastern System into the PJM Interconnection, AEP is now required to comply with the PJM mandated reserve margin. PJM uses a probabilistic model of load levels and generating unit availability to set generation reserve requirements. Its target is a one-day-in-ten-years Loss of Load Expectation, taking import capability into account. The installed reserve margin is changed from year to year, depending on five-year average generation reliability, PJM load shape, and assistance available from neighboring regions. In addition, AEP's responsibility to PJM depends on its twelve-month history of generator reliability and its peak demand diversity in relation to the PJM total load.

PJM has set the Installed Reserve Margin for the June 2005 through May 2006 planning period at 15.0%. Using current AEP reliability and diversity factors, this translates into an installed reserve margin for AEP of 13.95%. (This compares with 12% that AEP has used, based on our own determinations, since the late 1990s, and 15% prior to that.) For purposes of long-term planning, AEP's reserve responsibility is assumed to remain at 13.95%. These assumptions use data as of October, 2004.

Sheet 2 of this response provides an example PJM Reserve Margin Calculation.

**WITNESS:** Errol K Wagner

**PJM Reserve Margin Example**

PJM Installed Reserve Margin (IRM)	=	15.00%	
PJM EFORD	=	6.53%	Based on 5-year avg. PJM EFORD
Forecast Pool Requirement (FPR)	=	1.0749	$FPR = (1 + IRM) * (1 - PJM\ EFORD)$
Average Diversity (DF)	=	2.20%	
Accounted For Obligation (AFO) Factor	=	1.0513	$AFO\ Factor = (1 - DF) * FPR$ , represents UCAP requirement.
AEP EFORD	=	7.74%	Based on 12-month avg. AEP EFORD
ICAP Reserve Margin	=	13.95%	$Installed\ Reserve\ Margin = (AFO\ Factor / (1 - AEP\ EFORD)) - 1$





**Kentucky Power**  
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**REQUEST**

Projected reserve margins stated in megawatts and as a percentage of demand for the current year and the following 4 years. Identify projected deficits and current plans for addressing these. For each year identify the level of firm capacity purchases projected to meet native load demand. Please provide the information for both Kentucky Power Company individually and the AEP-East Power Pool (pursuant to the Commission's December 13, 2004 Order in the Rockport UPSA extension, Case No. 2004-00420).

**RESPONSE**

Sheet 2 of this response provides projected winter peak demands, capabilities, and margins for KPCo for the period 2004/05 through 2008/09.

Sheet 3 of this response provides projected summer peak demands, capabilities, and margins for the AEP System - East for the period 2005 through 2009.

**WITNESS:** Errol K Wagner

**KENTUCKY POWER COMPANY**  
**Projected Winter Peak Demands, Generating Capabilities, and Margins**  
**Based on 2005 Load Forecast - BASE SCENARIO**  
**(2004/05 - 2008/09)**

Winter Season	Peak Demand - MW		Capacity - MW				Margin		
	Internal Demand (a)	DSM (b)	Existing Capacity & Chgs (c)	Net Sales (d)	New Build Additions (e)	New Build Mkt. Purch. (f)	Annual Mkt. Purch. (g)	MW Demand (h)	% of Demand (i)
2004/05	1,687	1	1,527	59	0	0	0	(218)	(12.9)
2005/06	1,695	1	1,535	82	0	0	0	(241)	(14.2)
2006/07	1,722	1	1,543	115	0	20	20	(273)	(15.9)
2007/08	1,741	1	1,551	111	0	75	75	(225)	(12.9)
2008/09	1,769	1	1,559	101	0	147	147	(163)	(9.2)

Notes: (a) Based on 2005 Load Forecast.

(b) Includes expanded DSM.

(c) Reflects the following winter capability assumptions:

- FGD derates:
  - 2009/10: Big Sandy 2: 23 MW
  - Carbon Injection derates:
    - 2009/10: Rockport 1: 4 MW
    - MLR share of Mone purchase: 546 MW (Winter) from July 2002 through December 2005 and 109 MW (Winter) thereafter.

(d) See "Transaction Information" Tab for Details on Committed Sales

(e) Actual purchases will be UCAP purchases from PJM Market

**AEP SYSTEM - EASTERN ZONE**  
 (Including Buckeye Power)  
**Projected Summer Peak Demands, Generating Capabilities, and Margins**  
 Based on 2005 Load Forecast - BASE SCENARIO  
 (2005 - 2009)

Summer Season	Peak Demand - MW			PJM Obligations			Existing			Capacity Additions			Net Sales		Annual		Equivalent		
	Internal Demand (a)	Buckeye Cardinal Demand (b)	Inter-ruptible Demand (c)	Accounted For Obligation (c)	AEP EFORD (d)	Required Margin (e)	ICAP (f)	ICAP & Chngs (f)	UCAP (g)	ICAP (g)	ICAP Additions (g)	ICAP MW (i)	ICAP Purch. (i)	UCAP (g)	EQUIV (h)	Annual ICAP MW (i)	Total Equiv ICAP	ICAP Margin % of Demand	
2005	20,428	1,428	(475)	22,477	7.74%	13.95%	26,235	26,235	953	1,033	539	0	0	24,662	1,033	0	24,662	3,282	15.3
2006	20,883	1,300	(475)	22,820	7.74%	13.95%	25,907	25,907	1,402	1,520	289	0	637	24,735	1,520	0	24,735	3,027	13.9
2007	21,315	1,067	(475)	23,029	7.74%	13.95%	25,822	25,822	1,568	1,700	239	0	1,078	24,961	1,700	0	24,961	3,055	13.9
2008	21,639	1,052	(475)	23,354	7.74%	13.95%	25,714	25,714	1,394	1,511	189	0	1,300	25,313	1,511	0	25,313	3,098	13.9
2009	22,066	1,052	(475)	23,825	7.74%	13.95%	25,648	25,648	1,450	1,572	189	0	1,937	25,823	1,572	0	25,823	3,161	13.9

Notes: (a) Includes expanded DSM. Less Transmission Losses Associated with UCAP Sales from 2005-2006

(b) Based on the Buckeye Power (BP) most likely peak load forecast submitted to ECAR (as part of EIA-411 and adjusted to be coincident with AEP. Reflects Buckeye Bank depletion by July 2006 and extension of Buckeye Power contract through 2026.

(c) Accounted for Obligation (AFO) = Peak \* (1 - DF) \* FPR, represents UCAP requirement  
 Forecast Pool Requirement (FPR) = (1 + IRM) \* (1 - PJM EFORD)  
 Diversity Factor (DF) = 2. Installed Reserve Margin (IRM) = 15.0% PJM EFORD = 6.53%  
 AFO = Peak \* 1.0513

(d) Based on 12-month avg. AEP EFORD as of 07/31/04.

(e) Installed Reserve Margin = (AFO Factor / (1 - AEP EFORD)) - 1

(f) Reflects the following summer capability assumptions:  
 FGD derates:

2007: Mountaineer: 39 MW, Mitchell 1&2: 46 MW  
 2008: Amos 3: 39 MW, Cardinal 1&2: 34 MW, Stuart 1&2: 8 MW, Muskingum River 5: 17 MW, Kyger Creek 1-4: 10 MW  
 2009: Amos 1&2: 46 MW, Stuart 3&4: 8 MW, Kyger Creek 5: 2 MW, Conesville 4: 10 MW

OVFC purchase: 918 MW (Summer) through 2005, 948 MW thereafter.  
 Mone purchase: 447 MW (Summer) from July 2002 through December 2005 and 89 MW (Summer) thereafter

(g) See "Transaction Information" Page for Details on UCAP and ICAP Sales

(h) EQUIV. ICAP Sales = UCAP Sales \* (1-AEP EFORD)

(i) Actual purchase would be denominated in UCAP



**Kentucky Power  
d/b/a  
American Electric Power**

**REQUEST**

A list that identifies scheduled outages or retirements of generating capacity during the current year and the following four years.

**RESPONSE**

Following is the current list of scheduled outages for Big Sandy units for 2005 through 2009:

<u>YEAR</u>	<u>UNIT 1</u>	<u>UNIT 2</u>
2005	More than 4 weeks	No outage currently planned
2006	No outage currently planned	Less than 4 weeks
2007	More than 4 weeks	More than 4 weeks
2008	Less than 4 weeks	Less than 4 weeks
2009	Less than 4 weeks	More than 4 weeks

There are no plans at the present time to retire any generating capacity at Big Sandy Plant during the current year or following four-year period.

**WITNESS:** Errol K. Wagner



**Kentucky Power  
d/b/a  
American Electric Power**

**REQUEST**

Identify all planned base load or peaking capacity additions to meet native load requirements over the next 10 years. Show the expected in-service date, size and site for all planned additions. Include additions planned by the utility, as well as those by affiliates, if constructed in Kentucky or intended to meet load in Kentucky. Please provide the information for both Kentucky Power Company individually and the AEP-East Power Pool (pursuant to the Commission's December 13, 2004 Order in the Rockport UPSA extension, Case No. 2004-00420).

**RESPONSE**

At the present time, the AEP System-East is evaluating a mix of generation resources to meet its projected capacity needs through 2015. Additional capacity resources may be needed by 2006. In the near term, the AEP System -East plans to meet its capacity needs through purchases from the market on an as-needed basis. Prior to 2015, the AEP System -East also expects to construct and/or acquire generation facilities, but the precise timing, mix of technology, location and size of such additions remain under review.

**WITNESS:** Errol K. Wagner





**Kentucky Power  
d/b/a  
American Electric Power**

**REQUEST**

The following transmission energy data for the just completed calendar year and the forecast for the current year and the following four years:

- a. Total energy received from all interconnections and generation sources connected to the transmission system.
- b. Total energy delivered to all interconnections on the transmission system.

**RESPONSE**

Please see attachment.

**WITNESS:** Errol K Wagner

7(a) All quantities represent metered values.

KPSC Adm. Case No. 387  
 Order Dated December 20, 2001  
 For Calendar Year 2004  
 Item No. 8a & 8b  
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<u>Received from (MWh):</u>	<u>2003</u> <u>(Actual)</u>	<u>2004</u> <u>(Actual)</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
Appalachian Power (1)	11,353,842	11,066,166	(4)	(4)	(4)	(4)
Ohio Power (1)	8,224,235	9,766,209	(4)	(4)	(4)	(4)
East Ky Power Coop	277,577	279,973	(4)	(4)	(4)	(4)
LGE(Kentucky Utilities)	91,767	95,146	(4)	(4)	(4)	(4)
TVA	585,205	700,836	(4)	(4)	(4)	(4)
Illinois Power Co. (2)	8,866	0	(5)	(5)	(5)	(5)
Illinois Power Co. (3)	10,190	752	(5)	(5)	(5)	(5)
Big Sandy Generating Plant	6,170,931	7,364,000	7,052,000	7,036,900		

8(b) All quantities represent metered values.

<u>Delivered to (MWh):</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>
Appalachian Power (1)	18,721,045	20,152,403	(4)	(4)	(4)	(4)
Ohio Power (1)	235,326	205,829	(4)	(4)	(4)	(4)
East Ky Power Coop	275,826	314,621	(4)	(4)	(4)	(4)
LGE(Kentucky Utilities)	1,268	1,205	(4)	(4)	(4)	(4)
TVA	13	116	(4)	(4)	(4)	(4)
Illinois Power Co. (2)	0	1,267	(5)	(5)	(5)	(5)
Illinois Power Co. (3)	0	308	(5)	(5)	(5)	(5)

Notes: (1) An AEP System company.

(2) At the Riverside independent power producing plant (IPP) in Lawrence County, KY.

(3) At the Foothills independent power producing plant (IPP) in Lawrence County, KY.

(4) The Company does not forecast metered interchange; however, the future years' energy flows are not expected to be materially different from the year 2004 actuals.

(5) The Company does not, and can not, forecast energy production output from an IPP.

**Kentucky Power  
d/b/a  
American Electric Power**

**REQUEST**

The following transmission energy data for the just completed calendar year and the forecast for the current year and the following four years:

- c. Peak load capacity of the transmission system.
- d. Peak demand for summer and winter seasons on the transmission system.

**RESPONSE**

The maximum amount of electric energy that can be transmitted through a transmission network is a function of the level and location of the load and generation connected to the transmission system as well as the level and direction of transmission service into, out of and through the network. Therefore the 'Peak Load Capacity' of the transmission system cannot be quantified as a single value. The eastern AEP Transmission System has the capacity to reliably serve the connected load and the capacity to fulfill the transmission service needs of the wholesale market.

The eastern AEP Transmission System consists of over 14,000 miles of circuitry, operating at or above 138 kV, and additional lower voltages facilities that span portions of seven states including Kentucky. This highly integrated and interconnected transmission system, which includes over 2,000 miles of 765 kV lines overlaying 3,800 miles of 345 kV lines, allows AEP to economically and reliably deliver electric power throughout the AEP service area and to neighboring systems. The eastern AEP Transmission System also has facilities that operate at 500 kV, 230 kV, 161 kV and 138 kV. The eastern AEP Transmission System is directly connected to 25 other systems at 144 interconnection points, of which 121 operate at or above 115 kV. These interconnections provide an electric pathway to assure access to off-system resources, as well as a delivery mechanism to adjacent systems. The peak load connected to the eastern AEP Transmission System was approximately 22,000 MW for the most recent summer and winter seasons. There is approximately 25,000 MW of AEP generation and nearly 8,000 MW of merchant generation connected to the eastern AEP Transmission System.

To provide a measure of the capability of the eastern AEP Transmission System, the simultaneous sum of electric power delivered to the eastern AEP Transmission System's connected native/network customers plus the electric power delivered to neighboring systems has exceeded 34,000 MW.

**WITNESS:** Errol K Wagner



**Kentucky Power**  
**d/b/a**  
**American Electric Power**

**REQUEST**

Identify all planned transmission capacity additions for the next 10 years. Include the expected in-service date, size and site for all planned additions and identify the transmission need each addition is intended to address.

**RESPONSE**

AEP has identified an area reinforcement plan that requires constructing a new station (Wooten Station) by early 2006 as an interconnection point with Kentucky Utilities (KU). The new Wooten Station and short 161 kV lines will be located near Kentucky Power Company's Hazard - Leslie 161 kV and KU's Arnold - Delvinta 161 kV line crossing. This new station will enhance the reliability of service to Kentucky Power's native customer load in and around Hazard, Kentucky. In addition, the planned Wyoming - Jacksons Ferry 765 kV line will have collateral benefits to the Kentucky customers.

The planning horizon for 138 kV and lower voltage transmission facilities is about two years. The planning horizon for transmission facilities greater than 138 kV is approximately five years due to the longer approval, engineering, design and construction typically associated with these higher voltage transmission projects. Additional transmission reinforcement plans will be developed as required.

If Independent Power Producer (IPP) facilities locate in Kentucky, it may be necessary to expand the transmission system to integrate these new transmission customers into the network. At this time there are two merchant generators connected to the AEP Transmission System in Kentucky. These facilities, totaling 835 MW, are both located adjacent to Kentucky Power's Big Sandy Generating Plant. The first facility (500 MW) was placed in commercial operation in Summer 2001. The second merchant generator (335 MW) became commercial in Summer 2002.

There is presently only one other merchant generator that had executed an Interconnection Agreement with AEP to connect to the AEP Transmission System within Kentucky. However, the Interconnection Agreement with this IPP developer has recently been terminated.

**WITNESS:** Errol K. Wagner